

2024

Laporan Keberlanjutan
Sustainability Report



Transforming Today, Sustaining Tomorrow



Pernyataan

Laporan Keberlanjutan 2024 PT Pertamina (Persero), selanjutnya disebut “Laporan”, berisi data dan informasi bersifat material bagi para pemangku kepentingan. Isi Laporan berasal dari analisis internal serta sumber dokumen dan narasumber yang dapat dipercaya. Laporan Keberlanjutan ini saling melengkapi dengan Buku I: Laporan Tahunan 2024 PT Pertamina (Persero).

Istilah “Pertamina” atau “Perusahaan” atau “Perseroan” yang digunakan di dalam Laporan menekankan pada PT Pertamina (Persero). Penggunaan istilah “Pertamina Grup” merujuk pada PT Pertamina (Persero) dan Anak Perusahaan serta afiliasinya. Meski demikian, penggunaan istilah “Pertamina” tidak serta-merta menghilangkan keterlibatan Anak Perusahaan atau perusahaan yang terafiliasi dengan Pertamina.

Para pembaca perlu memahami bahwa Laporan ini selain menyajikan informasi dan data historis, juga memuat data dan informasi tentang pandangan dan kondisi ke depan atau bersifat *forward-looking statement*. Pertamina memahami bahwa risiko dan ketidakpastian dari berbagai macam faktor dapat memengaruhi kinerja operasional dan kondisi usaha yang akan datang. Oleh sebab itu, Pertamina mengingatkan para pembaca bahwa Pertamina tidak dapat memastikan data dan informasi mengenai pandangan ke depan yang dinyatakan dalam Laporan ini adalah benar dan akurat, serta dapat terpenuhi seluruhnya.

Laporan ini menggunakan standar kaidah Bahasa Inggris dalam memaparkan data numerik pada tabel dan grafik. Untuk pemaparan numerik dalam narasi menggunakan standar kaidah Bahasa Inggris dan Indonesia, sesuai konteksnya.

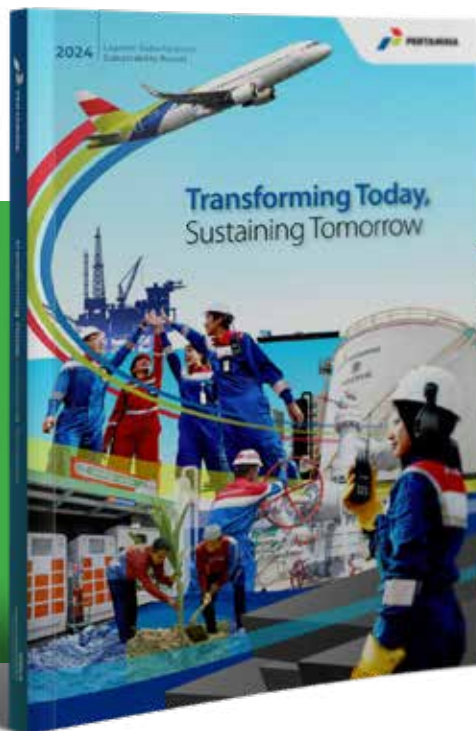
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The 2024 Sustainability Report of PT Pertamina (Persero), hereinafter referred to as the “Report”, contains material data and information for stakeholders. The contents of the Report are gathered from internal analysis as well as reliable documents and sources. This Sustainability Report is complementary to Book I: The 2024 Annual Report of PT Pertamina (Persero).

The term “Pertamina” or “Company” used in the Report refers to PT Pertamina (Persero). The use of the term “Pertamina Group” refers to PT Pertamina (Persero) and its subsidiaries and affiliates. However, the use of the term “Pertamina” does not necessarily rule out the involvement of Subsidiaries or companies affiliated with Pertamina.

Readers should understand that this Report presents information in addition to presenting historical information and data, also contains data and information about future outlook and conditions or forward-looking statements. Pertamina recognizes that risks and uncertainties from a variety of factors may affect future operational performance and business conditions. Therefore, Pertamina would like to caution the readers that Pertamina cannot guarantee that the data and information regarding forward-looking statements expressed in this Report are true and accurate, and that they will be fulfilled in full.

This Report uses standard English rules in describing numerical data in tables and charts. For numerical presentation in the narrative, the standard rules of English and Indonesian are used, according to the context.



Transforming Today, Sustaining Tomorrow

Bertransformasi Hari Ini,
Demi Keberlanjutan
Masa Depan

Sebagai salah satu langkah strategis dalam menghadapi tantangan energi global dan perubahan iklim, PT Pertamina (Persero) berupaya melakukan transformasi bisnis guna memastikan masa depan energi yang lebih bersih dan berkelanjutan. Guna mendukung upaya ini, Pertamina Grup telah melakukan upaya dekarbonisasi, inovasi teknologi, serta pergeseran model bisnis ke arah energi baru dan terbarukan (EBT). Hal ini mencerminkan peran Pertamina Grup sebagai perusahaan energi nasional yang tidak hanya berfokus pada pertumbuhan bisnis, namun juga menciptakan sistem energi yang berkelanjutan, mendukung ketahanan energi nasional, dan memberikan dampak positif bagi masyarakat dan lingkungan. Pertamina Grup berharap seluruh upaya yang telah dilakukan dapat mendukung program keberlanjutan serta mendukung pencapaian Tujuan Pembangunan Berkelanjutan (TPB).

PT Pertamina (Persero) aims for business transformation to ensure a cleaner and more sustainable energy future as one of its strategic moves in addressing global energy challenges and climate change. Pertamina Group has made decarbonization efforts, technology innovation, and business model shifts towards new and renewable energy (NRE) to support this effort. It highlights Pertamina Group's role as a national energy company that focuses not only on business growth but also on creating a sustainable energy system, supporting national energy security, and creating a positive impact on society and the environment. All efforts that Pertamina Group have made are expected to support the sustainability program and the achievement of the Sustainable Development Goals (SDGs).

Daftar Isi

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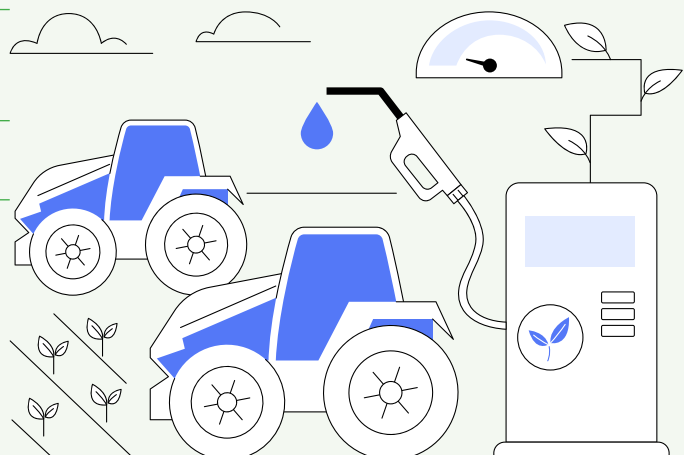
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Message from the Board of Directors



"Pertamina Grup sebagai pemimpin perusahaan di bidang transisi energi, berkomitmen dalam mendukung target *Net Zero Emission 2060*, atau lebih cepat, dengan terus mendorong program-program yang berdampak langsung pada capaian Tujuan Pembangunan Berkelanjutan (TPB). Seluruh upaya tersebut sejalan dengan penerapan praktik keberlanjutan dan pengelolaan aspek Lingkungan, Sosial, dan Tata Kelola (LST) di seluruh lini bisnis dan operasi Pertamina Grup."

"As a leading company in the energy transition, Pertamina Group is committed to supporting the 2060 Net Zero Emission target, or sooner, by continuously encouraging programs that have a direct impact on the achievement of the Sustainable Development Goals (SDGs). All of these efforts are in line with the implementation of sustainability practices and management of Environmental, Social, and Governance (ESG) aspects in all business lines and operations of Pertamina Group."

Para pemangku kepentingan yang terhormat,

Puji syukur kita panjatkan ke hadirat Allah SWT, Tuhan yang Maha Esa, karena atas berkah dan anugerah-Nya, PT Pertamina (Persero) dapat melewati tahun 2024 yang diwarnai dengan berbagai dinamika dan tantangan. Kondisi tersebut memberikan pengaruh terhadap kinerja Pertamina Grup, terutama terhadap pengelolaan lingkungan, sosial, dan tata kelola (LST) dalam upaya merealisasikan transisi energi serta dukungan pada target *Net Zero Emission* (NZE) tahun 2060 atau lebih cepat.

Kebijakan untuk Merespons Tantangan dan Pelaksanaan Strategi Keberlanjutan

Ketidakpastian dan tantangan yang dihadapi Pertamina Grup dalam makro ekonomi dan geopolitik selama 2024, telah memberikan pengaruh pada tiga isu strategis terkait energi atau trilema energi yakni *energy resilience* (ketahanan energi), *energy affordability* (keterjangkauan biaya energi), dan *environmental sustainability* (keberlanjutan lingkungan). Kemampuan setiap negara di dunia, termasuk Indonesia dalam mengelola trilema energi, akan turut menentukan pencapaian NZE secara global. Maka, Pertamina Grup sebagai ujung tombak Pemerintah Indonesia terus menerapkan strategi pertumbuhan ganda (*dual growth strategy*) dalam mengelola trilema energi ini.

Strategi pertama, Pertamina Grup mempertahankan bisnis utamanya, yakni minyak dan gas (migas) dengan meningkatkan produksi migas untuk mendukung target Pemerintah yaitu produksi 1 juta barel per hari pada 2030. Peningkatan produksi dilakukan untuk memastikan ketahanan energi nasional dan menjamin keterjangkauannya, dengan tetap menjalankan proses yang ramah lingkungan, serta mendukung komitmen Perseroan terhadap keberlanjutan lingkungan.

Dear stakeholders,

Praise to Allah SWT, the Almighty God, for His blessings and grace that PT Pertamina (Persero) can pass through 2024, characterized by various dynamics and challenges. These conditions influenced Pertamina Group's performance, especially on environmental, social, and governance (ESG) management to realize the energy transition and support the Net Zero Emission (NZE) target in 2060 or even sooner.

Policy to Respond to Challenges and Implementation of Sustainability Strategy

Pertamina Group faced uncertainties and challenges in macroeconomics and geopolitics during 2024, which have influenced three energy-related strategic issues or the energy trilemma: energy resilience, affordability, and environmental sustainability. The ability of every country in the world, including Indonesia, to manage the energy trilemma will be critical to the achievement of NZE globally. Therefore, Pertamina Group, as the spearhead of the Indonesian Government, continues to implement a dual growth strategy in managing this energy trilemma.

The first strategy, Pertamina Group, maintained its core business in oil and gas by increasing production to support the Government target of 1 million barrels per day by 2030. Increased production aimed to ensure national energy resilience and affordability, while practicing environmentally friendly processes, and supporting the Company's commitment to environmental sustainability.

Strategi kedua, secara bertahap Pertamina Grup meningkatkan pengembangan produk rendah karbon dengan menambah produksi energi baru dan terbarukan (EBT), di antaranya *biofuel* seperti bioetanol, biodiesel, dan bahan bakar nabati untuk sektor penerbangan yaitu *Sustainable Aviation Fuel* (SAF). Selain itu, Pertamina Grup melaksanakan uji coba penerapan teknologi *Carbon Capture, Utilization, and Storage* (CCUS), serta mengembangkan solusi berbasis alam atau *Natural Base Solution* (NBS).

Kedua strategi tersebut dijalankan dengan mengoptimalkan sumber daya yang dimiliki Pertamina Grup. Kami juga memperkuat kolaborasi dan kerja sama dengan berbagai mitra, baik dari sektor swasta, pemerintah maupun akademik.

Penerapan dan Kinerja Keberlanjutan

Pada 2024, Pertamina Grup mencatat prestasi kinerja yang positif sebagai hasil dari komitmen bersama dalam menerapkan LST dan praktik-praktik keberlanjutan. Pertamina Grup kembali kokoh sebagai satu-satunya perusahaan Indonesia yang mampu bersaing di jajaran perusahaan dunia pada peringkat 165 Fortune Global 500, serta meraih peringkat ke-3 Fortune Asia Tenggara.

Melalui pengelolaan bisnis yang terintegrasi dari hulu ke hilir, Pertamina Grup fokus pada upaya untuk memastikan ketersediaan energi nasional. Di sisi hulu, Perseroan mampu memproduksi migas hingga mencapai 1 juta barel setara minyak per hari, dan berkontribusi sebesar 69% terhadap produksi minyak nasional serta 37% terhadap produksi gas nasional. Dari sisi *mid-stream*, Pertamina Grup mengelola enam kilang domestik aktif dengan total kapasitas pengolahan setara 882 ribu barel per hari, dan terus meningkatkan kapasitas kilang melalui proyek *Refinery Development Master Plan* (RDMP) Kilang Balikpapan. Dari sektor distribusi, khususnya perkapalan, Pertamina Grup saat ini memiliki 103 kapal untuk melayani pengangkutan energi dan telah mencapai 65 rute internasional.

Untuk sektor gas, Pertamina Grup memiliki pipa gas dengan panjang lebih dari 33 ribu kilometer untuk menyediakan energi gas bumi ramah lingkungan, serta mengelola lebih dari 820 ribu sambungan jaringan gas (*jargas*) rumah tangga di 18 provinsi dan 74 kabupaten/kota.

The second strategy, Pertamina Group, gradually intensified the development of low-carbon products by increasing the production of new and renewable energy (NRE), including biofuels such as bioethanol, biodiesel, and Sustainable Aviation Fuel (SAF) for the aviation sector. In addition, Pertamina Group has conducted trials on the application of Carbon Capture, Utilization, and Storage (CCUS) technology, and developed a Natural Base Solution (NBS).

Both strategies have been carried out by optimizing Pertamina Group's resources. We also strengthen collaboration and cooperation with various partners from the private, public and academic sectors.

Sustainability Implementation and Performance

In 2024, Pertamina Group recorded positive performance achievements as a result of joint commitment in implementing ESG and sustainability practices. Pertamina Group has solidified its position as the only Indonesian company that is ranked 165th in Fortune Global 500, and 3rd in Fortune Southeast Asia.

By managing an integrated business from upstream to downstream, Pertamina Group focuses on ensuring the availability of national energy. On the upstream, the Company can produce up to 1 million barrels of oil equivalent per day (BOEPD), and contributes 69% to national oil production and 37% to national gas production. In the mid-stream, Pertamina Group manages six active domestic refineries with a total refining capacity equivalent to 882 thousands barrels per day (BPD), and continues to increase refinery capacity through the Balikpapan Refinery Development Master Plan (RDMP) project. In the distribution sector, especially shipping, Pertamina Group currently has 103 ships to serve energy transportation, which has reached 65 international routes.

For the gas sector, Pertamina Group has more than 33 thousands kilometers long gas pipelines to supply environmentally friendly natural gas energy, and manages more than 820 thousands household gas network (*jargas*) connections in 18 provinces and 74 regencies/cities.

Di sektor pemasaran, Pertamina Grup memiliki infrastruktur energi pendukung dan berhasil memperluas program BBM 1 Harga hingga ke 573 titik, mengelola 6.703 gerai Pertashop guna menjangkau masyarakat yang jauh dari SPBU, serta menyediakan LPG melalui program *One Village One Outlet* yang menjangkau 96% desa di seluruh Indonesia. Sejalan dengan upaya transisi energi, Pertamina Grup juga terus mengembangkan EBT dengan memiliki kapasitas terpasang sebesar 1.878 MW dan produksi panas bumi mencapai 4.600 GWh. Pertamina Grup juga menjadi pionir dalam perdagangan karbon di Indonesia dengan pangsa pasar nasional sebesar 55%.

Dengan energi yang telah disalurkan ke seluruh sektor di Indonesia, Pertamina Grup turut berkontribusi dalam menggerakkan pertumbuhan ekonomi nasional. Selama 2024, estimasi total kontribusi Perseroan terhadap PDB Nasional per tahun mencapai Rp190 triliun. Kami juga mendorong pertumbuhan industri dalam negeri dengan memastikan pencapaian penggunaan TKDN sebesar 71,24% yang telah diverifikasi melalui surveyor independen dan verifikator internal. Pertamina Grup juga konsisten memberikan kontribusi positif kepada negara, dengan total mencapai Rp401,73 triliun di 2024, yang berasal dari pajak dan PNBPN.

Dalam kinerja keuangan, Pertamina Grup berhasil membukukan keuangan yang positif, meskipun harga minyak mentah dunia terus dipengaruhi gejolak geopolitik dan disrupsi teknologi. Perseroan mencatat Laba Tahun Berjalan sebesar USD3.446,90 juta. Dari perolehan tersebut, Laba Bersih yang dapat diatribusikan kepada pemilik entitas induk mencapai USD3.125,93 juta, dan kepada entitas non-pengendali sebesar USD320,97 juta. Pendapatan Pertamina Grup di 2024 mencapai USD75.326,97 juta. Adapun posisi Laba Bruto mencapai USD10.079,27 juta.

Pertamina Grup juga mencatat kinerja positif dalam pengelolaan aspek LST selama 2024. Kami merealisasikan serangkaian program reduksi emisi dari aktivitas operasi dan mencatatkan reduksi emisi Gas Rumah Kaca (GRK) sebesar 1.711.306 ton CO₂e, lebih tinggi dari tahun 2023 yang mencapai 1.135.099 ton CO₂e.

In the marketing sector, Pertamina Group has the supporting energy infrastructure and succeeded in expanding the one-price fuel program to 573 locations, managing 6,703 Pertashop outlets to reach people far from gas stations, and supplying LPG through the *One Village One Outlet* program that has reached 96% of villages across Indonesia. In line with its efforts in energy transition, Pertamina Group also continues to develop NRE by having an installed capacity of 1,878 MW and geothermal production reaching 4,600 GWh. Additionally, Pertamina Group is also a pioneer in carbon trading in Indonesia with a national market share of 55%.

With energy distributed to all sectors in Indonesia, Pertamina Group has contributed to driving national economic growth. During 2024, the estimated total contribution of the Company to the National GDP per year reached Rp190 trillion. We also encourage the development of the domestic industry by ensuring the achievement of TKDN utilization of 71.24% which has been verified through independent surveyors and internal verifiers. Pertamina Group also consistently provided positive contributions to the state, with a total of Rp401.73 trillion in 2024, from taxes and non-tax state revenues.

In financial performance, Pertamina Group managed to record positive finances, even though world crude oil prices continued to be affected by geopolitical turmoil and technological disruption. The Company recorded a Profit for the Year of USD3,446.90 million. Of this achievement, Net Profit attributable to owners of the parent entity reached USD3,125.93 million, and non-controlling entities amounted to USD320.97 million. Pertamina Group's revenue in 2024 reached USD75,326.97 million. The Gross Profit position reached USD10,079.27 million.

Pertamina Group also recorded positive performance in the management of ESG aspects during 2024. We implemented several programs on reducing emissions from operating activities and recorded a reduction of greenhouse gas (GHG) emissions at 1,711,306 tons CO₂e, higher than 1,135,099 tons CO₂e in 2023.

Salah satu pencapaian strategis Pertamina Grup dalam pengendalian emisi karbon dan mendukung target NZE, adalah realisasi program injeksi CO₂ melalui teknologi CO₂-EOR sebagai bagian dari CCUS. Penerapan teknologi tersebut dilaksanakan di Lapangan Sukowati Bojonegoro Jawa Timur, dengan menggunakan peralatan yang didesain khusus untuk injeksi CO₂ dengan volume sebanyak 100 ton per hari selama 25 hari.

Kinerja lingkungan Pertamina Grup telah mendapatkan apresiasi PROPER, dengan perolehan 36 Emas, 93 Hijau, dan 60 Biru. Perolehan PROPER Emas didukung oleh program tanggung jawab sosial dan lingkungan (TJSL) yang telah memberikan manfaat kepada sekitar 384.982 orang masyarakat melalui berbagai program yang dijalankan.

Kinerja Pertamina Grup secara keseluruhan mendapat apresiasi internasional. Dalam Pengelolaan Lingkungan, Sosial, dan Tata Kelola (LST), Perseroan dinilai oleh beberapa lembaga ESG *rating* di antaranya Morningstar Sustainalytics. Dari hasil penilaian, Perseroan memperoleh skor 26,9 yang mencerminkan Perseroan mampu mengelola risiko LST ke tingkat medium.

Seiring dengan perkembangan digital dalam rangka memperkuat ketahanan energi nasional, Pertamina Grup terus meningkatkan penerapan data analitik dan transformasi digital di seluruh lini bisnisnya melalui Pertamina Digital Hub yang berfungsi sebagai integrator dan driver pengelolaan *big data* dalam memantau aktivitas operasional yang mencakup *core processes*, proses kritikal, maupun proses pendukung. Strategi pengembangan analitik di Pertamina Grup adalah dengan mentransformasi data menjadi *insight* dan *outcome* di mana pengembangan kapabilitas analitik ini adalah kolaborasi dari IEDCC sebagai *digital & analytic enabler*, Enterprise IT sebagai *data & information management* serta Human Capital sebagai *organization capability & talent development*.

One of Pertamina Group's strategic achievements in controlling carbon emissions and supporting the NZE target is the realization of the CO₂ injection program through CO₂-EOR technology as part of CCUS. The technology was applied in Sukowati Field, Bojonegoro, East Java, using equipment specially designed for CO₂ injection with a volume of 100 tons per day for 25 days.

Pertamina Group's environmental performance has been recognized by PROPER, earning 36 Gold, 93 Green, and 60 Blue ratings. The Gold PROPER achievements are supported by the corporate social responsibility (CSR) program, which has benefited a total of 384,982 people in the community through various programs.

Pertamina Group's overall performance gained international recognition. In Environment, Sosial, and Government (ESG) Management, the Company was assessed by several ESG rating agencies including Morningstar Sustainalytics. From the assessment results, the Company obtained a score of 26.9 which reflects that the Company is able to manage ESG risks to a medium level.

In line with digital developments aimed at strengthening national energy resilience, Pertamina Group continues to enhance the application of data analytics and digital transformation across all its business lines through the Pertamina Digital Hub, which functions as an integrator and driver of big data management in monitoring operational activities, covering core processes, critical processes, and supporting processes. Pertamina Group's analytics development strategy focuses on transforming data into insights and outcomes, where the development of analytics capabilities is a collaboration between IEDCC as the digital and analytics enabler, Enterprise IT as the data and information manager, and Human Capital as the organizational capability and talent development driver.

Strategi Pencapaian Target

Pencapaian kinerja keberlanjutan selama 2024 merupakan hasil dari restrukturisasi melalui pembentukan holding dan subholding, serta dukungan dari seluruh pemangku kepentingan. Kami telah merumuskan strategi sampai dengan 2060 melalui *maintaining business legacy* dengan melakukan upaya dekarbonisasi serta membangun bisnis hijau yang baru.

Salah satu fokus strategi dalam memperkuat kinerja keberlanjutan adalah dengan merumuskan kembali Kebijakan Keberlanjutan yang ditetapkan pada Desember 2024. Kebijakan tersebut menegaskan ambisi Pertamina Grup sebagai perusahaan yang ramah terhadap lingkungan, bertanggung jawab secara sosial, dan memiliki tata kelola yang baik. Melalui penerapan Kebijakan Keberlanjutan ini, Pertamina Grup berkomitmen mendukung pencapaian Tujuan Pembangunan Berkelanjutan (TPB).

Fokus lain dari bagian kinerja keberlanjutan adalah mengoptimalkan sumber daya yang dimiliki, termasuk sumber daya manusia (SDM). Hal ini penting mengingat lebih dari 60% pekerja Pertamina Grup saat ini merupakan generasi Y & Z, sehingga dalam beberapa tahun mendatang mereka akan menjalankan roda kepemimpinan Perseroan. Atas kondisi tersebut, kami membangun *Pertamina Development Hub* (PDH) sebagai platform tunggal manajemen kompetensi yang menjawab kebutuhan Perseroan dalam perencanaan pengembangan pekerja berbasis pengukuran kompetensi secara waktu nyata, sekaligus menjadi ekosistem pengelolaan *human capital* di seluruh Pertamina Grup. Melalui PDH, manajemen dapat secara cepat dan akurat menempatkan talenta terbaik di Pertamina Grup (*Talent Readiness Index*).

Di sisi lain, Pertamina Grup menerapkan strategi dalam pengelolaan kinerja sosial melalui pemberdayaan masyarakat, sekaligus mendukung upaya memenuhi target NZE. Salah satu kegiatan unggulan pemberdayaan masyarakat ini adalah Program Desa Energi Berdikari (DEB), yang mengenalkan pemanfaatan transisi energi melalui inovasi energi bersih berbasis potensi yang dimiliki setiap desa. Hingga akhir 2024, Pertamina Grup telah mengembangkan 155 DEB di seluruh Indonesia, sehingga masyarakat di desa tersebut dapat menggunakan energi bersih sebagai sumber aktivitas dan perekonomian mereka, serta mengurangi emisi GRK.

Strategies for Target Achievement

The achievement of sustainability performance during 2024 resulted from restructuring through the establishment of holding and subholding, as well as support from all stakeholders. We have formulated strategies up until 2060 through maintaining the business legacy by making decarbonizing efforts and building a new green business.

One of the strategic focuses in strengthening sustainability performance is to reformulate the Sustainability Policy established in December 2024. The policy emphasizes Pertamina Group's ambition as a company that is environmentally friendly, socially responsible, and has good governance. The implementation of this Sustainability Policy demonstrates Pertamina Group's commitment to support the achievement of the Sustainable Development Goals (SDGs).

Another focus of the sustainability performance is optimizing the Company's resources, including human capital. It is crucial considering that more than 60% of Pertamina Group's current employees are Generation Y & Z, and they will lead the Company in the next few years. Upon this condition, we built *Pertamina Development Hub* (PDH) as a single competency management platform to meet the Company's needs in employee development planning based on real-time competency measurement, as well as an ecosystem for human capital management in the entire Pertamina Group. The PDH, based on *Talent Readiness Index*, enables the management to quickly and accurately place the best talents in Pertamina Group.

In addition, Pertamina Group implements strategies in social performance management through community empowerment, while supporting efforts to meet NZE targets. One of the flagship activities of this community empowerment is the energy self-sufficient village (ESSV) called *Desa Energi Berdikari* (DEB) Program, which introduces the use of energy transition through clean energy innovation based on the potential of each village. Until the end of 2024, Pertamina Group has developed 155 energy self-sufficient villages across Indonesia, enabling people in the villages to use clean energy as an energy source for their activities and economy, while also reducing GHG emissions.

Secara umum, strategi pencapaian kinerja keberlanjutan di Pertamina Grup dilaksanakan melalui kolaborasi dengan berbagai pihak. Kolaborasi tersebut mencakup program *sustainability budget tagging*; peningkatan kapabilitas dan studi terkait penangkapan, pemanfaatan, dan penyimpanan karbon (CCUS/CCS); dan EBT; penurunan emisi metana; dukungan terhadap komitmen *health, safety, security, and environment* (HSSE), serta pengembangan strategi komunikasi terkait keberlanjutan untuk investor. Selain itu, kolaborasi juga dilakukan untuk mendukung penilaian pra-audit untuk emisi GRK Pertamina Grup cakupan 1, 2, dan 3; pengembangan peta jalan untuk penerapan IFRS Sustainability; serta kesetaraan gender, disabilitas, dan inklusivitas sosial dalam setiap proses bisnis.

Penerapan Tata Kelola dan Kepatuhan pada Regulasi

Pertamina Grup menjalankan bisnisnya dengan menjunjung tinggi prinsip tata kelola perusahaan yang baik (*good corporate governance/GCG*) dan kepatuhan terhadap regulasi, termasuk pelaporan kinerja keberlanjutan melalui laporan ini. Pengelolaan aspek lingkungan, sosial, dan tata kelola (LST) serta praktik-praktik keberlanjutan didukung oleh seluruh jajaran manajemen, termasuk para Pemegang Saham. Kami menyambut baik putusan Rapat Umum Pemegang Saham (RUPS), terkait pengangkatan Direktur Utama dan Dewan Komisaris yang akan memimpin Pertamina Grup di masa mendatang. Berdasarkan RUPS dengan keputusan yang tertuang dalam SK-44/MBU/02/2024, SK-128/MBU/06/2024, SK-258/MBU/11/2024, dan SK-259/MBU/11/2024 tentang Pemberhentian dan Pengangkatan Anggota-Anggota Dewan Komisaris dan Direksi Perusahaan Perseroan (Persero) PT Pertamina, menetapkan Mochamad Iriawan sebagai Komisaris Utama merangkap Komisaris Independen, Dony Oskaria sebagai Wakil Komisaris Utama, Condro Kirono sebagai Komisaris Independen, Raden Adjeng Sondaryani sebagai Komisaris Independen, dan Simon Aloysius Mantiri sebagai Direktur Utama Pertamina. Putusan ini menjadi dorongan bagi Perseroan untuk memastikan komitmen Pertamina Grup dalam pengelolaan LST dan praktik-praktik keberlanjutan di masa mendatang.

In general, the strategy to achieve sustainability performance in Pertamina Group is implemented through collaboration with multiple parties. The collaboration includes sustainability budget tagging program; capability enhancement and studies related to carbon capture, utilization, and storage (CCUS/CCS); and NRE; methane abatement; support for health, safety, security, and environment (HSSE) commitments, as well as the development of communication strategies related to sustainability for investors. In addition, the collaboration also aims to support pre-audit assessments for Pertamina Group scope 1, 2, and 3 GHG emissions; development of a roadmap for the IFRS Sustainability implementation; as well as gender equality, disability, and social inclusiveness in every business process.

Implementation of Governance and Compliance with Regulations

Pertamina Group runs its business by upholding the principles of good corporate governance (GCG) and compliance with regulations, including disclosing sustainability performance through this report. The management of environmental, social, and governance (ESG) aspects and sustainability practices is supported by all levels of management, including the Shareholders. We welcome the resolution of the General Meeting of Shareholders (GMS) regarding the appointment of the President Director and Board of Commissioners who will lead Pertamina Group in the future. Based on the GMS resolution as stated in the Minister of SOEs Decree No. SK-44/MBU/02/2024, No. SK-128/MBU/06/2024, SK-258/MBU/11/2024, and No. SK-259/MBU/11/2024 concerning the Dismissal and Appointment of Members of the Board of Commissioners and Board of Directors of the Company, PT Pertamina (Persero), appointed Mochamad Iriawan as President Commissioner and concurrently Independent Commissioner, Dony Oskaria as Vice President Commissioner, Condro Kirono as Independent Commissioner, Raden Adjeng Sondaryani as Independent Commissioner, and Simon Aloysius Mantiri as President Director of Pertamina. These resolutions encourage Pertamina Group to ensure its commitment to ESG management and sustainability practices in the future.

Sebagai bagian dari komitmen terhadap transparansi dan akuntabilitas, Perseroan juga menyampaikan informasi penting yang terjadi dalam periode Desember 2024 hingga diterbitkannya laporan ini di 2025. Salah satu peristiwa yang disampaikan adalah proses hukum yang tengah berlangsung dan melibatkan beberapa entitas dalam Pertamina Grup. Sejalan dengan prinsip GCG, Perseroan menghormati proses hukum yang dilakukan oleh Kejaksaan Agung dan aparat penegak hukum, serta berkomitmen untuk bekerja sama penuh dalam proses tersebut. Pertamina Grup percaya pada asas praduga tak bersalah dan memastikan bahwa seluruh proses berjalan dengan tetap menjaga kelancaran layanan distribusi energi kepada masyarakat. Dengan demikian, Pertamina Grup terus menunjukkan komitmennya untuk mengelola bisnis secara bertanggung jawab, adaptif, dan berintegritas di tengah dinamika yang terjadi.

Apresiasi

Kami mewakili Pertamina Grup menyampaikan terima kasih dan apresiasi atas dukungan yang telah diberikan selama 2024. Kami berharap dukungan yang diberikan akan semakin kuat, untuk memastikan ketahanan energi nasional dan membangun energi baru dan terbarukan. Dengan demikian kita dapat bersama-sama memastikan energi untuk keberlanjutan bagi masa depan.

As part of the commitment to transparency and accountability, the Company also disclosed significant information that occurred in the period of December 2024 until the publication of this report in 2025. One of the events presented is the ongoing legal process involving several entities within Pertamina Group. In line with GCG principles, the Company respects the legal process by the Attorney General's Office and law enforcement personnel, and is committed to full cooperation in the case. Pertamina Group believes in the presumption of innocence and ensures that the entire process runs while maintaining the continuity of energy distribution services to the public. Thus, Pertamina Group remains committed to being responsible, adaptive and having integrity in managing its business amidst the ongoing dynamics.

Appreciation

On behalf of Pertamina Group, we would like to express our gratitude and appreciation for the support that has been given to us in 2024. We hope this support will be even stronger, to ensure national energy security and build new and renewable energy. In doing so, we can jointly ensure energy security for a sustainable future.

Jakarta, Juni | June 2025



Simon Aloysius Mantiri
Direktur Utama & CEO
President Director & CEO

Pernyataan Dewan Komisaris dan Direksi tentang Tanggung Jawab atas Laporan Keberlanjutan 2024

Statement of the Board of Commissioners' and Board of Directors' Responsibility on the 2024 Sustainability Report

Sesuai prinsip tata kelola perusahaan yang baik dan peraturan Perundang-undangan yang berlaku di Indonesia, PT Pertamina (Persero) menerbitkan Laporan Keberlanjutan 2024. Laporan menyajikan informasi mengenai kinerja ekonomi, lingkungan, sosial, dan tata kelola perusahaan untuk periode 1 Januari sampai 31 Desember 2024, serta informasi lain yang relevan dan signifikan bagi para pemangku kepentingan.

In accordance with good corporate governance principles and prevailing Laws in Indonesia, PT Pertamina (Persero) publishes the 2024 Sustainability Report. The Report presents information on economic, environmental, social, and corporate governance performance for the period of January 1 up to December 31, 2024, as well as other relevant and significant information to stakeholders.

Dewan Komisaris PT Pertamina (Persero) Board of Commissioners of PT Pertamina (Persero)



Basuki Tjahaja Purnama
Komisaris Utama/Komisaris Independen
President Commissioner/Independent
Commissioner

(Periode 1 Januari – 1 Februari 2024)
(Period of 1 January – 1 Februari 2024)



Mochamad Iriawan
Komisaris Utama/Komisaris Independen
President Commissioner/Independent
Commissioner



Simon Aloysius Mantiri
Komisaris Utama/Komisaris Independen
President Commissioner/Independent
Commissioner

(Periode 10 Juni – 4 November 2024)
(Period of 10 June – 4 November 2024)



Dony Oskaria
Wakil Komisaris Utama
Vice President Commissioner



Heru Pambudi
Komisaris
Commissioner



Bambang Suswantono
Komisaris
Commissioner



Ahmad Fikri Assegaf
Komisaris Independen
Independent Commissioner

(Periode 1 Januari – 4 November 2024)
(Period of 1 January – 4 November 2024)



Iggi H. Achsien
Komisaris Independen
Independent Commissioner



Alexander Lay
Komisaris Independen
Independent Commissioner



Condro Kirono
Komisaris Independen
Independent Commissioner



Raden Adjeng Sondaryani
Komisaris Independen
Independent Commissioner

Kami, segenap Direksi dan Dewan Komisaris PT Pertamina (Persero) yang bertanda tangan di bawah ini, menyatakan bertanggung jawab penuh atas kebenaran isi Laporan Keberlanjutan 2024 PT Pertamina (Persero). Demikian pernyataan ini dibuat dengan sebenarnya.

Jakarta, Juni 2025

We, the entire Board of Directors and Board of Commissioners of PT Pertamina (Persero) who have signed below, hereby state our full responsibility for the validity of the content of PT Pertamina's (Persero) 2024 Sustainability Report. We certify that this statement is true to the best of our knowledge.

Jakarta, June 2025



Nicke Widyawati
Direktur Utama

President Director & CEO


(Periode 1 Januari – 4 November 2024)
(Period of 1 January – 4 November 2024)

Direksi PT Pertamina (Persero)
Board of Directors of PT Pertamina (Persero)



Simon Aloysius Mantiri
Direktur Utama

President Director & CEO



Wiko Migantoro
Wakil Direktur Utama

Deputy President Director & Deputy CEO



A. Salyadi Dariah Saputra
Direktur Strategi, Portofolio, dan Pengembangan Usaha

Director of Strategy, Portfolio & New Ventures



Emma Sri Martini
Direktur Keuangan

Director of Finance



M. Erry Sugiharto
Direktur Sumber Daya Manusia

Director of Human Capital



Alfian Nasution
Direktur Logistik dan Infrastruktur

Director of Integrated Logistics & Infrastructure



Erry Widiastono
Direktur Penunjang Bisnis

Director of Corporate Services



Ahmad Siddik Badruddin
Direktur Manajemen Risiko

Director of Risk Management

Tentang Laporan Keberlanjutan

About Sustainability Report

Tujuan dan Standar Pelaporan

Reporting Objectives and Standards

Laporan Keberlanjutan diterbitkan sebagai dokumen untuk mengomunikasikan kinerja PT Pertamina (Persero) dalam mengelola dampak operasi terhadap Lingkungan, Sosial, dan Tata Kelola (LST), serta dukungan pada Tujuan Pembangunan Berkelanjutan (TPB). Penyusunan laporan mengacu pada:

1. Peraturan Otoritas Jasa Keuangan (POJK) Nomor 51/POJK.03/2017 dan Surat Edaran Otoritas Jasa Keuangan (SEOJK) Nomor 16/SEOJK.04/2021;
2. Consolidated GRI Standards 2021, dengan pemenuhan: *in accordance with*;
3. GRI 11 Oil & Gas Sector 2021;
4. Sustainability Accounting Standards Board (SASB) – Oil & Gas;
5. IPIECA (panduan pelaporan keberlanjutan untuk industri minyak dan gas).

Seiring dengan komitmen Perseroan dalam menyampaikan kinerja keberlanjutan sesuai harapan pemangku kepentingan, maka isi laporan ini juga mencakup pengungkapan yang standar dan panduan eksternal, yaitu Women's Empowerment Principles (WEPs) oleh UN Women. Selain itu, laporan ini memuat pengungkapan adopsi awal Internasional Financial Reporting Standard (IFRS) Sustainability/S1 (*General Disclosure*), serta S2 (*Climate-related Disclosure*), yang memuat Climate Disclosure Standards Board (CDSB) dan Task Force for Climate-related Financial Disclosures (TCFD).

The Sustainability Report is published as a document to communicate the performance of PT Pertamina (Persero) in managing impacts of operations on the Environment, Social, and Governance (ESG), as well as support for the Sustainable Development Goals (SDGs). The preparation of the report refers to:

1. Financial Services Authority Regulation (POJK) Number 51/POJK.03/2017 and Financial Services Authority Circular Letter (SEOJK) Number 16/SEOJK.04/2021;
2. Consolidated GRI Standards 2021, with fulfillment: *in accordance with*;
3. GRI 11 Oil & Gas Sector 2021;
4. Sustainability Accounting Standards Board (SASB) - Oil & Gas;
5. IPIECA (sustainability reporting guidance for the oil and gas industry).

In line with the Company's commitment to deliver sustainability performance according to the stakeholders' expectations, the disclosures in this report also follow external standards and guidelines, including the Women's Empowerment Principles (WEPs) by UN Women. In addition, this report also includes disclosures that refer to the early adoption of International Financial Reporting Standard (IFRS) Sustainability/S1 (*General Disclosure*), and S2 (*Climate-related Disclosure*), which covers the Climate Disclosure Standards Board (CDSB) and the Task Force for Climate-related Financial Disclosures (TCFD).

Cakupan dalam Pelaporan [GRI 2-2] Reporting Boundaries

Cakupan dalam Laporan Keberlanjutan ini meliputi 12 entitas anak, yang terintegrasi dari hulu hingga hilir. Entitas anak dikelompokkan ke dalam enam subholding, dan enam entitas jasa/portofolio. Tidak terdapat perbedaan daftar entitas di dalam Laporan Keberlanjutan dengan Laporan Keuangan Perseroan, dan daftar entitas anak dalam Catatan atas Laporan Keuangan Konsolidasian PT Pertamina (Persero) 2024. Pada topik material tertentu, lingkup pelaporan dan pendekatan disesuaikan dengan pengungkapan informasi yang dibutuhkan sehingga tidak meliputi seluruh entitas anak.

The boundaries in this Sustainability Report include 12 subsidiaries, which are integrated from upstream to downstream. The subsidiaries are grouped into six subholdings, and six service/portfolio entities. The list of entities in the Sustainability Report is the same as that reported in the Company's Financial Statements, and the list of subsidiaries in the Notes to the Consolidated Financial Statements of PT Pertamina (Persero) 2024. On certain material topics, the reporting boundaries and approach are adjusted to disclose the required information and therefore do not cover all subsidiaries.

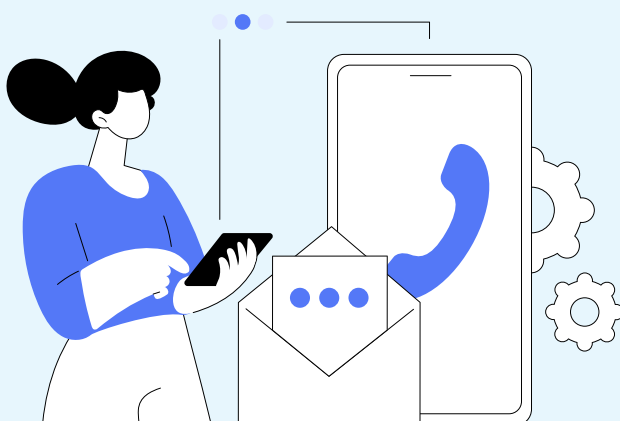
Periode, Frekuensi, dan Kontak Pelaporan [GRI 2-3] Reporting Period, Frequency and Contact

Laporan Keberlanjutan diterbitkan satu kali dalam setiap tahun. Laporan periode sebelumnya diterbitkan pada 31 Mei 2024. Periode Laporan Keberlanjutan 2024 adalah 1 Januari – 31 Desember 2024, sesuai periode Laporan Keuangan Konsolidasian Perseroan yang telah diaudit Kantor Akuntan Publik.

The Sustainability Report is published annually. The last report was published on May 31, 2024. The 2024 Sustainability Report period is January 1 to December 31, 2024, which corresponds to the period of the Company's Consolidated Financial Statements audited by the Public Accounting Firm.

Kontak Terkait Laporan:

Contact Information on the Reporting:



Fungsi Sustainability PT Pertamina (Persero) Sustainability Function PT Pertamina (Persero)

Jl. Medan Merdeka Timur No. 11-13.
Jakarta Pusat | Central Jakarta 10110
Pertamina Contact Center 135
Telepon | Phone: (021) 3815111, 3816111
E-mail: pcc135@pertamina.com
Website: www.pertamina.com

Pernyataan Kembali dan Referensi Silang [GRI 2-4]

Restatement and Cross-Reference

Pada Laporan Keberlanjutan 2024, terdapat pengungkapan informasi yang bersifat pernyataan kembali atas informasi yang disampaikan sebelumnya. Setiap pernyataan kembali diberikan keterangan pada paragraf maupun tabel yang disampaikan.

In the 2024 Sustainability Report, we include restatements of several information disclosed in the previous report. Each restatement is annotated in the paragraphs and tables presented.

Verifikasi Laporan dan Penjaminan Eksternal [OJK G.1][GRI 2-5]

Report Verification and External Assurance

Seluruh isi laporan ini telah diverifikasi melalui proses penjaminan oleh PT Sejahtera Rambah Asia (SRAI) sebagai lembaga independen eksternal, yang ditetapkan berdasarkan proses pengadaan yang disetujui oleh Vice President Sustainability Program, Rating, and Engagement. Tidak ada benturan kepentingan tertentu antara Perseroan dengan lembaga asuror. Proses penjaminan dilakukan menggunakan standar verifikasi AA1000 dengan tingkat menengah (*moderate*) Tipe 2. [GOV-1.A4]

The entire contents of this report have been verified through an assurance process by Sejahtera Rambah Asia (SRAI) as an external independent agency, which was appointed based on the authorization of the procurement process approved by the Vice President of Sustainability Program, Rating, and Engagement. There is no particular conflict of interest between the Company and the assurance agency. The assurance process is conducted using the AA1000 verification standard in accordance with the moderate level of Type 2. [GOV-1.A4]

Lembar Umpan Balik dan Tanggapan atas Umpan Balik [OJK G.2, G.3]

Feedback Form and Response to Feedback

Laporan dilengkapi Lembar Umpan Balik untuk menyampaikan pendapat, saran maupun kritik atas Laporan ini. Terdapat tanggapan umpan balik dari laporan tahun sebelumnya yang berkaitan dengan penyajian data yang lebih komprehensif. Seluruh kritik, masukan, dan saran terkait Laporan periode sebelumnya telah ditindaklanjuti Perseroan, serta disampaikan dalam Laporan ini.

The Report is accompanied by a Feedback Form to convey opinions, suggestions and criticisms on this Report. There are feedback responses from the previous year's report relating to the presentation of more comprehensive data. All criticisms, inputs, and suggestions related to the previous period's Report have been followed up by the Company, and are presented in this Report.

Topik Material [GRI 3-1, 3-2, 3-3][GOV 1.C4]

Material Topics

Kami melakukan penyesuaian atas topik material dari pelaporan terdahulu. Proses penentuan topik material melibatkan perwakilan dan kelompok pemangku kepentingan, melalui *depth interview* dengan pendekatan *double materiality* yang difasilitasi Fungsi Sustainability di Pertamina, dan dilaksanakan oleh pihak independen.

We made adjustments to material topics from previous reporting. The process of determining material topics involves representatives and stakeholder groups, through in-depth interviews with a double materiality approach facilitated by the Sustainability Function at Pertamina, and carried out by independent parties.

Topik Material Berdasarkan Prioritasnya, serta Dampak terhadap Pemangku Kepentingan dan Pengelolannya [GRI 3-3] Material Topics by Priorities, and Impacts on Stakeholders and Their Management

Dampak dan Pengelolaan Topik Material Impact and Management of Material Topics	
<p>Memerangi Perubahan Iklim Combating Climate Change</p> <p>Sebagai dukungan pada upaya Pemerintah menangani perubahan iklim, Pertamina Grup menerapkan kebijakan pencapaian NZE 2060 atau lebih cepat, dengan memaksimalkan reduksi emisi GRK dan tetap menjaga produksi migas. Upaya reduksi emisi GRK dilaksanakan melalui inisiatif transisi energi dengan mengembangkan energi baru terbarukan dan konservasi energi (EBTKE), serta mengembangkan teknologi penangkapan dan penyimpanan karbon atau <i>Carbon Capture and Storage/Carbon Capture, Utilization and Storage (CCS/CCUS)</i>. Pengembangan CCS/CCUS dikelola Fungsi Technology and Innovation, dengan melibatkan seluruh pemangku kepentingan. Evaluasi dilakukan melalui mekanisme pelaporan berkala kepada Direksi, pemegang saham, pemerintah/regulator maupun pihak berwenang lain.</p>	<p>In supporting the Government's efforts to address climate change, Pertamina Group adopts a policy to achieve NZE 2060 or sooner, by maximizing the GHG emission reduction, while maintaining oil and gas production. GHG emission reduction efforts are implemented through energy transition initiatives by developing new renewable energy and energy conservation (NREEC), as well as developing carbon capture and storage technology or Carbon Capture Storage/Carbon Capture, Utilization and Storage (CCS/CCUS). CCS/CCUS development is managed by the Technology and Innovation function, involving all stakeholders. Evaluation is conducted through periodic reporting mechanisms to the Board of Directors, shareholders, government/regulators and other relevant authorities.</p>
<p>Mengurangi Jejak Lingkungan Reduce Environmental Footprint</p> <p>Kegiatan operasi yang dijalankan Pertamina Grup harus dikelola dengan baik guna meminimalkan dampak terhadap lingkungan. Pengelolaan lingkungan dilaksanakan oleh seluruh unit Pertamina Grup, di bawah koordinasi Fungsi HSSE. Selama 2024, Perseroan melakukan berbagai inisiatif, di antaranya melakukan pengelolaan limbah dan menerapkan Sistem Manajemen Lingkungan melalui sertifikasi ISO 14001:2015. Inisiatif-inisiatif tersebut dilaksanakan dengan melibatkan seluruh pemangku kepentingan, dan dievaluasi melalui mekanisme penilaian kinerja serta pelaporan berkala kepada Direksi, pemerintah/regulator maupun pihak berwenang lain.</p>	<p>Pertamina Group's operations must be managed properly to minimize the impact. All Pertamina Group units carry out environmental management under the coordination of the HSSE Function. During 2024, the Company carried out various initiatives, including waste management and implementing an Environmental Management System through ISO 14001:2015 certification. These initiatives were carried out by involving all stakeholders and were evaluated through a performance assessment mechanism and periodic reporting to the Board of Directors, government/regulators and other authorities.</p>



Dampak dan Pengelolaan Topik Material
Impact and Management of Material Topics

Pengelolaan Air dan Konservasi Sumber Daya Air
Water Management and Water Resources Conservation



Pertamina Grup berkomitmen untuk melakukan pengelolaan limbah cair dan melakukan pemanfaatan air secara bertanggung jawab guna mendukung konservasi sumber daya air di seluruh wilayah operasional, terutama pada kawasan stres/langka air. Komitmen tersebut dibuktikan dengan dukungan Pertamina Grup dalam penyelenggaraan World Water Forum (WWF) ke-10 Tahun 2024 di Bali. Pertamina Grup juga telah menggunakan Pertamina *Water Tools*, sehingga dapat melakukan penilaian cepat terhadap penerapan sistem pengelolaan air di seluruh unit bisnis/unit operasional.

Pertamina Group is committed to managing liquid waste and utilizing water responsibly to support water resource conservation in all operational areas, especially in water-stressed/scarce areas. This commitment is proven by Pertamina Group's support in organizing the 10th World Water Forum (WWF) in 2024 in Bali. Pertamina Group has also used Pertamina *Water Tools* to conduct a rapid assessment of the implementation of water management systems in all business units/operational units.

Etika Bisnis, Hak Asasi Manusia (HAM) dan Tata Kelola yang Baik
Business Ethics, Human Rights and Good Governance



Pencapaian Pertamina Grup sebagai perusahaan energi global, tak terlepas dari penerapan bisnis yang beretika didukung tata kelola yang baik dilandasi penegakan hak asasi manusia (HAM). Hal tersebut menjadikan Pertamina Grup mampu meningkatkan daya saing dan reputasi perusahaan serta kesejahteraan karyawan; menurunkan risiko bisnis; dan memberikan akses permodalan yang kompetitif. Penerapan kepatuhan dan tata kelola yang baik menjadi tanggung jawab seluruh pekerja Pertamina Grup, di bawah koordinasi Fungsi Legal Counsel. Selama 2024, Pertamina Grup melakukan berbagai inisiatif untuk meningkatkan kepatuhan, penegakan HAM dan tata kelola yang baik, termasuk kepada mitra kerja/pemasok/vendor berupa sosialisasi dalam *Vendor Day* yang diadakan satu tahun sekali.

Pertamina Group's achievement as a global energy company cannot be separated from implementing ethical business supported by good governance based on enforcing human rights. This allows Pertamina Group to increase the Company's competitiveness and reputation and employee welfare, reduce business risks, and provide competitive access to capital. Compliance and good governance are the responsibility of all Pertamina Group employees under the coordination of the Legal Counsel Function. During 2024, Pertamina Group will carry out various initiatives to improve compliance, enforcement of human rights and good governance, including working with partners/suppliers/vendors in the form of socialization at *Vendor Day*, which is held annually.

Keselamatan dan Kesehatan Kerja (K3) dan Pencegahan Insiden Skala Besar
Occupational Health and Safety (OHS) and Large-Scale Incident Prevention



Pertamina Grup bergerak di sektor energi, sehingga keselamatan dan kesehatan kerja (K3) serta keselamatan proses menjadi sangat penting, guna mencegah terjadinya insiden/kecelakaan kerja maupun insiden skala besar. Pengelolaan K3 dan keselamatan proses menjadi tanggung jawab bersama, di bawah koordinasi Fungsi HSSE, dan dijalankan dengan melibatkan seluruh pemangku kepentingan. Perseroan melakukan berbagai inisiatif untuk mengoptimalkan penerapan K3 dan keselamatan proses, di antaranya pelatihan dan peningkatan kompetensi, serta sosialisasi budaya K3 maupun keselamatan proses. Evaluasi dilaksanakan melalui penilaian kinerja, audit, maupun pelaporan yang disampaikan secara berkala kepada Direksi, pemegang saham, maupun pihak berwenang lainnya.

Pertamina Group is engaged in the energy sector, making occupational health and safety (OHS) and process safety crucial to prevent work incidents/accidents and large-scale incidents. The HSSE Function is responsible for managing OHS and process safety, which involves all stakeholders. The Company conducts various initiatives to optimize the implementation of OHS and process safety, including training and competency development and dissemination of OHS and process safety culture. Evaluation is carried out through performance assessments, audits, and reporting and periodic reporting to the Board of Directors, shareholders, and other authorities.

Dampak dan Pengelolaan Topik Material
Impact and Management of Material Topics

Riset dan Inovasi
Innovation and Research



Strategi Pertamina Grup menjalankan transisi energi disertai komitmen pada inovasi teknologi berkelanjutan, guna mendukung pengembangan energi hijau dan portofolio bisnis rendah karbon dengan tetap menjaga ketahanan energi nasional. Pengembangan inovasi dan teknologi dikoordinasikan oleh Fungsi Technology Innovation (TI) bekerja sama dengan subholding terkait melalui berbagai mekanisme. Pada 2024, Fungsi TI menghasilkan 10 produk inovasi dan telah mendapatkan kekayaan intelektual *granted* dengan rincian 100 paten dan 10 hak cipta. Adapun inovasi yang dilakukan berkontribusi sebesar USD35 juta untuk realisasi nilai tambah pengelolaan basis riset teknologi inovasi.

Pertamina Group's strategy to implement energy transition is accompanied by a commitment to sustainable technological innovation and supporting the development of green energy and low-carbon business portfolios while maintaining national energy security. The Technology Innovation (TI) Function coordinates the development of innovation and technology in collaboration with related subholdings through various mechanisms. In 2024, the TI Function produced 10 innovative products and obtained intellectual property grants with details of 100 patents and 10 copyrights. The innovations contributed USD35 million to realising added value for managing the innovation technology research base.

Konservasi Keanekaragaman Hayati
Biodiversity Conservation



Pertamina Grup menyadari kegiatan operasi yang dijalankan berpotensi menimbulkan dampak terhadap kawasan di sekitar wilayah operasi, berupa gangguan habitat beserta ekosistem di dalamnya. Kami berupaya meminimalkan dampak tersebut dengan melakukan upaya pencegahan, minimalisasi dan mitigasi risiko terhadap keanekaragaman hayati. Inisiatif yang dijalankan antara lain membentuk kawasan konservasi sebagai habitat baru bagi spesies fauna dan flora yang terganggu oleh kegiatan operasi dan perlindungan keanekaragaman hayati. Inisiatif yang dijalankan menjadi tanggung jawab Fungsi HSSE bersama dengan CSR dan dievaluasi melalui mekanisme pelaporan berkala kepada Direksi, pemerintah/regulator maupun pihak berwenang lain.

Pertamina Group recognizes that its operations have the potential to impact the area around the area of operations, such as disturbance of habitat and the ecosystem in it. Our efforts to minimize these impacts are carried out by preventing, minimizing, and mitigating risks to biodiversity. The initiatives include establishing conservation areas as new habitats for fauna and flora species disturbed by operations, and conserving biodiversity. The HSSE Function, together with CSR, is responsible for these initiatives which are evaluated through a regular reporting mechanism to the Board of Directors, government/regulators, and other authorities.

Keamanan Siber dan Data
Data and Cyber Security



Sebagai perusahaan energi yang terintegrasi, Pertamina Grup mengelola keselamatan proses secara terpadu melalui pemanfaatan teknologi informasi dan digitalisasi. Strategi tersebut dibarengi dengan keamanan siber dan data sebagai prioritas utama Perseroan, untuk melindungi aset digital, menjaga keamanan informasi sensitif, dan mengurangi ancaman dunia maya. Pengelolaan keamanan siber dan data menjadi tanggung jawab Fungsi Enterprise Information Technology. Selama 2024, Perseroan telah melakukan beberapa inisiatif untuk semakin meningkatkan keamanan siber dan data di lingkungan Perseroan. Evaluasi keamanan siber dan data dilakukan melalui mekanisme penilaian berkala dan pelaporan kepada Direksi.

As an integrated energy company, Pertamina Group manages process safety in an integrated manner through the adoption of information technology and digitalization. The strategy is coupled with cyber and data security as the Company's top priority, to protect digital assets, secure sensitive information, and mitigate cyber threats. The Enterprise Information Technology function is responsible for managing cyber and data security. During 2024, the Company has undertaken several initiatives to enhance cyber and data security within the Company. The cyber and data security evaluation is conducted through a periodic assessment mechanism and reporting to the Board of Directors.

Dampak dan Pengelolaan Topik Material
Impact and Management of Material Topics

Pelibatan Komunitas, Pengelolaan Dampak, dan Hak Penduduk Asli
Community Involvement, Impacts Management, and Rights of Indigenous People



Keberadaan masyarakat termasuk penduduk asli/masyarakat adat di sekitar wilayah operasi, menjadi salah satu pemangku kepentingan terdampak dari kegiatan yang dijalankan Pertamina Grup. Kondisi tersebut harus dikelola dengan baik agar kesejahteraan mereka menjadi lebih baik dan kapital sosial Perseroan tetap terjaga. Kami berkolaborasi dengan pemangku kepentingan melalui berbagai inisiatif pengembangan potensi lokal, pemberdayaan masyarakat secara berkelanjutan, serta pelestarian kearifan lokal. Pengelolaan pemberdayaan masyarakat menjadi tanggung jawab Fungsi Corporate Secretary bersama seluruh unit kerja Fungsi CSR Pertamina Grup, baik di kantor pusat, unit operasi, maupun anak perusahaan. Evaluasi dilakukan melalui pemantauan kinerja program dan pelaporan berkala kepada Direksi, pemegang saham pemerintah/regulator, maupun pihak berwenang lain.

The community, including indigenous people around the operating area, is one of the stakeholders affected by Pertamina Group's activities. These conditions must be managed properly to improve their well-being and maintain the Company's social capital. We collaborate with stakeholders through various initiatives on local potential development, sustainable community empowerment, and preservation of local wisdom. The Corporate Secretary function, together with all working units in Pertamina Group's CSR Function, is responsible for managing community empowerment, both at the head office, operating units, and subsidiaries. Evaluation is conducted through program performance monitoring and periodic reporting to the Board of Directors, government/regulator shareholders, and other authorities.

Rekrutmen, Pengembangan, dan Retensi
Recruitment, Development, and Retention



Sumber daya manusia (SDM) unggul dan andal menjadi faktor penting untuk menjalankan program transisi energi Pertamina Grup yang berkelanjutan. Perseroan terus meningkatkan pengelolaan SDM melalui proses rekrutmen yang transparan, pengembangan kompetensi berbasis ekosistem pembelajaran di antaranya menyelenggarakan Pertamina Learning Fest dan menjaga retensi. Inisiatif yang dilakukan mengedepankan kesetaraan kesempatan dan keberagaman. Pengelolaan SDM dijalankan Fungsi Human Capital dan melibatkan seluruh karyawan maupun pemangku kepentingan lain. Evaluasi pengelolaan SDM dilakukan melalui penilaian kinerja maupun pelaporan berkala kepada Direksi, pemegang saham, pemerintah/regulator, dan pihak berwenang lain.

Excellent and reliable human capital (HC) are an important factor in implementing Pertamina Group's sustainable energy transition program. The Company continues to improve HC management through a transparent recruitment process, competency development based on learning ecosystems, including organizing Pertamina Learning Fest and maintaining retention. The initiatives undertaken prioritize equal opportunity and diversity. HC management is carried out by the Human Capital Function and involves all employees and other stakeholders. Evaluation of HC management is carried out through performance appraisal and periodic reporting to the Board of Directors, shareholders, government/regulators, and other authorities.

Informasi Lain pada Situs Badan
Other Information on Corporate Website

Informasi lain dapat diakses pada Laporan Tahunan 2024 PT Pertamina (Persero), dan terkait kebijakan keberlanjutan dapat diakses pada <https://www.pertamina.com>.

Other information can be accessed in the 2024 Annual Report of PT Pertamina (Persero), and related sustainability policies can be accessed at <https://www.pertamina.com>.

Pencapaian Kami di Tahun 2024

Our 2024 Achievements

Peringkat
Ranked

165

Fortune Global 500

Peringkat
Ranked

3

Fortune 500 Asia Tenggara
Fortune 500 Southeast Asia

CDP Water
Security

B

CDP Climate
Change

B

ESG Ratings

MSCI

BB

*per 31 Desember 2024

*per December 31, 2024

ESG Risk Ratings

Morningstar Sustainalytics

26.9 (Medium Risk)

*per 31 Desember 2024

*per December 31, 2024

Volume Penjualan Karbon Kredit
Credit Carbon Sales Volume

380,183 Ton CO₂e

Reduksi Emisi GRK
GHG Emission Reduction

1,711,306 Ton CO₂e

Akumulasi Lembaga Penyalur untuk Daerah 3T (Tertinggal, Terdepan, dan Terluar)

Accumulated Distribution Agencies for 3T (Underdeveloped, Frontmost, and Outermost)

573 Penyalur | Agencies

Tambahan Kapasitas Energi Bersih
Clean Energy Capacity Additional

3.67 MW

PROPER

Emas | Gold: **36**
Hijau | Green: **93**
Biru | Blue: **60**

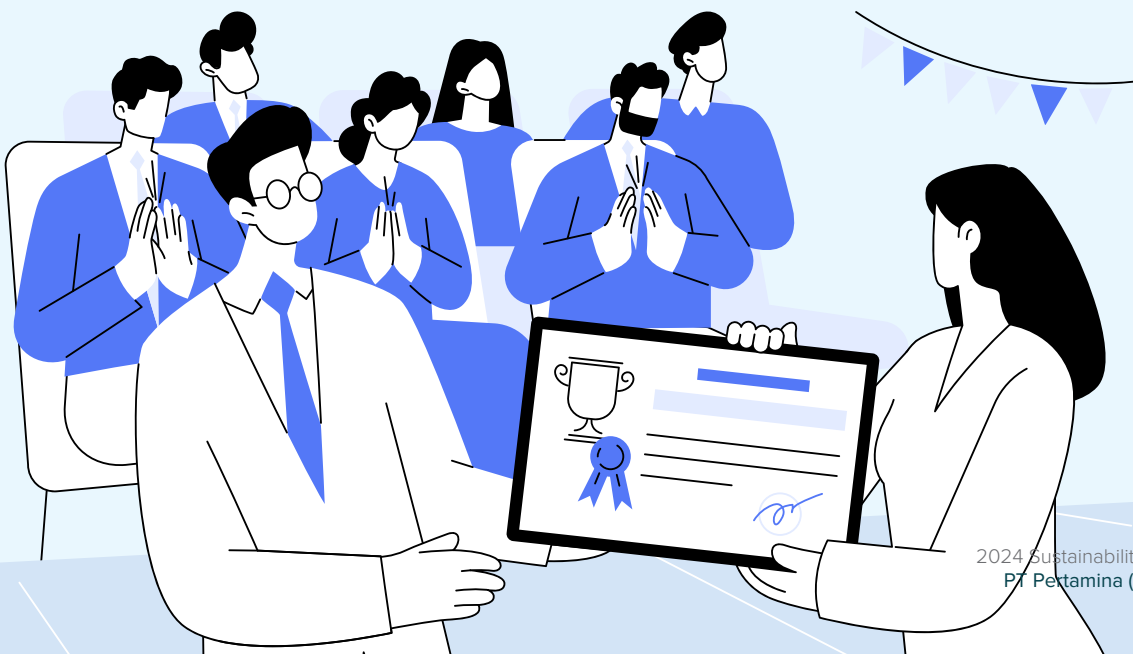
Green Energy
Station (GES)

425

Titik | Points

Stasiun Penukaran Baterai Kendaraan Listrik Umum (SPBKLU)
Public Electric Vehicle Battery Swapping Stations (SPBKLU)

56 Stasiun dengan **103** Unit Battery Swapping Station (BSS)
56 Stations with **103** Units of Battery Swapping Station (BSS)



Kinerja Keberlanjutan Pengelolaan Ekonomi

Sustainability Performance in Economic Management

Kinerja Finansial (dalam Juta USD) [OJK B.1]

Financial Performance (in Million USD)

Keterangan Description	2024	2023	2022
Penjualan dan Pendapatan Usaha Lainnya Sales and Other Operating Revenues	75,327	75,788	84,888
Laba Tahun Berjalan Profit for the Year	3,447	4,770	4,060
Realisasi <i>Sustainability Budget Tagging</i> (SBT) Realization of Sustainability Budget Tagging (SBT)	1,708	728*	-

*Penyajian kembali informasi (*restatement*) karena adanya penambahan cakupan perhitungan SBT dari anggaran biaya investasi dan biaya operasional. [GRI 2-4]

*Restatement of information due to the addition of the scope of calculation of SBT from the investment cost budget and operating expenses.

Produksi dan Distribusi [OJK B.1][SASB EM-EP-000.A]

Production and Distribution

Keterangan Description	Satuan Unit	2024	2023	2022
Produksi Migas Oil and Gas Production	MBOEPD	1,044.60	1,043.73	967.37
Pengolahan Minyak Mentah, Gas, & <i>Intermediate</i> (Intake) Crude Oil, Gas, & Intermediate Refinery (Intake)	MMBBL	322.80	340.91	333.06
Kapasitas Pengolahan Refining Capacity	MBPD	881.97	933.99	912.15
Penjualan BBM Fuel Oil Sales	Juta KL	86	81	79
Penjualan Non-BBM Non-Fuel Oil Sales	Million KL	19	19	19
Penjualan Niaga Gas Gas Sales	BBTU	311,835	337,056	327,029
Transportasi Kargo Cargos Transportation	Juta KL Million KL	161.02	161.42	157.14
Produksi Listrik EBT NRE Electricity Production	GWh	8,475.35	5,451.60	4,658.82

Material dan Produk Ramah Lingkungan [OJK B.1]

Eco-friendly Materials and Products

Keterangan Description	Satuan Unit	2024	2023	2022
Penjualan Niaga Gas Gas Sales	BBTU	311,835	337,056	327,029
Volume Transportasi Gas Gas Transportation Volume	MMSCF	564,604	532,108	492,554
Volume Produksi Uap dan Listrik dari Panas Bumi Steam and Electricity from Geothermal Production Volume		4,827.22	4,734.57	4,629.59
Volume Produksi Listrik EBT (Non-Panas Bumi) NRE Electricity Production Volume	GWh	115.75	46.57	29.23
Volume Produksi Listrik <i>Low Carbon</i> Low Carbon Electricity Production Volume		3,532.38	670.46	-

Jumlah Armada Kapal Milik (Unit)
Number of Owned Fleets (Units)

Keterangan Description	2024	2023	2022
Tanker	103	94	95
Layanan Kelautan dan Dukungan Lepas Pantai Marine and Offshore Support Services	375	366	365

Kinerja Sosio-ekonomi
Socio-economic Performance

Keterangan Description	Satuan Unit	2024	2023	2022
Pelibatan Pemasok Lokal [OJK B.1] Local Suppliers Engagement	Perusahaan Company	13,138	13,417	13,419
Realisasi Pendirian Lembaga Penyalur Wilayah 3T (Tertinggal, Terdepan, dan Terluar) Realization of Distribution Agencies Establishment for 3T (Underdeveloped, Frontmost, and Outermost) Regions	Unit	71	89	96

Kinerja Keberlanjutan Pengelolaan Lingkungan [OJK B.2]
Sustainability Performance In Environmental Management

Pengelolaan Air (Megaliter)
Water Management (Megaliters)

Keterangan Description	2024	2023*	2022*
Konsumsi Air Water Consumption	254,215.08	231,255.72	299,042.21

*Penyajian kembali informasi (*restatement*) karena adanya penambahan lokasi yang memanfaatkan sumber daya air. [GRI 2-4]
*Restatement due to the addition of locations that utilize water resources.

Pengelolaan Energi (TeraJoule)
Energy Management (TeraJoule)

Keterangan Description	2024	2023*	2022*
Penggunaan Energi Energy Use	190,800.79	198,398.07	206,552.25

*Penyajian kembali informasi (*restatement*) karena adanya penambahan kegiatan operasi yang belum dilingkupi. [GRI 2-4]
*Restatement of information due to additional operations not yet covered.

Konsumsi Bahan Bakar dari Sumber Energi Tidak Bergerak [EM-SV-110a.1]

Fuel Consumption from Stationary Energy Sources

Keterangan Description	Satuan Unit	2024	2023*	2022*
Fuel Gas	MMSCF	601,701.29	664,885.46	858,993.78
Fuel Oil		1,018,234.04	1,145,282.20	1,174,849.72
Gasoline	m ³	5.13	25.13	60.60
Diesel		15,171.70	20,373.51	45,192.27

 *Penyajian kembali informasi (*restatement*) karena adanya penyesuaian kembali cakupan perhitungan bahan bakar. [GRI 2-4]

*Restatement of information due to readjustment of fuel calculation scope.

Konsumsi Bahan Bakar dari Sumber Bergerak [EM-SV-110a.1]

Fuel Consumption from Non-stationary Sources

Keterangan Description	Satuan Unit	2024	2023*	2022*
Diesel/Solar		304,805.27	270,578.39	322,798.16
Gasoline	m ³	11,626.18	2,392.08	2,692.12
Marine Fuel		254,906.89	202,624.45	229,847.67

 *Penyajian kembali informasi (*restatement*) karena adanya penyesuaian kembali cakupan perhitungan bahan bakar. [GRI 2-4]

*Restatement of information due to readjustment of fuel calculation scope.

Intensitas Konsumsi Energi (IKE) [OJK B.2]

Energy Consumption Intensity (ECI)

Keterangan Description	Satuan Unit	2024	2023	2022
SH Upstream	TJ/MBOE	0.53	0.49*	0.54*
SH Refinery & Petrochemical	Solomon Energy Intensity Index	105.52	106.40	108.40
SH Gas	TJ/MMSCF	6.42	2.71	2.34
SH Commercial & Trading	TJ/Juta KL TJ/Million KL	3.99	3.42	8.80
SH Integrated Marine Logistics	TJ/KL	0.05	0.15	0.21

 *Penyajian kembali informasi (*restatement*) karena adanya penyesuaian kembali cakupan perhitungan bahan bakar. [GRI 2-4]

*Restatement of information due to readjustment of fuel calculation coverage.

Pengelolaan Limbah (Ton) [OJK B.2]

Waste Management (Tons)

Keterangan Description	2024	2023*	2022*
Pengurangan Limbah Non-B3 Non-hazardous Waste Reduction	520.22	430.48	183.90
Pengurangan Limbah B3 Hazardous Waste Reduction	2,383.12	421.07	189.70

 *Penyajian kembali informasi (*restatement*). [GRI 2-4]

*Restatement of information.

Kinerja Lingkungan Lain

Other Environmental Performances

Keterangan Description	Satuan Unit	2024	2023	2022
Realisasi Belanja Lingkungan Environmental Expenditure Realization	Rp Miliar Billion Rp	1,562.98	1,536.20*	1,529.40*
Luasan Wilayah Konservasi di Wilayah Operasi [OJK B.2] Conservation Area in Operational Areas	Ha	101,033.15	35,737.61	30,810.81

*Penyajian kembali informasi (*restatement*) karena adanya penambahan kegiatan operasi yang belum dilingkupi. [GRI 2-4]

*Restatement of information due to additional operations not yet covered.

Kinerja Keberlanjutan Pengelolaan Sosial [OJK B.3]

Sustainability Performance in Social Management

Keselamatan dan Kesehatan Kerja

Occupational Health and Safety

Keterangan Description	Satuan Unit	2024	2023	2022
Total Recordable Incident Rate (TRIR)	per 1 Juta Jam Kerja	0.05	0.10	0.09
Lost Time Incident Rate (LTIR)	per 1 Million Working Hours	0.02	0.02	0.02
Fatal Accident Rate (FAR)	per 100 Juta Jam Kerja per 100 Million Working Hours	0.13	0.54	0.42

Ketenagakerjaan (%)

Employment (%)

Keterangan Description	2024	2023	2022
Perputaran Karyawan Employee Turnover	1.98	2.24	3.00
Keterikatan Karyawan Employee Engagement	80.83	87.60	83.36

Kinerja Sosial Lain

Other Social Performances

Keterangan Description	Satuan Unit	2024	2023	2022
Survei Kepuasan Pelanggan Customer Satisfaction	Skala Likert Likert Scale	4.27	4.26	4.22
Biaya TJSL Disalurkan Disbursed CSR Costs	Rp Miliar Billion Rp	441.99	551.70	637.59
Realisasi TKDN Local Content Realization	%	71.24	73.19	60.59

Kinerja Keberlanjutan Pengelolaan Tata Kelola [OJK B.3]

Sustainability Performance in Governance Management

Pengukuran atas Penerapan GCG
Measurement of GCG Implementation

Keterangan Description	2024	2023	2022
Skor Score	94.27	95.25	95.06
Predikat Predicate	Sangat Baik Very Good	Sangat Baik Very Good	Sangat Baik Very Good
International Finance Corporation (IFC) Corporate Governance Methodology			
Skor Score	Level 4	-	-
Predikat Predicate	Leadership	-	-



Sertifikasi dan Standardisasi Manajemen [GOV 2.C3]

Management's Certification and Standardization

Sertifikasi Certification	Bidang Scope	Jumlah Entitas Tersertifikasi Number of Certified Entities
ISO 9001:2015	Sistem Manajemen Mutu Quality Management System	110
ISO 14001:2015	Sistem Manajemen Lingkungan Environmental Management System	105
ISO 45001:2018	Sistem Manajemen Kesehatan dan Keselamatan Kerja Occupational Health and Safety Management System	83
ISO 17025:2008	Laboratorium Pengujian dan Kalibrasi	3
ISO 17025:2017	Testing and Calibration Laboratories	24
ISO 50001:2018	Sistem Manajemen Energi Energy Management System	6
ISO 37001:2016	Sistem Manajemen Anti Penyuapan Anti-Bribery Management System	28
ISO 27001:2013	Sistem Manajemen Keamanan Informasi Information Security Management System	9
SMK3	Sistem Manajemen Keselamatan dan Kesehatan Kerja Occupational Safety and Health Management System	6
SMP	Sistem Manajemen Pengamanan (SMP) Security Management System	3
ISO 21500:2021	Sistem Manajemen Proyek Project Management System	2
ISO 22301:2019	Sistem Manajemen Keberlangsungan Bisnis Business Continuity Management System	5
ISO 56002:2019	Pedoman untuk Inovasi Perusahaan Guidance Standard for Company's Innovation	1
ISO 20000-1:2018	Sistem Manajemen Pelayanan Teknologi Informasi Information Technology Services Management	1
PAS 99:2012	Sistem Manajemen Terintegrasi Integrated Management System	2
ISO 55001:2014	Sistem Manajemen Aset Asset Management System	1
ISO 41001:2018	Sistem Manajemen Fasilitas Facility Management System	1



Tentang PT Pertamina (Persero)

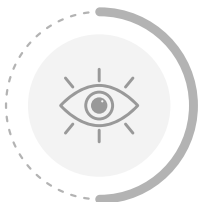
About PT Pertamina (Persero)

Transformasi PT Pertamina (Persero) yang berlangsung sejak tahun 2020, menghantarkan Perseroan berada di peringkat pertama Fortune Indonesia 100, peringkat tiga Fortune Asia Tenggara, serta peringkat 165 Fortune Global 500.

The transformation of PT Pertamina (Persero), which has been underway since 2020, has earned the Company the number one spot on Fortune Indonesia 100, ranked third on Fortune Southeast Asia, and ranked 165th on Fortune Global 500.

Visi dan Misi [OUK C.1]

Vision and Mission



Visi
Vision

Menjadi perusahaan energi yang mengedepankan ketahanan, ketersediaan, dan keberlanjutan energi.

Becoming an energy company that prioritizes energy resilience, availability, and sustainability.



Misi
Mission

Menyediakan energi melalui solusi inovatif yang memberi nilai tambah untuk masyarakat.

Providing energy through innovative solutions that add value to society.

Kompeten | Competent

Terus belajar dan mengembangkan kapabilitas
To continuously learn and cultivate capabilities

Harmonis | Harmonious

Saling peduli dan menghargai perbedaan
To acknowledge and appreciate differences

Amanah | Trustworthy

Memegang teguh kepercayaan yang diberikan
To uphold the trust given



Loyal | Loyal

Berdedikasi dan mengutamakan kepedulian bangsa & negara
To be dedicated and prioritize the interest of the nation and the country

Adaptif | Adaptive

Terus berinovasi dan antusias dalam menggerakkan ataupun menghadapi perubahan
To keep creating innovations and enthusiasm for adapting with changes

Kolaboratif | Collaborative

Membangun kerja sama yang sinergis
To establish synergized cooperation

Identitas Perusahaan

Company Identity



Nama Perusahaan [GRI 2-1]

Company Name

PT Pertamina (Persero)



Status Perusahaan [GRI 2-1]

Company Status

**Perseroan Terbatas (PT),
Badan Usaha Milik Negara (BUMN)**

Limited Liability Company (LLC),
State-Owned Enterprise (SOE)



Bidang Usaha [GRI 2-6]

Line of Business

Energi | Energy



Kepemilikan Saham [OJK C.3][GRI 2-1]

Share Ownership

**100% Pemerintah Republik
Indonesia**

100% Owned by the Government
of Republic of Indonesia

Alamat Kantor Pusat [OJK C.2][GRI 2-1]

Head Office Address

Alamat Kantor Pusat | Head Office Address [OJK C.2][GRI 2-1]



Gedung Grha Pertamina,
Jl. Medan Merdeka Timur No.11-13
Jakarta Pusat | Central Jakarta
10110 Indonesia



Telp | Phone: 62-21 3815111, 3816111
Call Center: 135



@pertamina



<https://www.pertamina.com>

Skala Usaha [OJK C.3]

Business Scale

Uraian Description	Satuan Unit	2024	2023	2022
Jumlah Pekerja Number of Employees				
Pekerja Pertamina Grup Pertamina Group's Employees		43,998	40,415	43,666
Pekerja Lain Bukan Pekerja Pertamina Grup Non Pertamina Group Employee Workers	Orang People	1,473	798	1,229
Jumlah Total		45,471	41,213	44,895
Volume Produksi Production Volume				
Produksi Migas Oil & Gas Production	MBOEPD	1,044.60	1,043.73	967.37
Produksi EBT (Selain Migas) NRE Production (Non Oil & Gas)				
Volume Produksi Uap dan Listrik dari Panas Bumi Steam and Electricity from Geothermal Production		4,827.22	4,734.57	4,629.59
Volume Produksi Listrik EBT (Non-Panas Bumi) NRE Electricity Production Volume (Non-Geothermal)	GWh	115.75	46.57	29.23
Volume Produksi Listrik <i>Low Carbon</i> Low Carbon Electricity Production Volume		3,532.38	670.46	-
Pendapatan Usaha Operating Revenue				
Total Penjualan dan Pendapatan Usaha Lain Total Sales and Other Operating Income	Juta USD Million USD	75,327	75,788	84,888
Laba Tahun Berjalan Profit for the Year		3,447	4,770	4,060
Total Aset Total Assets				
Total Aset Total Assets	Juta USD Million USD	89,850	91,124	87,811
Total Kapitalisasi Total Capitalization				
Total Liabilitas Total Liabilities	Juta USD Million USD	45,769	49,695	50,596
Total Ekuitas Total Equity		44,081	41,429	37,215

Wilayah Operasi dan Pemasaran Luar Negeri [OJK C.3][GRI 2-1]

Operational Areas and Overseas Marketing

Pengungkapan informasi mengenai wilayah operasional, lokasi serta alamat kantor cabang dan kantor perwakilan, serta pemasaran luar negeri per 31 Desember 2024 disampaikan dalam Laporan Tahunan PT Pertamina (Persero) 2024.

Information disclosure on operational areas, locations, and addresses of branch and representative offices, as well as overseas marketing as of December 31, 2024 is presented in the 2024 Annual Report of PT Pertamina (Persero).

Produk, Kegiatan Usaha, Rantai Nilai, dan Relasi Bisnis Lain [OJK C.4]

[GRI 2-6]

Products, Business Activities, Value Chain, and Other Business Relations

Sesuai Akta No. 22 Tanggal 11 Agustus 2023, Perseroan melalui entitas anak dapat melaksanakan kegiatan usaha utama dan kegiatan usaha lainnya dalam rangka optimalisasi pemanfaatan sumber daya yang dimiliki. Pertamina Grup menerima mandat dari Pemerintah (kuasi fiskal) terkait penugasan kewajiban pelayanan publik (*public service obligation*) penyediaan BBM tertentu dan tanggung jawab sosial dan lingkungan (TJSL). Dalam menjalankan kegiatan operasinya, Perseroan memiliki relasi bisnis dalam bentuk *joint venture* dan kerja sama dengan pihak lain.

In line with Deed No. 22 Dated August 11, 2023, the Company, through its subsidiaries, can carry out its core business activities and other business activities as part of optimizing the utilization of its resources. Pertamina Group is mandated by the Government (quasi-fiscal) with the assignment of public service obligations for specialty fuel supply, as well as corporate social responsibility (CSR). In its operations, the Company has business relationships through joint ventures and cooperation with other parties.



Pengungkapan informasi tentang produk, layanan dan kegiatan usaha, serta bentuk relasi bisnis yang dijalankan dapat dilihat dalam Laporan Tahunan PT Pertamina (Persero) 2024.

Disclosure of information about products, services and business activities, as well as the form of business relationships can be found in the 2024 Annual Report of PT Pertamina (Persero).

Para Pekerja [GRI 2-7, 2-8]

Employees

Pengungkapan informasi mengenai pekerja, baik pekerja maupun bukan pekerja Pertamina Grup disampaikan pada bahasan Pengelolaan Ketenagakerjaan.

Disclosure of information about employees, both Pertamina Group employees and non-employees, is presented in the Labor Management topic.

Perubahan Signifikan [OJK C.6]

Significant Changes

Selama 2024, terjadi perubahan signifikan di Perseroan, yaitu adanya perubahan anggota Dewan Komisaris dan Direksi. Kementerian Badan Usaha Milik Negara (BUMN) pada 21 Februari 2024, 10 Juni 2024, dan 4 November 2024, melakukan perubahan susunan pimpinan PT Pertamina (Persero) melalui Rapat Umum Pemegang Saham (RUPS), dengan keputusan yang tertuang dalam SK-44/MBU/02/2024, SK-128/MBU/06/2024, SK-258/MBU/11/2024 dan SK-259/MBU/11/2024. Informasi lengkap mengenai perubahan komposisi Dewan Komisaris dan Direksi dapat ditemukan dalam Laporan Tahunan 2024, yang terpisah dari Laporan ini.

During 2024, there were significant changes in the Company, with members of the Board of Commissioners and the Board of Directors. The Ministry of State-Owned Enterprises (SOEs) changed the composition of the leadership of PT Pertamina (Persero) at the General Meeting of Shareholders (GMS), through the Decrees SK-44/MBU/02/2024, SK-128/MBU/06/2024, SK-258/MBU/11/2024 and SK-259/MBU/11/2024 on February 21, 2024, June 10, 2024, and November 4, 2024. Detailed information on the changes in the composition of the Board of Commissioners and Board of Directors can be found in the 2024 Annual Report, which is separate from this Report.



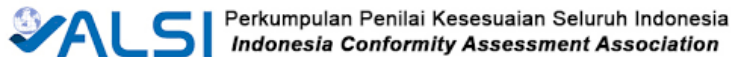
Keanggotaan Asosiasi [OJK C.5][GRI 2-28][GOV-3.A2][GOV-5.A3]

Association Membership

Pertamina Grup ditunjuk sebagai Secretary in Charge (ASIC) pada ASEAN Council on Petroleum (ASCOPE) Periode 2024-2029. Penunjukan ini mencerminkan komitmen kuat Pertamina Grup dalam mendorong kerja sama energi regional serta memajukan solusi energi berkelanjutan melalui empat gugus tugas: Exploration & Production Task Force (EPTF), Gas Advocacy Task Force (GATF), Clean Energy Task Force (CETF), dan Policy, Research & Capability Building Task Force (PRCBTF). Sebagai ASIC baru, Pertamina Grup bertanggung jawab mengkoordinasikan inisiatif utama ASCOPE, meningkatkan keamanan energi, mempercepat transisi energi, serta mendorong inovasi energi di ASEAN.

Pertamina Group has been appointed as the ASEAN Council on Petroleum (ASCOPE) Secretary in Charge (ASIC) for the period 2024-2029. This appointment reflects Pertamina Group's strong commitment in promoting regional energy cooperation and advancing sustainable energy solutions through four task forces: Exploration & Production Task Force (EPTF), Gas Advocacy Task Force (GATF), Clean Energy Task Force (CETF), and Policy, Research & Capability Building Task Force (PRCBTF). As the new ASIC, Pertamina Group is responsible for coordinating ASCOPE's main initiatives, enhancing energy security, accelerating energy transition, and encouraging energy innovation in ASEAN.

Nasional | National



Internasional | International



Komitmen dan Strategi Keberlanjutan: Memperkuat Keberlanjutan Indonesia

Sustainability Commitment and Strategy: Strengthening Indonesia's Sustainability

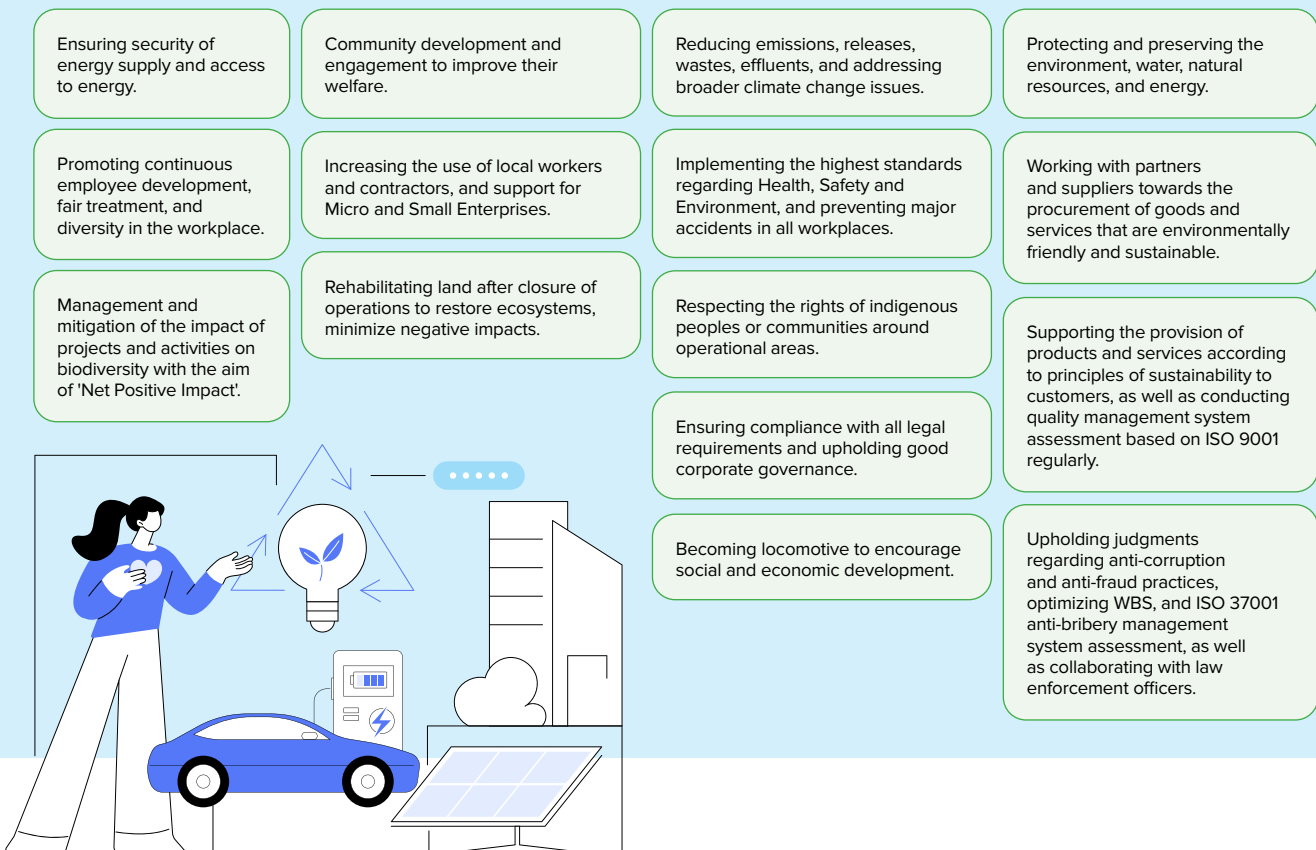
Guna mencapai target keberlanjutan, Pertamina Grup telah merumuskan strategi jangka panjang untuk *maintaining business legacy* melalui upaya dekarbonisasi serta membangun bisnis rendah karbon. Perseroan juga terus memperkuat dukungan dalam komitmen berkelanjutan dan terus berkontribusi dalam pencapaian Tujuan Pembangunan Berkelanjutan (TPB).

To achieve sustainability targets, Pertamina Group has formulated a long-term strategy for maintaining business legacy through decarbonization efforts and building low carbon businesses. The Company also continues strengthening support in sustainability commitments and contributing to the achievement of the Sustainable Development Goals (SDGs).

Visi, Misi, dan Nilai Keberlanjutan [OJK C.1]

Vision, Mission, and Sustainability Values

Nilai-nilai Keberlanjutan Sustainability Values





Kebijakan Keberlanjutan Perseroan [GOV-1.C4]

The Company's Sustainability Policy

Sejalan dengan tata nilai dan prinsip etika untuk menjaga keberlanjutan bisnis, Pertamina Grup memposisikan Kebijakan Keberlanjutan menjadi tanggung jawab utama sebagai perusahaan energi. Perseroan secara berkala melakukan pembaruan atas Kebijakan Keberlanjutan Pertamina Grup dan pembaruan terakhir dinyatakan berlaku oleh Direktur Utama pada 13 Desember 2024. Mekanisme untuk mengalokasikan tanggung jawab dalam penerapan Kebijakan Keberlanjutan Pertamina Grup ditetapkan dalam Surat Keputusan Direksi, dan efektivitas pelaksanaannya dipantau serta dievaluasi berkala.

Mengacu pada Kebijakan Keberlanjutan Pertamina Grup, Perseroan memiliki tiga tujuan utama dalam menjalankan bisnisnya, yaitu diakui sebagai:

- Perusahaan yang Ramah terhadap Lingkungan
- Perusahaan yang Bertanggung Jawab Secara Sosial
- Perusahaan yang Memiliki Tata Kelola yang Baik

Pertamina Grup juga telah memiliki pedoman-pedoman lain untuk mendukung penerapan keberlanjutan yaitu:

In line with the values and ethical principles to maintain business sustainability, Pertamina Group positions the Sustainability Policy as its main responsibility as an energy company. The Company periodically updates the Pertamina Group Sustainability Policy and the last update was declared effective by the President Director on December 13, 2024. The mechanism for allocating responsibilities in the implementation of Pertamina Group Sustainability Policy is stipulated in the Decree of the Board of Directors, and the effectiveness of its implementation is monitored and evaluated periodically.

Referring to Pertamina Group Sustainability Policy, the Company has three main objectives in running its business, which are to be recognized as:

- Environmentally Friendly Company
- Socially Responsible Company
- A Company with Good Corporate Governance

Pertamina Group also has other guidelines to support the implementation of sustainability, namely:

Aspek Lingkungan
Environmental Aspect

<ul style="list-style-type: none"> • Komitmen <i>Net Zero Emission</i> • Kebijakan Pengadaan Ramah Lingkungan • Kebijakan Kesehatan, Keselamatan, Keamanan, dan Lingkungan (HSSE) 	<ul style="list-style-type: none"> • Net Zero Emission Commitment • Green Procurement Policy • Health, Safety, Security and Environment (HSSE) Policy
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Aspek Sosial
Social Aspect

<ul style="list-style-type: none"> • Kebijakan Hak Asasi Manusia • Kebijakan Sosial untuk Pemasok dan Kontraktor • Kebijakan Tempat Kerja yang Saling Menghormati • Kebijakan <i>Well-being</i> 	<ul style="list-style-type: none"> • Human Rights Policy • Social Policy for Suppliers and Contractors • Respectful Workplace Policy • Well-being Policy
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Aspek Tata Kelola
Governance Aspect

<ul style="list-style-type: none"> • Pedoman Perilaku dan Etika Bisnis • Pedoman Terkait <i>Cyber Security</i> 	<ul style="list-style-type: none"> • Code of Conduct • Guidelines Related Cyber Security
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Sustainability Budget Tagging (SBT) Guidance
Sustainability Budget Tagging (SBT) Guidance

<p>Pedoman terkait pembiayaan dan anggaran bagi kegiatan operasional Perseroan yang diselaraskan dengan Indonesia Green Taxonomy, EU Taxonomy, Indonesia SDGs Securities Framework, SDG Finance Taxonomy China, dan ICMA Principles, yang memuat 16 area tematik di bidang lingkungan, sosial, dan tata kelola. Penerapan SBT dilakukan secara terukur ke dalam berbagai program dan aktivitas bisnis di Pertamina Grup.</p>	<p>Guidelines related to financing and budgeting for the Company's operational activities that are aligned with Indonesia Green Taxonomy, EU Taxonomy, Indonesia SDGs Securities Framework, SDG Finance Taxonomy China, and ICMA Principles, which contain 16 thematic areas in the environment, social, and governance. The implementation of SBT is carried out in measurable ways into various programs and business activities in the Pertamina Group.</p>
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Detail mengenai Kebijakan Keberlanjutan dan pedoman-pedoman lain guna mendukung penerapan keberlanjutan di Perseroan terdapat di: <https://sustainability.pertamina.com/id-ID/Sustainability-Commitment/Sustainability-Policies/>.

Details on the Sustainability Policy and other guidelines to support the implementation of sustainability in the Company are available at: <https://sustainability.pertamina.com/en-US/Sustainability-Commitment/Sustainability-Policies/>.

Penjelasan Strategi Keberlanjutan [OJK A.1][GRI 2-22][EM-MD-160a.1][EM-EP-160a.1]

Explanation on Sustainability Strategy

Perseroan berkomitmen menerapkan strategi keberlanjutan didasarkan pada standar LST global. Penerapan strategi keberlanjutan bertujuan menjaga keberlangsungan bisnis, menciptakan nilai tambah dan mendukung tercapainya nilai perusahaan melalui tiga pilar utama kerangka kerja LST, yakni penerbitan peta jalan, ambisi, inisiatif, dan target; implementasi strategi komunikasi dan publikasi; serta ESG *Financing Framework*. Penyebaran LST dijalankan di tataran holding dan subholding, dengan menggunakan metode 4P:

1. *Policy & Strategy* (Kebijakan & Strategi);
2. *Program Execution* (Pelaksanaan Program);
3. *Performance & Monitoring* (Pengukuran & Pemantauan Kinerja); dan
4. *Publication & Rating* (Publikasi dan Pemingkatan).

Penerapan strategi keberlanjutan menjadi dukungan mewujudkan 10 Fokus Keberlanjutan dan target jangka panjang, dengan inisiatif dan realisasi yang disesuaikan untuk setiap tahunnya.

The Company is committed to implementing a sustainability strategy based on global ESG standards. The implementation of the sustainability strategy aims to maintain business continuity, create added value, and support the achievement of corporate value through three main pillars of the ESG framework, namely the issuance of roadmaps, ambitions, initiatives, and targets; implementation of communication and publication strategies; and the ESG Financing Framework. ESG dissemination is carried out at the holding and subholding levels, using the 4P method:

1. Policy & Strategy;
2. Program Execution;
3. Performance & Monitoring; and
4. Publication & Rating.

The implementation of the sustainability strategy supports the realization of the 10 Sustainability Focuses and long-term targets, with initiatives and realizations adjusted each year.

Fokus Keberlanjutan Sustainability Focus	Target Jangka Panjang	Long-term Target
Addressing climate change	<ol style="list-style-type: none"> 1. Menurunkan emisi dari <i>scope 1</i> dan <i>scope 2</i> sesuai dengan proyeksi emisi pada tiga skenario berbeda: <i>Appropriate Sustainability (AS)</i>, <i>Ordinary State (OS)</i>, dan <i>Economic Renaissance (ER)</i>. 2. Pengurangan emisi gas metana. 3. Mencapai <i>Zero Routine Flaring</i> (nol gas suar bakar rutin) untuk 100% wilayah operasi yang mengeluarkan gas suar bakar. 4. Memperoleh keuntungan finansial dari bisnis energi baru dan terbarukan. 5. Membangkitkan listrik dari sumber rendah karbon sebesar 10.474 GWh. 6. Menurunkan emisi <i>scope 3</i> dari kegiatan operasional perusahaan melalui penjualan produk Subholding Gas, Subholding Power & NRE, dan Subholding C&T. 	<ol style="list-style-type: none"> 1. Reduce emissions from <i>scope 1</i> and <i>scope 2</i> according to projected emissions under three different scenarios: <i>Appropriate Sustainability (AS)</i>, <i>Ordinary State (OS)</i>, and <i>Economic Renaissance (ER)</i>. 2. Reduction of methane emissions. 3. Achieving <i>Zero Routine Flaring</i> for 100% of operating areas that emit flare gas. 4. Generating financial gains from the new and renewable energy business. 5. Generating 10,474 GWh of electricity from low carbon sources. 6. Reducing <i>scope 3</i> emissions from the company's operations through product sales of the Gas Subholding, Power & NRE Subholding, and C&T Subholding.

Fokus Keberlanjutan Sustainability Focus	Target Jangka Panjang	Long-term Target
Reducing environmental footprint	<ol style="list-style-type: none"> Seluruh unit operasi bersertifikasi ISO 14001 (100%). Menurunkan konsumsi air permukaan terbesar 10% dari <i>baseline</i> di lokasi yang teridentifikasi sebagai <i>water stressed area</i>. Membatasi konsentrasi pencemar hidrokarbon dalam limbah cair di fasilitas <i>offshore</i> dan <i>onshore</i> masing-masing sebesar 30 mg/L dan 10 mg/L. Membatasi emisi SO₂ dari mesin pembakaran dalam sebesar <155 mg/Nm³. Menjaga tidak terjadinya kejadian tumpahan minyak ke lingkungan (air permukaan, air laut, tanah, dan media lingkungan lainnya). Mewujudkan perputaran sampah (<i>waste circularity</i>) sebesar 50% dari total timbulan sampah yang dihasilkan. 	<ol style="list-style-type: none"> All operating units are ISO 14001 certified (100%). Reduce surface water consumption by 10% from baseline in locations identified as water-stressed areas. Limiting the concentration of hydrocarbon contaminants in effluents at offshore and onshore facilities to 30 mg/L and 10 mg/L, respectively. Limiting SO₂ emissions from internal combustion engines to <155 mg/Nm³. Maintain zero occurrence of oil spills into the environment (surface water, seawater, soil, and other environmental media). Realizing a 50% waste circularity of the total waste generated.
Protecting biodiversity	<p>Menyusun <i>Biodiversity Action Plan</i> (BAP) yang berorientasi pada <i>Net Positive Impact</i> (NPI) untuk 100% fasilitas baru setelah tahun 2022.</p>	<p>Prepare a Biodiversity Action Plan (BAP) oriented towards Net Positive Impact (NPI) for 100% of new facilities after 2022.</p>
Enhancing health and safety	<ol style="list-style-type: none"> Seluruh unit operasi dengan risiko operasi tinggi tersertifikasi ISO 45001 (100%) Sebanyak 80% unit operasi telah melaksanakan <i>Medical Emergency Response Assessment</i> (MERRAT) dengan hasil <i>green/manageable</i>. Seluruh pekerjaan dengan risiko tinggi telah melaksanakan dan lulus penilaian CSMS. Seluruh unit operasi dengan risiko operasional tinggi melaksanakan penilaian SUPREME dan mendapatkan hasil <i>manageable risk</i>. Tidak terjadi (no) kecelakaan yang menyebabkan <i>fatality, oil spill, dan property damage</i> yang dikategorikan sebagai <i>major accident</i>. 	<ol style="list-style-type: none"> All operating units with high operating risk are ISO 45001 certified (100%). 80% of operating units have conducted Medical Emergency Response Assessment (MERRAT) with green/manageable results. All high-risk jobs have undergone and passed the CSMS assessment. All operating units with high operational risk carried out SUPREME assessment and obtained manageable risk results. There were no (zero) accidents that caused fatality, oil spill, and property damage categorized as major accidents.
Prevention of accidents	<ol style="list-style-type: none"> Menjaga PSE <i>Tier-1 rate</i> di Pertamina Grup sebesar <0,06. Menjaga PSE <i>Tier-2 rate</i> di Pertamina Grup sebesar <0,06. Seluruh operasi dengan risiko operasional tinggi telah melaksanakan <i>process safety audit</i>. 	<ol style="list-style-type: none"> Maintain PSE Tier-1 rate at <0.06 in Pertamina Group. Maintain PSE Tier-2 rate at <0.06 in Pertamina Group. All operations with high operational risk have undergone a process safety audit.
Respecting and empowering our people	<ol style="list-style-type: none"> Menjaga <i>turnover rate</i> pekerja di Pertamina Grup di angka maksimum 3%. Melaksanakan pelatihan dengan modul <i>human rights</i> terhadap 33% pekerja di Pertamina Grup. Meningkatkan komposisi pekerja wanita di posisi kepemimpinan/manajerial menjadi sebesar 20%. Melaksanakan pelatihan <i>voluntary principle on security and human rights</i> (VPSHR) terhadap 80% dari total pekerja keamanan di Pertamina Grup. 	<ol style="list-style-type: none"> Maintain employee turnover rate at a maximum of 3% in Pertamina Group. Carry out training with human rights modules for 33% of employees in Pertamina Group. Increase the composition of female employees in leadership/managerial positions to 20%. Carry out voluntary principle on security and human rights (VPSHR) training to 80% of total security personnel in Pertamina Group.

Fokus Keberlanjutan Sustainability Focus	Target Jangka Panjang	Long-term Target
Reorienting innovation and research	Mengalokasikan 44% dari total anggaran investasi dan operasional perusahaan untuk melaksanakan riset dan pengembangan teknologi rendah karbon dan terkait dekarbonisasi.	Allocate 44% of the company's total investment and operational budget to carry out research and development on low-carbon and decarbonization technologies.
Expanding community engagement and impact	<ol style="list-style-type: none"> 1. Minimal penerima manfaat dari program unggulan pemberdayaan masyarakat sebesar 50.000 jiwa. 2. Mendapatkan nilai SROI sebesar 5,5 untuk seluruh program baru. 3. Melaksanakan program Desa Energi Berdikari dengan instalasi energi baru terbarukan energi matahari, biogas, dan mikrohidro. 	<ol style="list-style-type: none"> 1. Minimum number of beneficiaries of the community empowerment flagship program of 50,000 people. 2. Earning an SROI of 5.5 for all new programs. 3. Implement the <i>Desa Energi Berdikari</i> program with new renewable energy installations of solar, biogas, and micro hydro energy.
Strengthening cyber security	<ol style="list-style-type: none"> 1. Seluruh subholding di Pertamina Grup telah tersertifikasi ISO 27001. 2. Memperoleh <i>cyber security maturity</i> BSSN level 4 untuk holding dan seluruh subholding. 3. Menjaga tingkat <i>phising prone</i> di angka 3,6%. 	<ol style="list-style-type: none"> 1. All subholdings in Pertamina Group have been ISO 27001 certified. 2. Obtained BSSN cybersecurity maturity level 4 for holding and all subholdings. 3. Maintain phishing prone level at 3.6%.
Leveraging corporate ethics	<ol style="list-style-type: none"> 1. 90% entitas yang tergabung dalam Pertamina Grup tersertifikasi ISO 37001. 2. 100% jajaran Komisaris dan Direksi di Pertamina Grup telah menghadiri sosialisasi antikorupsi. 3. 98% pekerja telah menghadiri sosialisasi antipenyuapan. 4. 100% kontraktor dan bekerja di Pertamina Grup telah diinformasikan seputar <i>anti-fraud awareness</i>. 5. 85% kasus <i>whistleblowing</i> di Pertamina Grup ditindaklanjuti. 	<ol style="list-style-type: none"> 1. 90% of entities in Pertamina Group are ISO 37001 certified. 2. 100% of Commissioners and Directors in Pertamina Group have attended anti-corruption dissemination. 3. 98% of employees have attended anti-bribery dissemination. 4. 100% of contractors and workers in Pertamina Group have been informed about anti-fraud awareness. 5. 85% of whistleblowing cases in Pertamina Group are followed up.



Kegiatan Membangun Budaya Keberlanjutan [OJK F.1][GOV-2.C4][GOV-2.A3]

Activities to Build a Culture of Sustainability

Pertamina Grup terus mengintegrasikan prinsip keberlanjutan ke dalam budaya perusahaan melalui berbagai inisiatif strategis, termasuk program pelatihan yang berfokus pada aspek keberlanjutan. Pertamina Grup mengembangkan Pertamina *Sustainability Academy* (PSA) yang bertujuan untuk meningkatkan kapabilitas pekerja dalam mendorong *just energy transition* dan mencapai *Net Zero Emission* di 2060, atau lebih cepat. Sepanjang 2024, Perseroan telah menyelenggarakan beberapa program PSA, di antaranya: *Sustainability Awareness Learning* (SUNRISE); *Sustainability Accelerator Program* (SNAP); *Sustainability Transcendence Forum* (STF); *Sustainability Masterclass*; *Human Rights Training*; serta *Compliance dan Green Procurement*. Pekerja juga mengikuti berbagai program akselerasi yang diselenggarakan oleh UN Global Compact (UNGC), seperti *Climate Ambition*, *SDGs Ambition*, *Business and Human Rights*, serta *Target Gender Equality*.

Pertamina Group continues to integrate sustainability principles into the corporate culture through various strategic initiatives, including training programs that focus on sustainability aspects. Pertamina Group developed Pertamina Sustainability Academy (PSA) which aims to enhance the capabilities of employees in driving the Just Energy Transition (JET) and achieving Net Zero Emissions by 2060, or sooner. Throughout 2024, the Company has held several PSA programs, including: Sustainability Awareness Learning (SUNRISE); Sustainability Accelerator Program (SNAP); Sustainability Transcendence Forum (STF); Sustainability Masterclass; Human Rights Training; and Compliance and Green Procurement. The employees also participated in various acceleration programs organized by the UN Global Compact (UNGC), such as Climate Ambition, SDGs Ambition, Business and Human Rights, and Target Gender Equality.

Pertamina Grup menyelenggarakan beberapa program budaya keberlanjutan, yaitu:

1. *Uniform Recycling Program* (URP)
2. *Annual Pertamina Quality Award* (APQA) kategori “Sustainability Excellence for Operational Unit”
3. Aplikasi Perdagangan Karbon Ritel “Greenomina”
4. *Sustainability Roadshow*

Pertamina Group organized several sustainability culture programs, namely:

1. *Uniform Recycling Program* (URP)
2. *Annual Pertamina Quality Award* (APQA) category “Sustainability Excellence for Operational Unit”
3. “Greenomia” Retail Carbon Trading Application
4. *Sustainability Roadshow*

Pertamina Grup juga menyelenggarakan berbagai kerja sama internasional dalam rangka mendorong keterlibatan yang lebih aktif pada agenda-agenda keberlanjutan internasional, antara lain:

Pertamina Group also organized various international cooperation to promote more active involvement in international sustainability agendas, among others:

1. *Conference of the Parties (COP) 29*
2. *10th World Water Forum (WWF) 2024*
3. *Indonesia International Sustainability Forum (IISF) 2024*
4. *Methane Leadership Program (MLP)*
5. *Berpartisipasi dalam berbagai konferensi internasional di bidang keberlanjutan*

Participating in various international conferences in the sustainability-related field

Kinerja Ekonomi: Memperkuat Kontribusi Transisi Energi dan Bisnis Berkelanjutan

Economic Performance: Strengthening the Contribution of Energy Transition and Sustainable Business



Pertamina Grup berhasil mencatatkan kinerja positif dan terus bertumbuh. Pencapaian tersebut tak terlepas dari penerapan praktik-praktik keberlanjutan di semua lini bisnis, baik subholding maupun anak perusahaan, dengan ditopang transformasi digitalisasi, inovasi riset teknologi serta operasional yang lebih efisien.

Pertamina Group managed to record positive performance and continuous growth. These achievements are attributed to sustainability practices in all business lines, both subholdings and subsidiaries, along with digitalization transformation, technology research innovation and more efficient operations.



Perbandingan Target dan Realisasi Kinerja Produksi, Pendapatan, dan Laba Rugi [OJK F.2]

Comparison of Target and Realization of Production Performance, Revenue, and Profit and Loss

Pertamina Grup melalui masing-masing subholding mencatatkan kinerja positif sepanjang 2024, serta mampu merealisasikan target-target yang ditetapkan dalam Rencana Kerja dan Anggaran Perusahaan (RKAP).

Pertamina Group, through its subholding, recorded positive performance throughout 2024, and has successfully realized the targets established in the Corporate Work Plan and Budget (RKAP).

Perbandingan Target dan Kinerja Operasional Comparison between Target and Operational Performance

Uraian Description	Satuan Unit	2024		2023	2022
		Target	Realisasi Realization	Realisasi Realization	
Produksi Migas Oil and Gas Production	MBOEPD	1,104.78	1,044.60	1,043.73	967.37
Pengolahan Minyak Mentah, Gas, dan <i>Intermediate (Intake)</i> Crude Oil, Gas, & Intermediate Refinery (Intake)	MMBBL	345.43	322.80	340.91	333.06
Penjualan Produk BBM Fuel Oil Sales	Juta KL	85	86	81	79
Penjualan Produk Non-BBM Non-Fuel Oil Sales	Million KL	19	19	19	19
Penjualan Niaga Gas Gas Commercial Sales	BBTU	349,199	311,835	337,056	327,029
Transportasi Kargo Cargo Transportation	Juta KL Million KL	169.37	161.02	161.42	157.14
Produksi Listrik EBT NRE Electricity Production	GWh	7,320.43	8,475.35	5,451.60	4,658.82

Perbandingan Target dan Kinerja Keuangan (Juta USD) Comparison between Target and Financial Performance (Million USD)

Uraian Description	2024		2023	
	Target	Realisasi Realization	Target	Realisasi Realization
Penjualan dan Pendapatan Usaha Lainnya Total Sales and Other Operating Revenues	78,854	75,327	81,976	75,788
Laba Tahun Berjalan Profit for the Year	3,784	3,447	3,647	4,770

Perbandingan Target dan Realisasi Pembiayaan atau Investasi pada Instrumen Keuangan, atau Proyek yang Sejalan Keberlanjutan [OJK F.3]

Comparison of Target and Realized Financing or Investment in Sustainable Financial Instruments or Projects

Pada periode pelaporan, Pertamina Grup meluncurkan Kerangka Keuangan Berkelanjutan (*Sustainable Finance Framework*) yang bertujuan memastikan upaya keberlanjutan Perseroan terintegrasi terhadap strategi setiap pendanaan, sehingga memungkinkan Perseroan dan/atau subholding/Anak Perusahaan mengakses pendanaan proyek hijau dan proyek transisi energi. Implementasi *Sustainable Finance Framework* juga mencakup proses tata kelola dan pelaporan dalam rangka transparansi dan visibilitas bagi investor maupun pemberi pinjaman, terkait dampak positif dari investasi hijau atau transisi energi Pertamina Grup terhadap lingkungan.

In the reporting period, Pertamina Group launched the Sustainable Finance Framework, aiming at ensuring that the Company's sustainability efforts are integrated into each funding strategy, thus enabling the Company and/or subholding/Subsidiaries to access funding for green projects and energy transition projects. Implementation of the Sustainable Finance Framework also includes governance and reporting processes to ensure transparency and visibility for investors and lenders, regarding the positive impact of Pertamina Group's green investment or energy transition on the environment.

Sustainability Budget Tagging (SBT)

Pada 2024, Pertamina Grup menerapkan *Sustainability Budget Tagging* (SBT) sebagai bukti keseriusan menjalankan prinsip LST di seluruh Pertamina Grup, serta menjadi BUMN pertama di Indonesia yang memiliki taksonomi berkelanjutan untuk mendukung pencapaian tujuan pembangunan berkelanjutan (TPB). Taksonomi berkelanjutan Pertamina Grup diformalkan melalui Surat Keputusan Direktur Utama PT Pertamina (Persero) No. Kpts-028/C00000/2024-S0 tentang Taksonomi dan Fokus Keberlanjutan Pertamina di Pertamina dan Group. Penerapan SBT akan membantu pemilik anggaran mengidentifikasi kegiatan, aktivitas, program, ataupun inisiatif terkait aspek keberlanjutan di Pertamina Grup.

In 2024, Pertamina Group implemented Sustainability Budget Tagging (SBT) as part of its commitment to implement ESG principles in the entire Pertamina Group, and became the first SOE in Indonesia to have a sustainable taxonomy to support the achievement of sustainable development goals (SDGs). Pertamina Group's sustainable taxonomy is formalized through Decree of the President Director of PT Pertamina (Persero) No. Kpts-028/C00000/2024-S0 on Taxonomy and Sustainability Focus of Pertamina in Pertamina and Group. The SBT implementation will help budget owners identify sustainability-related activities, programs, or initiatives within Pertamina Group.

Perbandingan Target dan Realisasi Pembiayaan Proyek Sejalan Keberlanjutan (Juta USD)
 Comparison of Target and Realization of Sustainability-aligned Project Financing (Million USD)

Uraian Description	2024		2023*	
	Target	Realisasi Realization	Target	Realisasi Realization
Sustainability Budget Tagging (SBT)	1,691	1,708	940	728

*Penyajian kembali informasi (*restatement*) karena adanya penambahan cakupan perhitungan SBT dari anggaran biaya investasi dan biaya operasional. [GRI 2-4]

*Restatement of information due to the addition of the scope of calculation of SBT from the investment cost budget and operating expenses.

Kinerja Keuangan Pertamina [GRI 201-1][OG 11.21.2]

Pertamina Financial Performance

Pengungkapan informasi kinerja keuangan Perseroan tahun 2024 dalam Laporan ini disusun berdasarkan Standar GRI Konsolidasi 2021 dengan tanpa merinci berdasarkan wilayah operasi, segmen usaha, dan/atau kriteria lain.

The disclosure of information on the Company's financial performance in 2024 in this Report has been prepared based on the 2021 Consolidated GRI Standards without detailing it by area of operation, business segment, or other criteria.

Nilai Ekonomi Diperoleh

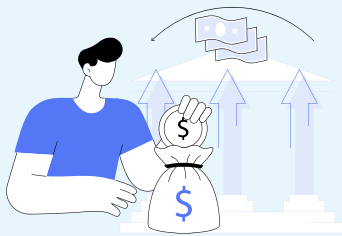
Economic Value Generated

Nilai ekonomi yang diperoleh Pertamina Grup terdiri dari penjualan dalam negeri minyak mentah, gas bumi, energi panas bumi, dan EBT lainnya, serta produk minyak; penggantian biaya subsidi dari Pemerintah, penjualan ekspor minyak mentah, gas bumi, dan produk minyak; imbalan jasa pemasaran; dan pendapatan usaha dari aktivitas operasi lainnya. Pada tahun 2024, Perseroan membukukan pendapatan sebesar USD75.327 juta. Sementara itu, pendapatan Perseroan dari Subholding Power & NRE mencapai USD409.661 ribu pada 2024, berkontribusi 0,54% dari total pendapatan.

The economic value generated by Pertamina Group consists of domestic sales of crude oil, natural gas, geothermal energy and other renewable energy, as well as oil products; cost recovery of subsidies from the Government, export sales of crude oil, natural gas, and oil products; marketing services fees; and revenues from other operating activities. In 2024, the Company recorded revenue of USD75,327 million. Meanwhile, revenue from the Power & NRE Subholding amounted to USD409,661 thousand in 2024, contributing 0.54% to the total revenue.

Sebagai BUMN, Perseroan menerima bantuan finansial Pemerintah Indonesia. Laporan ini tidak menyertakan pengungkapan informasi terkait bantuan finansial dari pemerintah di wilayah operasi Perseroan di luar Indonesia. Bantuan finansial dimaksud berupa penggantian subsidi atas Jenis Bahan Bakar Tertentu (JBT), meliputi JBT minyak solar, JBT minyak tanah dan LPG tabung 3 kg, serta penggantian Dana Kompensasi BBM atas JBT Solar dan Jenis Bahan Bakar Khusus Penugasan (JBKP) Peralite dan Kebijakan BBM Satu Harga. Total penggantian biaya subsidi dari Pemerintah yang diterima Perseroan tahun 2024 mencapai USD5.989,15 juta, meningkat dari tahun 2023 sebesar USD5.608,36 juta. [\[GRI 201-4\]\[OG 11.21.3\]](#)

As an SOE, the Company receives financial assistance from the Government of Indonesia. This report does not include disclosure of information on financial assistance from the government in the Company's operating areas outside Indonesia. The financial assistance is in the form of subsidy reimbursement for Certain Types of Fuel (JBT), including diesel oil, kerosene, and 3-kg LPG cylinders, as well as Fuel Compensation Funds for subsidized diesel fuel, and Special Fuel Assignment (JBKP) Peralite, and One Price Fuel Policy. The total subsidy reimbursements from the government received by the Company in 2024 reached USD5,989.15 million, an increase from USD5,608.36 million in 2023. [\[GRI 201-4\]\[OG 11.21.3\]](#)



Penggantian Biaya Subsidi dari Pemerintah (Juta USD)
Subsidy Reimbursements from the Government (Million USD)



Nilai Ekonomi Diperoleh dan Didistribusikan (Juta USD)
Economic Value Generated and Distributed (Million USD)

Uraian Description	2024	2023*	2022
Nilai Ekonomi yang Diperoleh Economic Value Generated			
Pendapatan Revenues	75,327	75,788	84,888
Nilai Ekonomi yang Didistribusikan Economic Value Distributed			
Biaya Operasi Operating Costs	61,471	60,141	68,790
Biaya Pekerja Employee Wages	3,276	2,504	2,258
Pembayaran bagi Pemodal Payment to Investors	1,114	1,190	846
Pembayaran kepada Pemerintah Payment to the Government	25,337	23,577	30,477
Investasi Sosial (TJSL + PUMK) Social Investments (CSR + PUMK)	35	43	43
Jumlah Total	91,233	87,455	102,414
Nilai Ekonomi yang Ditahan Economic Value Retained			
Jumlah Total	(15,906)	(11,667)	(17,526)

Keterangan | Note:

* Penyajian kembali informasi (*restatement*) karena adanya konsistensi metode perhitungan. [\[GRI 2-4\]](#)

* Restatement of information due to consistency of calculation methods.

Biaya Operasi dan Biaya Pekerja

Operating Costs and Employee Wages

Pengungkapan informasi terkait Distribusi Nilai Ekonomi yang Diperoleh untuk kontraktor/mitra kerja/vendor yang menjadi bagian Biaya Operasi disampaikan terpisah dalam bahasan Proporsi Pemasok Lokal dan Ketenagakerjaan pada Laporan ini. Untuk Biaya Pekerja, jumlah yang didistribusikan tahun 2024 sebesar USD3.276 juta. Salah satu bentuk pembayaran Biaya Pekerja adalah kesertaan pekerja dalam program pensiun yakni Program Pensiun Manfaat Pasti (PPMP) dan Program Pensiun Iuran Pasti.

Disclosure of information on the Economic Value Distributed to contractors/partners/vendors as part of Operating Costs is presented separately in the Proportion of Local Suppliers and Employment section of this Report. For Employee Wages, the amount distributed in 2024 amounted to USD3,276 million. One of the payments for Employee Wages is the participation of employees in pension programs, through the Defined Benefit Pension Program (PPMP) and Defined Contribution Pension Program.

Penyelenggaraan Program Pensiun [GRI 201-3]

Program Pensiun Manfaat Pasti (PPMP) dikelola Dana Pensiun (DP) Pertamina, dengan kontribusi Perseroan membayarkan iuran sebesar 25,3% x Penghasilan Dasar Pensiun atau 6,578% x Upah Tetap Pensiun (UTP), dan pekerja sebesar 7,5% x PhDP atau 1,950% x UTP. Berdasarkan Laporan Kinerja DP Pertamina tahun 2024, diketahui Rasio Kecukupan Dana (RKD) mencapai 96,6% dan Jumlah Kewajiban Pembayaran Pensiun Rp0,97 triliun, sehingga DP Pertamina dapat memenuhi kewajiban pembayaran terhadap 39.842 pekerja Pertamina Grup yang pensiun tahun 2024.

Pension Program [GRI 201-3]

The Defined Benefit Pension Program (PPMP) is managed by Pertamina Pension Fund, with the Company contributing 25.3% of Basic Pensionable Earnings (PhDP) or 6.578% of Permanent Pensionable Wage (UTP), and employees contributing 7.5% of PhDP or 1.950% of UTP. Based on the Pertamina Pension Fund Performance Report in 2024, it is known that the Fund Adequacy Ratio reached 96.6% and the Total Pension Payment Obligation was Rp0.97 trillion, ensuring that Pertamina Pension Fund can fulfill the payment obligation to 39,842 employees of Pertamina Group who retired in 2024.

Kinerja Pengelolaan PMPP Dana Pensiun Pertamina

Performance of PMPP Management of Pension Fund Pertamina

Uraian Description	Satuan Unit	2024	2023	2022
Aset Neto Dana Pensiun Net Assets of Pension Fund	Rp Triliun	9.98	10.07	9.55
Jumlah Kewajiban Pembayaran Pensiun Total Pension Payment Liabilities	Trillion Rp	0.97	1.00	0.99
Rasio Kecukupan Dana (RKD) Fund Sufficiency Ratio	%	96.6	95.3	96.5

Pertamina juga memiliki Program Pensiun Iuran Pasti (PIIP) yang diselenggarakan bekerja sama dengan beberapa Dana Pensiun Lembaga Keuangan (DPLK) yang ditunjuk. Besaran iuran 4,5% menjadi beban Perseroan dan 2% menjadi beban pekerja. Program lain yang dijalankan adalah Program Jaminan Hari Tua (JHT) dan Program Jaminan Pensiun (JP), yang diselenggarakan Badan Penyelenggara Jaminan Sosial (BPJS) Ketenagakerjaan. Besaran iuran Program JHT adalah 5,7% dari upah dengan kontribusi pekerja membayar 2% dan Perseroan membayar 3,7%, sementara iuran Program JP adalah 3% dengan kontribusi 2% dibayarkan Perseroan dan 1% oleh pekerja.

Pertamina also provides a Defined Contribution Pension Program (PIIP), which is administered in collaboration with several designated Financial Institution Pension Funds (DPLK). The Company pays 4.5% of the contribution, while the employees pay 2%. Other programs that are implemented are the Old Age Security Program (JHT) and the Pension Security Program (JP), which are organized by the Employment Social Security Agency (BPJS Ketenagakerjaan). The contribution rate for the JHT Program is 5.7% of wages, with the employees paying 2% and the Company paying 3.7%, while the contribution rate for the JP Program is 3%, with 2% paid by the Company and 1% by the employees.

Pembayaran bagi Pemodal

Payment to Investors

Pembayaran bagi Pemodal pada 2024 menurun 6,39% menjadi USD1.114 juta dari 2023 yang sebesar USD1.190 juta, seiring bertumbuhnya Laba Usaha Perseroan. Pengungkapan informasi tentang investor disampaikan dalam Laporan Tahunan 2024.

Payment to Investors in 2024 decreased by 6.39% to USD1,114 million from USD1,190 million in 2023, as the Company's operating profit grew. Disclosure of investor information is provided in the 2024 Annual Report.

Pembayaran kepada Pemerintah

Payment to Government

Pembayaran kepada Pemerintah terdiri dari pembayaran pajak, setoran dividen dan Penerimaan Negara Bukan Pajak (PNBP) lainnya yang terdiri atas minyak mentah dan/atau kondensat bagian negara (MMKBN), bonus tanda tangan, sewa barang milik negara (BMN), dan *over lifting* T-1. Hal ini sesuai dengan Peraturan Kementerian Badan Usaha Milik Negara Republik Indonesia No. S-32/DKU.MBU/08/2024 terkait Kontribusi kepada Negara.

Payments to the Government consist of tax payments, dividend deposits, and other Non-Tax State Revenues (PNBP) consisting of the state's share of crude oil and/or condensate (MMKBN), signature bonuses, state property (BMN) leases, and over lifting T-1. This complies with the Regulation of the Ministry of State-Owned Enterprises of the Republic of Indonesia No. S-32/DKU.MBU/08/2024 concerning Contributions to the State.

Komponen Pembayaran kepada Pemerintah*
Components of Payment to the Government*

Uraian Description	Satuan Unit	2024	2023	2022
Pajak	USD Juta Million USD	16,541	13,472	13,144
Tax	Rp Miliar Billion Rp	275,676	224,531	219,064
Dividen	USD Juta Million USD	562	841	176
Dividends	Rp Miliar Billion Rp	9,360	14,024	2,928
PNBP Lainnya	USD Juta Million USD	7,002	7,334	9,628
Other PNBP	Rp Miliar Billion Rp	116,698	122,226	160,460
Jumlah	USD Juta Million USD	24,104	21,647	22,947
Total	Rp Miliar Billion Rp	401,734	360,781	382,452

Keterangan | Note:

Asumsi nilai kurs 2024 Rp1,000 = USD0,06 | Assumed 2024 exchange rate of Rp1,000 = USD0,06

* Terdapat penyesuaian komponen berdasarkan Surat Kementerian BUMN S-32/DKU.NBU/08/2024 tanggal 30 Agustus 2024 perihal Pengungkapan Kontribusi Fiskal BUMN.

* Component adjustments based on the Letter from the Ministry of SOEs S-32/DKU.NBU/08/2024, dated August 30, 2024, regarding Disclosure of SOE Fiscal Contributions.

Perpajakan

Pengelolaan perpajakan Perseroan menjadi tanggung jawab Fungsi Tax yang dipimpin pejabat perusahaan setingkat Vice President, dan bertanggung jawab kepada Direktur Keuangan. Pengelolaan perpajakan seluruh entitas di Pertamina Grup dilakukan melalui penerapan prinsip-prinsip *fundamental tax management*, meliputi potensi risiko perpajakan, pengawasan internal, pengawasan proses bisnis perpajakan, meningkatkan keterlibatan fungsi pajak, serta ketersediaan informasi yang memadai. Secara berkala, Fungsi Tax melakukan pemantauan dan evaluasi atas perpajakan dengan pendekatan pada kepatuhan terhadap regulasi di masing-masing negara yang menjadi wilayah operasi Pertamina Grup. Untuk wilayah operasi di Indonesia, acuan strategi perpajakan di antaranya UU Nomor 7 Tahun 2021 tentang Harmonisasi Peraturan Perpajakan (HPP) dan UU No. 11 Tahun 2020 tentang Cipta Kerja. Pertamina Grup telah melakukan inisiasi integrasi, digitalisasi, otomatisasi data, serta sistem maupun fasilitas perpajakan dengan Direktorat Jenderal Pajak (DJP) Kementerian Keuangan.

[GRI 207-1][GRI 207-2][OG 11.21.4][OG 11.21.5]

Taxes

The Tax Function is responsible for the Company's tax management, which is led by a Vice President-level corporate officer and reports to the Finance Director. Tax management of all entities in Pertamina Group is carried out by applying the fundamental principles of tax management, including potential tax risks, internal control, supervision of tax business processes, increasing the involvement of the tax function, and the availability of adequate information. Periodically, the Tax Function conducts monitoring and evaluation of taxation by complying with regulations in each country where Pertamina Group operates. For operating areas in Indonesia, references for taxation strategies include Law No. 7 of 2021 concerning Harmonization of Tax Regulations (HPP) and Law No. 11 of 2020 concerning Job Creation. Pertamina Group has initiated integration, digitalization, data automation, and taxation systems and facilities with the Directorate General of Taxes (DGT) of the Ministry of Finance. [GRI 207-1][GRI 207-2][OG 11.21.4][OG 11.21.5]

Secara berkala, Pertamina Grup melakukan koordinasi dan pelibatan dengan DJP melalui Kanwil DJP atau KPP di masing-masing wilayah operasi. Koordinasi dan pelibatan di 2024 dilaksanakan melalui beberapa kegiatan, di antaranya asistensi dan konsultasi pelaporan pajak (Surat Pemberitahuan Tahunan/SPT), termasuk kepada pekerja Pertamina Grup sebagai Wajib Pajak Orang Pribadi. Kami juga menyelenggarakan *tax gathering*, penyuluhan dan sosialisasi perpajakan terkait peraturan perpajakan terbaru, serta penyelenggaraan fokus grup diskusi (FGD) untuk memperoleh pemahaman yang lebih mendalam atas implikasi aspek pajak pada skema bisnis baru di Pertamina Grup. [GRI 207-3][OG 11.21.6]

Periodically, Pertamina Group coordinates and engages with DGT through the Regional Office of DGT or Tax Office in each operating area. Coordination and engagement in 2024 was carried out through several activities, including assistance and consultation on tax reporting (Annual Tax Return/SPT), including to employees of Pertamina Group as individual taxpayers. We also organize tax gathering, tax counseling and dissemination regarding the latest tax regulations, as well as organizing focus group discussions (FGD) to obtain a deeper understanding of the implications of tax aspects on new business schemes in Pertamina Group. [GRI 207-3][OG 11.21.6]

Komponen Pembayaran Pajak Pertamina Grup Pertamina Group Tax Payment Components

Jenis Kontribusi Contribution Type	Total Kontribusi (dalam Miliar Rupiah) Total Contribution (in Billion Rupiah)		
	2024	2023	2022
A. Pajak Taxes			
1 Pajak Penghasilan (PPH) Income Tax	52,559	59,110	65,688
2 Pajak Pertambahan Nilai (PPN) & Pajak Penjualan atas Barang Mewah (PPnBM) VAT & Sales Tax on Luxury Goods	180,206	131,430	117,199
3 Bea Masuk/Keluar, Bea & Cukai, dan Bea Materai Customs & Duties	3,606	3,320	4,062
4 PBB P3 (Perkebunan, Perhutanan, Pertambangan) Land and Building Tax for Plantation, Forestry, and Mining	804	-	-
5 Pajak Pemerintah Pusat Lainnya (SKP/STP) Other Central Government Taxes	3,915	628	246
6 Pajak Daerah dan Retribusi Daerah (PDRD), termasuk PBB P2 (Perkotaan dan Pedesaan) Regional Taxes and Regional Levies (including PBB P2)	34,586	30,043	31,869
Jumlah Kontribusi Pajak Total Tax Contribution	275,676	224,531	219,064

Pelaporan sebagai Perusahaan Pendukung EITI [GOV-4.A1, 4.A2, 4.A3, GOV-4.C1, 4.C2,

4.C3, 4.C4]

Reporting as EITI Supporting Company

Pertamina Grup menjadi bagian dari entitas pelapor untuk Laporan Extractive Industries Transparency Initiative (EITI) yang diterbitkan Pemerintah. Penyampaian data Laporan EITI mencakup data dari negara-negara tempat Perseroan beroperasi sesuai kontrak yang ditandatangani dengan pemerintah setempat. Selain itu, Pertamina juga menjadi EITI *Supporting Company*, sehingga Pertamina berkomitmen untuk memenuhi ekspektasi EITI. Pengungkapan informasi terkait Laporan EITI Indonesia, dapat dilihat pada situs <https://portaldataekstraktif.esdm.go.id/>.

Pertamina Group is part of the reporting entity for the Extractive Industries Transparency Initiative (EITI) Report published by the Government. The EITI Report data submission includes data from countries where the Company operates according to the contract signed with the local government. In addition, Pertamina is also an EITI Supporting Company, so Pertamina is committed to meeting EITI expectations. Disclosure of information on Indonesia's EITI Report, can be viewed on the website <https://portaldataekstraktif.esdm.go.id/>.

Daftar Afiliasi Pertamina Grup di Luar Negeri untuk Kegiatan Eksplorasi dan Produksi

List of Foreign Affiliates of Pertamina Group for Exploration and Production Activities

No	Nama Perusahaan Company Name	Negara Country	Produk Product
Negara Anggota EITI EITI Member Countries			
1	Pertamina International Irak Eksplorasi Produksi Pertamina International Iraq Exploration Production	Irak Iraq	
2	Maurel & Prom	Gabon	Minyak Mentah dan Gas Bumi Crude Oil and Natural Gas
		Tanzania	
		Kolumbia Columbia	
		Angola	
		Nigeria	
Negara Bukan Anggota EITI Non EITI Member Countries			
3	Pertamina Internasional Malaysia Eksplorasi Produksi Pertamina International Malaysia Exploration Production	Malaysia	Minyak Mentah dan Gas Bumi Crude Oil and Natural Gas
4	Pertamina Aljazair Eksplorasi Produksi Pertamina Algeria Exploration Production	Aljazair Algeria	

Untuk wilayah operasi di mancanegara, Perseroan memenuhi kewajiban pembayaran pajak kepada pemerintah setempat. [GRI 207-4][GOV-4.A1][OG 11.21.7]

For overseas operations, the Company fulfills its tax payment obligations to the local government. [GRI 207-4][GOV-4.A1][OG 11.21.7]

Pembayaran Pajak Pertamina Grup di Luar Indonesia Tahun 2024 (dalam USD)
 Pertamina Group Tax Payments Outside Indonesia in 2024 (in USD)

Negara Country	Entitas Entity	Jumlah Karyawan Total Employees	Pendapatan Revenue			Laba/Rugi Sebelum Pajak Profit/Loss Before Tax	Pajak Penghasilan Dibayarkan Income Tax Paid	Pajak Akrual Tax Accrued	Aset Berwujud Tangible Assets
			Pendapatan dari Pihak Ketiga Revenue from Third Parties	Pendapatan dengan Pihak Terkait Revenue with Related Parties	Total Pendapatan Total Revenue				
Singapura Singapore	Pertamina Internasional Shipping Asia Pasific	12	155,324,196	285,139,216	440,463,412	56,845,840	1,722,392	26,277	362,641,062
Singapura Singapore	PT Pertamina International Marketing & Distribution	33	4,934,531,008	100,357,380	5,034,888,388	41,269,608	4,808,951	-	17,411,722
Irak Iraq	Pertamina International Irak Eksplorasi Produksi	20	234,016,774	-	234,016,774	71,097,472	24,939,076	1,610,992	733,978,125
Perancis* France*	Maurel & Prom Group	783	574,681,148	426,459,595	1,001,140,743	225,989,892	43,830,523	17,258,945	1,381,658,466
Aljazair Algeria	Pertamina Algeria Eksplorasi Produksi	53	57,709,952	161,373,952	219,083,904	87,353,405	48,134,548	3,136,941	926,839,347
Uni Emirat Arab (UEA)	Pertamina Internasional Shipping Middle East	2	103,942,385	57,603,310	161,545,695	24,468,051	-	-	-
Thailand	Pertamina Lubricants Thailand Co., Ltd	43	14,308,466	-	14,308,466	519,293	128,336	128,396	961,598
Timor Leste	PT Pertamina International Timor SA	32	77,182,688	2,247,271	79,429,959	15,742,978	1,647,092	-	5,554,711

Keterangan | Note:

*Data lebih rinci dapat dilihat pada situs: <https://www.maureletprom.fr/en/investisseurs/rapports-annuels>

*More detailed data can be seen on the website: <https://www.maureletprom.fr/en/investisseurs/rapports-annuels>

Pertamina Grup mengambil langkah maju dalam transparansi dengan menerbitkan laporan pajak terpisah. Laporan ini akan menyajikan rincian yang lebih mendalam mengenai kontribusi perusahaan terhadap penerimaan negara.

Pertamina Group is taking a step forward in transparency by publishing a separate tax report. This report will provide more in-depth details on the company's contribution to state revenue.



Pembayaran *Participating Interest* (PI) [GOV-4.A4]

Participating Interest (PI) Payment

Perseroan memenuhi kewajiban pembayaran *Participating Interest* (PI) 10% kepada pemerintah daerah sesuai wilayah kerja (WK) operasi, mengacu Peraturan Menteri ESDM No. 37 tahun 2016. Realisasi PI di 2024, meliputi:

1. PI WK Sanga Sanga untuk Provinsi Kalimantan Timur.
2. PI WK Pertamina Hulu Energi (PHE) Ogan Komering untuk Sumatra Selatan.

The Company fulfills the obligation to pay 10% Participating Interest (PI) to the local government for each working area (WK) of operation, referring to the Minister of Energy and Mineral Resources Regulation No. 37 of 2016. The PI realization in 2024 includes:

1. PI of Sanga Sanga Working Area for East Kalimantan Province.
2. Pertamina Hulu Energi (PHE) Ogan Komering Working Area for South Sumatra.

Persaingan Usaha Sehat [GRI 206-1][EM-RM-520a.1]

Fair Business Competition

Penjualan produk-produk energi Pertamina Grup diatur dalam regulasi yang ditetapkan Pemerintah, termasuk harga penjualan kepada pelanggan melalui Perjanjian Jual Beli Minyak/Gas Bumi/Uap Panas Bumi dan Penetapan Harga Jual Eceran Jenis Bahan Bakar Minyak Tertentu, serta Jenis Bahan Bakar Minyak Khusus. Kekhususan ini menjadikan Pertamina Grup tidak dihadapkan pada persaingan usaha dan penguasaan pasar dengan perusahaan lain.

Secara prinsip, Perseroan mendukung persaingan usaha sehat dan mencegah perilaku antikompetitif. Pertamina Grup menghargai langkah Komisi Pengawas Persaingan Usaha (KPPU) terkait dugaan praktik monopoli penyediaan avtur oleh Subholding Commercial & Trading PT Pertamina Patra Niaga (PPN), yang tertuang dalam Register No.21-89/DH/KPPU.LID.I/IX/2024 tentang Dugaan Pelanggaran UU No. 5 Tahun 1999. PPN menegaskan penyediaan dan pendistribusian avtur yang dijalankan telah sesuai Peraturan BPH MIGAS Nomor 13/P/BPH Migas/IV/2008 tentang Pengaturan dan Pengawasan atas Pelaksanaan Penyediaan dan Pendistribusian Bahan Bakar Minyak Penerbangan di Bandar Udara. Penetapan harga jual avtur telah mengikuti ketentuan dalam Keputusan Menteri ESDM Nomor 17 K/10/MEM/2019 tentang Formula Harga Dasar dalam Perhitungan Harga Jual Eceran Jenis Bahan Bakar Minyak Umum Jenis Avtur yang Disalurkan Melalui Depot Pengisian Pesawat Udara.

The sales of Pertamina Group's energy products are conducted according to the Government's regulations, including the sales price to its customers through the Sales and Purchase Agreement of oil, gas, and geothermal steam, as well as the pricing of retail sales for certain types of fuels, and specialty fuels. This speciality prevents Pertamina Group from being exposed to business competition and market control by other companies.

Pertamina Group has always supported fair business competition and avoided anti-competitive behavior. Therefore, the Company respected the actions taken by the Business Competition Supervisory Commission (KPPU) in addressing the alleged monopolistic practices in the aviation fuel supply by Subholding Commercial & Trading PT Pertamina Patra Niaga (PPN), as stated in Register No.21-89/DH/KPPU.LID.I/IX/2024 concerning Alleged Violation of Law No. 5 Year 1999. PPN has confirmed that it carried out the supply and distribution of aviation fuel in compliance with BPH MIGAS Regulation Number 13/P/BPH Migas/IV/2008 concerning the Regulation and Supervision of the Implementation of the Supply and Distribution of Aviation Fuel Oil at Airports. The pricing of aviation fuel sales has followed the provisions in the Decree of the Minister of Energy and Mineral Resources Number 17 K/10/MEM/2019 About the Basic Price Formula in Calculating the Retail Selling Price of General Types of Avtur Fuel Distributed Through Aircraft Refueling Depots.

Kinerja Pengelolaan Lingkungan: Bersama Mewujudkan Lingkungan Lestari

Environmental Management Performance: Together Creating a Sustainable Environment



PT Pertamina (Persero) berkomitmen menjadi energi dalam menjaga lingkungan lestari dan berkelanjutan untuk generasi mendatang. Kami terus berinovasi untuk mendukung transisi energi dan mengembangkan bisnis energi masa depan rendah karbon yang ramah bagi lingkungan.

PT Pertamina (Persero) is committed to be the energy in preserving a sustainable environment for future generations. We continue innovating to support the energy transition and develop an environmentally friendly, low-carbon energy business for the future.



Bersama Mengatasi Perubahan Iklim [CCE-1.C4][CCE-1.A1, 1.A2]

Mitigating Climate Change Together

Sesuai dokumen Enhanced Nationally Determined Contribution (ENDC), Pemerintah Indonesia menetapkan target penurunan emisi gas rumah kaca (GRK) Indonesia di tahun 2030, yakni dengan kemampuan sendiri menjadi 31,89% (dari sebelumnya 29%) dan dengan dukungan internasional menjadi 43,20% (dari sebelumnya 41%). Untuk mendukung pencapaian target tersebut, Pemerintah mendorong transisi energi, yaitu peralihan dari campuran energi berbasis bahan bakar fosil ke campuran energi yang menghasilkan emisi karbon sangat terbatas, jika tidak nol, berdasarkan sumber energi terbarukan.

Pertamina Grup menindaklanjuti hal tersebut dengan menerapkan strategi dan perencanaan, baik secara operasional (infrastruktur) maupun lingkungan fisik, yang dijalankan sendiri atau berkolaborasi dengan berbagai pihak termasuk sektor swasta nasional dan internasional, lembaga pemerintahan, serta masyarakat. Upaya yang dilakukan ditujukan untuk meningkatkan bauran EBT sesuai target Pemerintah, sehingga secara bertahap dapat mengurangi emisi GRK.

In the Enhanced Nationally Determined Contribution (ENDC) document, the Government of Indonesia has set a target to reduce Indonesia's greenhouse gas (GHG) emissions in 2030, namely with its own capacity to 31.89% (from 29% previously) and with international support to 43.20% (from 41% previously). To support the achievement of these targets, the Government promotes the energy transition, which is to shift from a fossil fuel-based energy mix to an energy mix that produces very limited, if not zero, carbon emissions based on renewable energy sources.

Pertamina Group has followed up on this by implementing strategies and plans, both operationally (infrastructure) and the physical environment, either on its own or in collaboration with multiple parties, such as the national and international private sector, government agencies, and the community. The efforts are aimed at increasing the renewable energy mix as targeted by the Government to gradually reduce GHG emissions.

Respons dan Mitigasi terhadap Perubahan Iklim [OG 11.2.1][CCE-1.C3]

Response and Mitigation to Climate Change

Pertamina Grup memahami perubahan iklim yang berlangsung saat ini berdampak terhadap Indonesia. Sektor energi fosil berkontribusi signifikan terhadap peningkatan emisi GRK sehingga mendorong Pertamina Grup sebagai holding BUMN Migas melakukan transisi energi. Perseroan menjalankan inisiatif dekarbonisasi dan pengembangan bisnis hijau baru yang direalisasikan dalam tiga agenda, yakni mengubah operasional kilang menjadi kilang hijau (*green refinery*); mengembangkan bioenergi seperti proyek panas bumi dan hidrogen; serta mengembangkan inisiatif karbon negatif seperti proyek *carbon capture, utilization, and storage* (CCUS) dan *nature based solution* (NBS).

Pertamina Group understands that the current climate change has an impact on Indonesia. The fossil energy contributes significantly to the increase in GHG emissions, which has driven Pertamina Group, as an Oil and Gas SOE holding, to initiate an energy transition. The Company carries out decarbonization initiatives and the development of new green businesses which are realized in three agendas, namely converting refinery operations into green refineries; developing bioenergy, such as geothermal and hydrogen projects; and developing negative carbon initiatives such as carbon capture, utilization, and storage (CCUS) and nature based solution (NBS) projects.

Implikasi Finansial Akibat Perubahan Iklim [GRI 201-2][OG 11.2.2][CCE-2.C1][CCE-2.A1]

Upaya Pertamina Grup untuk mengelola perubahan iklim dilakukan melalui pendekatan menurunkan emisi GRK, pengembangan energi terbarukan, serta produksi bersih dan ramah lingkungan. Sejalan dengan hal tersebut, Pertamina Grup telah menerapkan *Sustainability Budget Tagging* (SBT) untuk membantu pemilik anggaran mengidentifikasi kegiatan, aktivitas, program, ataupun inisiatif terkait aspek keberlanjutan di Pertamina Grup.

Financial Implications of Climate Change [GRI 201-2][OG 11.2.2][CCE-2.C1][CCE-2.A1]

Pertamina Group's efforts to manage climate change are carried out through reducing GHG emissions, developing renewable energy, and clean and environmentally friendly production. Accordingly, Pertamina Group has implemented Sustainability Budget Tagging (SBT) to help budget holders identify sustainability-related activities, programs, or initiatives in Pertamina Group.

Tata Kelola Pengelolaan Perubahan Iklim [CCE-1.C1, 1.C2]

Governance of Climate Change Management

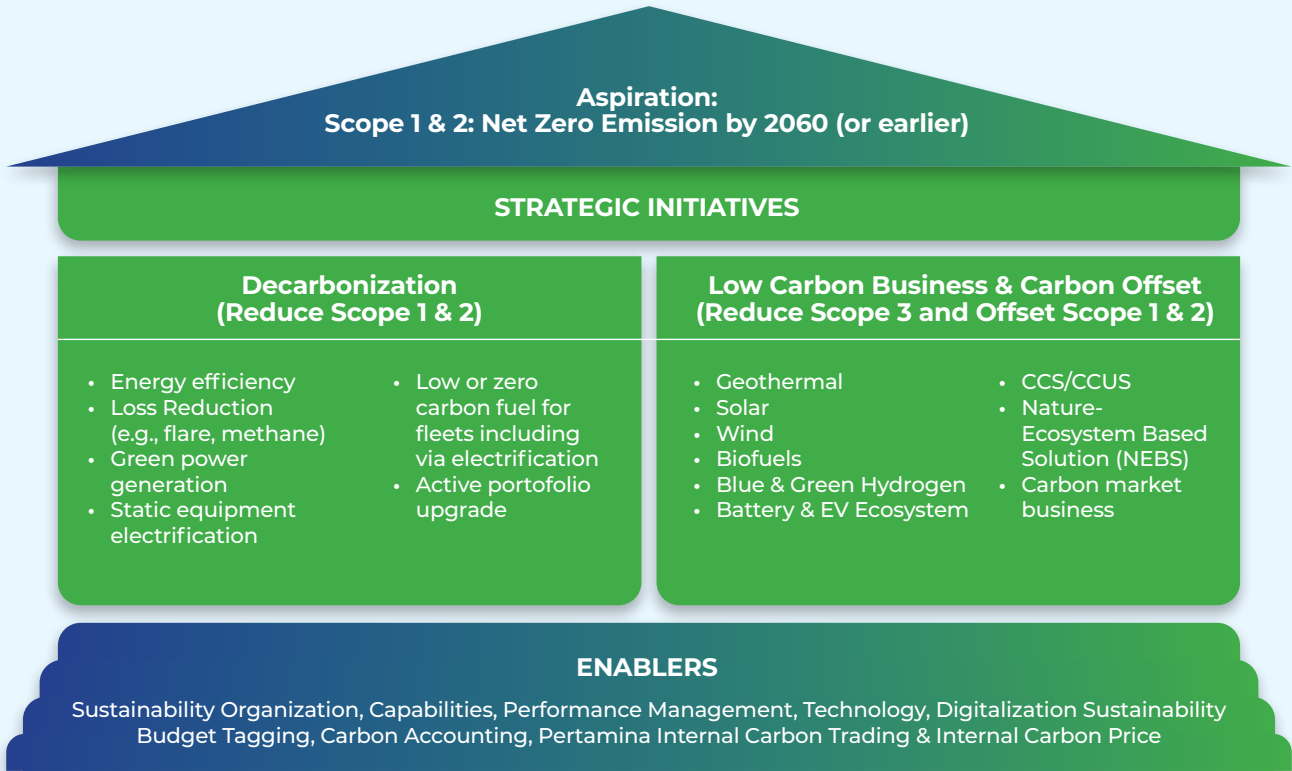
Pengelolaan perubahan iklim menjadi tugas dan tanggung jawab Direksi sesuai Indikator Kinerja Utama (KPI), yang juga menjadi salah satu pertimbangan dalam penetapan remunerasi. Direksi dibantu Komite Keberlanjutan yang dipimpin Direktur Utama, dalam menetapkan strategi, program kerja, dan anggaran untuk mengelola risiko iklim, serta bertanggung jawab dalam memastikan pengelolaan risiko iklim telah sejalan dengan manajemen risiko Perseroan. Pelaksanaan tugas dan tanggung jawab Direksi dalam mengelola perubahan iklim diawasi Dewan Komisaris. Informasi terkait Komite Keberlanjutan termasuk struktur organisasi disampaikan Laporan ini pada bahasan Tata Kelola Keberlanjutan. [CCE-2.A2]

Climate change management is part of the Board of Directors' duties and responsibilities as set out in the Key Performance Indicators (KPIs), which also become one of the considerations in determining remuneration. In determining the strategy, work program, and budget for managing climate-related risks, the Board of Directors is assisted by the Sustainability Committee, led by the President Director, and is accountable for ensuring that climate risk management aligns with the Company's risk management. The Board of Commissioners oversees the implementation of the duties and responsibilities of the Board of Directors in managing climate change. Information on the Sustainability Committee, including the organizational structure, is presented in this report under the Sustainability Governance section. [CCE-2.A2]

Strategi Keberlanjutan terkait Perubahan Iklim [CCE-2.C2]

Climate Change-related Sustainability Strategies

Peta Jalan Net Zero Emission PERTAMINA PERTAMINA's Net Zero Emission Roadmap



Pertamina Grup mendukung penurunan emisi GRK sesuai target Pemerintah. Strategi Perseroan dalam memitigasi risiko perubahan iklim menggunakan dua pendekatan, yakni inisiatif dekarbonisasi untuk mengurangi emisi cakupan 1 dan 2; serta pengembangan bisnis rendah karbon baru untuk mengurangi emisi cakupan 3.

Realisasi dari peta jalan NZE Pertamina Grup adalah delapan inisiatif strategis percepatan transisi energi yang dijalankan holding maupun subholding Pertamina, antara lain:

1. *Carbon Capture & Storage* atau *Carbon Capture Utilization & Storage*, termasuk CO₂ capture. Bisnis karbon memerlukan penguasaan *value chain* secara lengkap.

Pertamina Group is supporting the GHG emission reduction to meet the government's target. The Company's strategy in mitigating climate change risks uses two approaches: decarbonization initiatives to reduce scope 1 and 2 emissions; and development of new low-carbon businesses to reduce scope 3 emissions.

The NZE Pertamina Group roadmap realization is eight strategic initiatives to accelerate the energy transition carried out by Pertamina holding and subholding, among others:

1. *Carbon Capture & Storage* or *Carbon Capture Utilization & Storage*, including CO₂ capture. The carbon business requires complete mastery of the value chain.

2. Pengurangan impor BBM dan pemenuhan mandat pemerintah terkait pemanfaatan Bahan Bakar Nabati (BBN) di dalam negeri. Beberapa riset terkait antara lain (1) *Nature Based Solution* untuk pengembangan *biofuel*, (2) pengembangan teknologi produksi bioetanol, (3) UCO sebagai bahan baku alternatif bagi Pertamina *Renewable Diesel*. Pengembangan *biofuel* dapat dilakukan untuk mengurangi dampak terhadap lingkungan global. Di sisi lain, Indonesia memiliki sumber daya berlimpah untuk *non edible oil* yang bisa dijadikan bahan baku pembuatan HVO berupa *Renewable Diesel*, SAF, atau *Bio Gasoline*.
 3. Pengembangan *mineral extraction* dari *brine* diharapkan diselesaikan di 2026.
 4. Pengembangan *battery module* dan *battery rack* berbasis *lithium-ion* didasari oleh belum tersedianya yang diproduksi dalam negeri untuk kebutuhan stasioner.
 5. Inisiatif pemanfaatan *Palm Oil Mill Effluent* (POME) untuk menjadi Bio-LNG. POME merupakan bahan baku berbasah dasar limbah yang dikumpulkan di pabrik kelapa sawit selama proses produksi minyak kelapa sawit.
 6. *E-fuels* menggunakan karbon dioksida atau karbon monoksida yang ditangkap bersama dengan hidrogen yang diperoleh dari air yang dipisahkan oleh sumber listrik berkelanjutan seperti tenaga *geothermal* dan matahari.
 7. Inisiatif pengembangan teknologi *battery recycling* untuk mengantisipasi proyeksi meningkatnya volume limbah baterai kendaraan listrik.
 8. Pengembangan ekosistem hidrogen sebagai salah satu bahan bakar alternatif pengganti *fossil fuel* yang rendah karbon.
2. Reducing fuel imports and fulfilling government mandates related to utilizing Biofuels (BBN) domestically. Several related researches include (1) Nature Based Solution for biofuel development, (2) development of bioethanol production technology, (3) UCO as an alternative raw material for Pertamina Renewable Diesel. Biofuel development can be done to reduce the impact on the global environment. On the other hand, Indonesia has abundant resources for non-edible oil that can be used as raw materials for making HVO in the form of Renewable Diesel, SAF, or Bio Gasoline.
 3. Development of mineral extraction from brine is expected to be completed in 2026.
 4. The development of lithium-ion-based battery modules and battery racks is based on the unavailability of domestic production for stationary needs.
 5. Initiative to utilize Palm Oil Mill Effluent (POME) to become Bio-LNG. POME is a raw material from waste collected in palm oil mills during palm oil production.
 6. E-fuels use carbon dioxide or carbon monoxide captured together with hydrogen obtained from water separated by sustainable electricity sources such as geothermal and solar power.
 7. Initiatives to develop battery recycling technology to anticipate the projected increase in electric vehicle battery waste volume.
 8. Developing a hydrogen ecosystem as an alternative fuel to replace low-carbon fossil fuels.

Strategi Pembiayaan Hijau

Pengembangan bisnis hijau dilakukan secara bertahap, sehingga terbuka peluang bagi Perseroan mengakses ke pembiayaan hijau. Untuk mendukung hal tersebut, Pertamina Grup meluncurkan Kerangka Keuangan Berkelanjutan (*Sustainable Finance Framework*) guna memastikan upaya keberlanjutan Perseroan terintegrasi terhadap strategi pendanaan. Implementasi *Sustainable Finance Framework* juga mencakup proses tata kelola dan pelaporan yang kuat dalam rangka transparansi dan visibilitas bagi investor dan pemberi pinjaman, terkait dampak positif dari investasi hijau atau transisi energi Pertamina Grup terhadap lingkungan. *Sustainable Finance Framework* dan *Second Party Opinion* dari lembaga validasi independen tersedia di tautan berikut: <https://sustainability.pertamina.com/id-ID/Reports-and-Publications/Sustainable-Finance/>.

Risiko Terkait Perubahan Iklim [CCE-2.C1]

Pertamina Grup mengintegrasikan pengelolaan risiko terkait perubahan iklim ke dalam setiap kegiatan operasi dan rantai nilai perusahaan. Risiko tersebut diidentifikasi dan dikategorikan secara sistematis dalam *Risk Intelligence Map* (RIM) yang disusun berdasarkan Pedoman Manajemen Risiko. Perusahaan memastikan bahwa pengelolaan risiko dilakukan secara efektif serta telah mendapat persetujuan dan pengawasan dari Direksi dan Dewan Komisaris. Berikut merupakan identifikasi risiko-risiko terkait perubahan iklim.

Green Financing Strategy

Green business development is carried out in stages, allowing the Company to access green financing. To support this, Pertamina Group launched the Sustainable Finance Framework to ensure the Company's sustainability efforts are integrated into the funding strategy. Implementation of the Sustainable Finance Framework also includes a robust governance and reporting process to provide transparency and visibility for investors and lenders regarding the positive impact of Pertamina Group's green investment or energy transition on the environment. Sustainable Finance Framework and Second Party Opinion from independent validation agencies are available at the following link: <https://sustainability.pertamina.com/en-US/Reports-and-Publications/Sustainable-Finance/>.

Climate Change Related Risks [CCE-2.C1]

Pertamina Group integrates the management of climate change related risks into every operating activity and value chain of the Company. These risks are identified and systematically categorized in the Risk Intelligence Map (RIM) based on Risk Management Guidelines. The Company ensures that the risk management is conducted effectively and has been approved and under the supervision of the Board of Directors and Board of Commissioners. The following identifies the risks associated with climate change.

Risiko Transisi* Transition Risk*			
Risiko Risk	Dampak Risiko Risk Impact	Strategi Mitigasi/Adaptasi Mitigation/Adaptation Strategy	Jangka Waktu Period
Ketidakpastian kondisi pasar di sektor energi. Market uncertainty in the energy sector.	Menurunnya pendapatan yang disebabkan oleh berkurangnya kapasitas produksi dan perubahan kondisi pasar di sektor energi yang tidak dapat diprediksi. Declining revenues due to reduced production capacity and unpredictable market conditions in the energy sector.	<ol style="list-style-type: none"> Memperluas portofolio bisnis di sektor energi rendah karbon (<i>low-carbon energy</i>). Melakukan transfer risiko dengan kajian asuransi yang dapat menjamin keberlangsungan bisnis. <ol style="list-style-type: none"> Expand business portfolio in the low-carbon energy sector. Conduct risk transfer through insurance assessments that ensure business continuity. 	Jangka menengah Medium term

Risiko Transisi* Transition Risk*			
Risiko Risk	Dampak Risiko Risk Impact	Strategi Mitigasi/Adaptasi Mitigation/Adaptation Strategy	Jangka Waktu Period
<p>Penurunan reputasi atas kegagalan pengelolaan lingkungan. Decreased reputation for environmental management failures.</p>	<p>Penurunan skor ESG Rating. ESG Rating downgrade.</p>	<ol style="list-style-type: none"> 1. Pemantauan kinerja lingkungan seperti air, emisi udara, limbah B3, limbah padat, dan keanekaragaman hayati. 2. Pemantauan pelaksanaan program dekarbonisasi dan realisasi penurunan emisi. 3. Mensosialisasikan upaya-upaya mitigasi terkait mitigasi dan adaptasi perubahan iklim. 4. Melakukan verifikasi emisi Gas Rumah Kaca (GRK). 5. Melakukan pemantauan implementasi Program Penilaian Peringkat Kinerja Perusahaan (PROPER) atau Pertamina <i>Environmental Regulation Compliance Assurance Regulation</i> (PERCA) di lokasi kerja. <ol style="list-style-type: none"> 1. Monitoring of environmental performance, including water, air emissions, hazardous waste, solid waste, and biodiversity. 2. Monitoring the implementation of decarbonization programs and the realization of emission reductions. 3. Disseminating efforts related to climate change mitigation and adaptation. 4. Verification of Greenhouse Gas (GHG) emissions. 5. Monitoring the implementation of the Corporate Performance Rating Program (PROPER) or Pertamina Environmental Regulation Compliance Assurance (PERCA) at work sites. 	<p>Jangka menengah Medium term</p>
<p>Tidak tercapainya target program dekarbonisasi. Failure to achieve decarbonization program targets.</p>	<p>Kegagalan atas pencapaian target dekarbonisasi yang mengakibatkan dikenakan denda dari pemerintah, penurunan reputasi, dan penurunan daya saing. Failure to achieve decarbonization targets resulting in government-imposed fines, reputational damage and reduced competitiveness.</p>	<ol style="list-style-type: none"> 1. Mengembangkan <i>roadmap</i> dekarbonisasi. 2. Mengembangkan infrastruktur energi terbarukan. 3. Meningkatkan efisiensi operasional untuk mengurangi emisi Gas Rumah Kaca. 4. Menerapkan tata kelola terbaik dan praktik manajemen risiko. 5. Melakukan <i>monitoring</i> rutin progres dan kendala pelaksanaan program dekarbonisasi dan realisasi penurunan emisi. <ol style="list-style-type: none"> 1. Develop a decarbonization roadmap. 2. Develop renewable energy infrastructure. 3. Improve operational efficiency to reduce Greenhouse Gas emissions. 4. Implement best governance and risk management practices. 5. Conduct regular monitoring of progress and challenges in the implementation of decarbonization programs and emission reduction realization. 	<p>Jangka panjang Long term</p>

Risiko Transisi* Transition Risk*			
Risiko Risk	Dampak Risiko Risk Impact	Strategi Mitigasi/Adaptasi Mitigation/Adaptation Strategy	Jangka Waktu Period
<p>Kegagalan investasi terhadap teknologi baru sektor <i>new energy</i>. Unsuccessful investment in new energy sector technologies.</p>	<p>Peningkatan biaya operasional/<i>sunk cost</i> akibat kegagalan pengembangan teknologi dan produk baru. Increased operational costs or sunk costs due to failure in developing new technologies and products.</p>	<ol style="list-style-type: none"> Menyusun studi kelayakan dan investasi teknologi baru secara andal. Melakukan <i>sharing</i> dan <i>benchmarking</i> dengan <i>peers</i> dan/atau industri lain untuk meningkatkan pemahaman terkait teknologi dan risiko iklim. <ol style="list-style-type: none"> Conduct reliable feasibility and investment studies for new technologies. Engage in sharing and benchmarking with peers and/or other industries to enhance understanding of technology and climate risks. 	<p>Jangka panjang Long term</p>
<p>Pemenuhan mandat dan regulasi atas produk dan layanan yang ada. Compliance with mandates on and regulation of existing products and services.</p>	<p>Peningkatan biaya operasional dan/atau biaya investasi dalam rangka pemenuhan regulasi EURO V. Increased operational costs and/or investment costs to comply with EURO V regulations.</p>	<ol style="list-style-type: none"> Memastikan produk dapat memenuhi standar dan regulasi industri (termasuk EURO V). Memastikan teknologi yang digunakan tetap relevan secara jangka panjang. Menerapkan kebijakan dan proses yang transparan untuk menarik mitra global di sektor hilir minyak dan gas bumi. <ol style="list-style-type: none"> Ensure products meet industry standards and regulations (including EURO V). Ensure the technology used remains relevant in the long term. Implement transparent policies and processes to attract global partners in the downstream oil and gas sector. 	<p>Jangka menengah Medium term</p>
<p>Ketidakpastian penetapan mekanisme harga karbon. Uncertainty in the establishment of carbon pricing mechanisms.</p>	<p>Peningkatan biaya operasional karena adanya pengenaan tarif pajak karbon atas pembelian barang yang mengandung karbon atau aktivitas yang menghasilkan karbon dalam jumlah tertentu pada periode tertentu. Increased operational costs due to the imposition of a carbon tax on the purchase of carbon-emitting goods or services, or activities generating a certain amount of carbon emissions within a specific period.</p>	<ol style="list-style-type: none"> Menyediakan anggaran untuk alokasi pajak karbon. Memfaktorkan potensi tambahan biaya karbon pada setiap usulan proyek terutama yang berpotensi menghasilkan emisi karbon dalam jumlah besar. Mengembangkan dan berinvestasi dalam proyek penyerapan karbon (<i>Carbon Capture Storage/CCS</i>) secara komersial. Mensinergikan inisiatif investasi <i>Carbon Capture Utilization and Storage (CCUS)</i> dengan upaya pengurangan emisi. <ol style="list-style-type: none"> Earmarking funds for carbon tax allocation. Factor in potential additional carbon costs in every project proposal, especially those with the potential to generate large carbon emissions. Develop and invest in commercially viable carbon capture and storage (CCS) projects. Align Carbon Capture, Utilization, and Storage (CCUS) investment initiatives with emission reduction efforts. 	<p>Jangka panjang Long term</p>

Risiko Physical** Physical Risk**			
Risiko Risk	Dampak Risiko Risk Impact	Strategi Mitigasi/Adaptasi Mitigation/Adaptation Strategy	Jangka Waktu Period
Meningkatnya bencana alam dan cuaca ekstrem akibat perubahan iklim. Increasing natural disasters and extreme weather due to climate change.	<ol style="list-style-type: none"> Dampak pada manusia berupa cedera dan/atau kematian. Dampak terhadap aset berupa kerusakan aset, <i>oil spill</i> dan gangguan operasional di area Perusahaan. 	<ol style="list-style-type: none"> Melakukan kajian analisis potensi risiko bencana dan cuaca ekstrem. Memastikan kesiapan tanggap darurat melalui pelatihan/simulasi dan prosedur. Merancang perlindungan bahaya, sistem pengawasan, dan rencana pemeliharaan rutin (seperti: <i>weather forecast, current & tide table forecast, instalasi lightning protection system</i> dan pendeteksi tanah longsor, pendeteksi tsunami). Meningkatkan keandalan teknologi dan <i>early warning system</i> terhadap bencana. Melakukan pemeriksaan, <i>maintenance</i> dan penguatan struktur pada fasilitas/bangunan untuk mengurangi risiko kegagalan struktur. Memperluas jaringan koordinasi, komunikasi dan kerja sama dengan lembaga/instansi eksternal. 	Jangka pendek Short term
	<ol style="list-style-type: none"> Impact on humans, including injuries and/or fatalities. Impact on assets, including asset damage, oil spills, and operational disruptions at Company locations. 	<ol style="list-style-type: none"> Conduct analysis of potential disaster and extreme weather risks. Ensure emergency response readiness through training/simulations and procedures. Design hazard protection, monitoring systems, and routine maintenance plans (such as weather forecasts, current & tide tables, lightning protection system installation, and landslide and tsunami detectors). Enhance the reliability of technology and early warning systems for disasters. Conduct inspections, maintenance, and strengthening of structures on facilities/buildings to reduce structural failure risks. Expand coordination, communication, and collaboration networks with external agencies and organizations. 	

Risiko Physical** Physical Risk**			
Risiko Risk	Dampak Risiko Risk Impact	Strategi Mitigasi/Adaptasi Mitigation/Adaptation Strategy	Jangka Waktu Period
Kekeringan. Drought.	<ol style="list-style-type: none"> Berkurangnya pasokan air permukaan yang menyebabkan turunnya permukaan tanah dan longsor sehingga dapat merusak fasilitas Perusahaan dan tumpahan minyak. Kekeringan dapat menyebabkan kebakaran hutan yang membuat kerusakan pada fasilitas dan keselamatan pekerja. 	<ol style="list-style-type: none"> Melaksanakan program penghijauan dengan menanam pohon di sekitar area operasi, terutama di lahan yang terdegradasi untuk melestarikan cadangan air. Membuat cadangan air bersih dengan pemanfaatan air hujan dan air laut untuk diolah menjadi air bersih. Melakukan pemeriksaan, <i>maintenance</i> dan/atau penguatan struktur fasilitas untuk mengurangi risiko kegagalan struktur. 	Jangka panjang Long term
	<ol style="list-style-type: none"> Decreased surface water supply leading to land subsidence and landslides, which could damage Company facilities and cause oil spills. Drought may also lead to forest fires, resulting in damage to facilities and endangering worker safety. 	<ol style="list-style-type: none"> Implement a reforestation program by planting trees around operational areas, particularly on degraded land, to preserve water reserves. Create clean water reserves by utilizing rainwater and seawater for treatment into potable water. Conduct inspections, maintenance, and/or structural reinforcement of facilities to reduce the risk of structural failure. 	



Risiko <i>Physical</i> ** Physical Risk**			
Risiko Risk	Dampak Risiko Risk Impact	Strategi Mitigasi/Adaptasi Mitigation/Adaptation Strategy	Jangka Waktu Period
Kenaikan permukaan laut. Sea level rise.	<ol style="list-style-type: none"> Berkurangnya akses air tawar, terjadinya korosi pada peralatan, kerusakan infrastruktur lepas pantai (jaringan pipa, sistem drainase, bangunan, terminal/kilang distribusi di pesisir) yang disebabkan oleh genangan air laut dan erosi Pantai. Perubahan siklus arus air laut menyebabkan fasilitas <i>offshore</i> (pipa) mengalami kerusakan atau kebocoran sehingga berpotensi menyebabkan terjadi tumpahan minyak dan kebocoran bahan kimia. Terhambat/terhentinya proses produksi dan transportasi. Meningkatkan biaya perawatan atau penggantian pada aset yang rusak atau terendam. 	<ol style="list-style-type: none"> Menggunakan material dan desain pada fasilitas/infrastruktur yang tahan terhadap air laut dan cuaca laut. Melakukan desain fasilitas <i>offshore</i> dengan memperhitungkan cuaca (<i>tide table</i>, <i>sea current</i>, <i>wind speed</i>, dan lain-lain). Membuat sistem tanggap darurat (termasuk pemindahan pipa gas), langkah mitigasi erosi, dan pemeliharaan pengendalian erosi. Menonaktifkan fasilitas yang sudah tidak produktif dan rentan terhadap risiko kenaikan muka air laut. Relokasi fasilitas infrastruktur di pesisir ke lokasi yang lebih tinggi elevasi permukaannya. 	Jangka panjang Long term
	<ol style="list-style-type: none"> Reduced access to freshwater, corrosion of equipment, and damage to offshore infrastructure (pipeline networks, drainage systems, buildings, and coastal distribution terminals/refineries) caused by seawater inundation and coastal erosion. Changes in ocean current cycles may cause damage or leaks in offshore facilities (pipelines), potentially leading to oil spills and chemical leaks. Disruption or halt of production and transportation processes. Increased maintenance or replacement costs for damaged or submerged assets. 	<ol style="list-style-type: none"> Use materials and designs for facilities/ infrastructure that are resistant to seawater and maritime weather conditions. Design offshore facilities with considerations for weather conditions (tide tables, sea currents, wind speed, etc.). Establish emergency response systems (including the relocation of gas pipelines), erosion mitigation measures, and erosion control maintenance. Deactivate non-productive facilities that are vulnerable to rising sea levels. Relocate coastal infrastructure facilities to higher elevation sites. 	

Keterangan | Note:

* Risiko transisi adalah risiko yang terkait dengan proses pergeseran ke bisnis energi rendah karbon (*low carbon business*).

**Risiko *physical* adalah risiko yang terkait dengan dampak fisik dari perubahan iklim termasuk kejadian jangka pendek berupa cuaca ekstrem dan bencana serta eskalasi bencana jangka panjang seperti kenaikan permukaan air laut.

* Transition risks refer to risks associated with the shift toward low-carbon energy business.

**Physical risks refer to risks related to the physical impacts of climate change, including short-term events such as extreme weather and disasters, as well as long-term escalations such as sea level rise.

Peluang dari Pengelolaan Perubahan Iklim [CCE-1.A1, 1.A3, 1.A4][CCE-3.A6]

Opportunities from Climate Change Management

Sumber Kredit Karbon Pertamina Grup

Dari sisi pasokan tahun 2024, PT Pertamina Power Indonesia memiliki kredit karbon dari Pembangkit Listrik Tenaga Panas Bumi (PLTP) Lahendong Unit 5 dan 6 yang dikelola PT Pertamina Geothermal Energy Tbk (PGE). Kredit karbon juga bersumber dari Pembangkit Listrik Tenaga Gas Uap (PLTGU) Jawa-1 yang potensinya mencapai sekitar 3 juta ton CO₂e setiap tahunnya. Sumber kredit karbon lain yang saat ini sedang dalam tahapan validasi adalah Pembangkit Listrik Tenaga Biogas (PLTBg) Sei Mangkei dengan estimasi kredit karbon 150 ribu ton CO₂e yang dihasilkan pada 2021–2023 dan 200 ribu ton CO₂e yang dihasilkan pada periode 2024–2027.

Perhitungan potensi pengurangan emisi GRK menggunakan *Standard Methodology ACM 0002 Grid Connected Electricity Generation from Renewable Sources*. PGE mengelola 15 wilayah kerja panas bumi (WKP) dengan total kapasitas terpasang 1.878 MW dan potensi pengurangan emisi karbon sebesar 2,58 juta ton CO₂e/tahun, dan sudah masuk dalam *Clean Development Mechanism (CDM)*. Hingga saat ini, PGE mengelola tujuh proyek CDM, dengan kondisi 6 proyek CDM terdaftar di UNFCCC, sementara Proyek Lahendong Unit 5 & 6 sedang dalam proses registrasi pada mekanisme *voluntary carbon standard (VCS)*. Dari enam proyek CDM, sebanyak 5 proyek mencapai *Gold Standard/GS* (atau *Gold Standard for the Global Goals*) berdasarkan *benchmark* dari Gold Standard Foundation.

Carbon Credit Sources of Pertamina Group

In 2024, PT Pertamina Power Indonesia's carbon credits originated from the Lahendong Geothermal Power Plant (PLTP) Units 5 and 6 operated by PT Pertamina Geothermal Energy Tbk (PGE). Carbon credits are also sourced from the Java-1 Steam Gas Power Plant (PLTGU), which has the potential to reach around 3 million tons of CO₂e annually. Another carbon credit source that is currently in the validation stage is the Sei Mangkei Biogas Power Plant (PLTBg) with an estimated carbon credit of 150 thousand tons of CO₂e generated in 2021-2023 and 200 thousand tons of CO₂e generated in the 2024-2027 period.

Calculation of GHG emission reduction potential using *Standard Methodology ACM 0002 Grid Connected Electricity Generation from Renewable Sources*. PGE manages 15 geothermal working areas (WKP) with a total installed capacity of 1,878 MW and carbon emission reduction potential of 2.58 million tons CO₂e/year, and has been included in the *Clean Development Mechanism (CDM)*. To date, PGE manages seven CDM projects, with six CDM projects registered with the UNFCCC, while the Lahendong Unit 5 & 6 Project is in the process of registering with the *voluntary carbon standard (VCS)* mechanism. Of the six CDM projects, five have achieved *Gold Standard (GS)* for the *Global Goals* based on benchmarks from the Gold Standard Foundation



Program Clean Development Mechanism (CDM) per 31 Desember 2024
Clean Development Mechanism (CDM) Program as of 31 December 2024

Program CDM CDM Program	Unit Operasi Operating Unit	Potensi Reduksi Emisi Verifikasi CDM	Realisasi Reduksi Emisi dari Operasi Sendiri
		Emissions Reduction Potential CDM Verification	Realization of Emissions Reduction of Own Operation
		Ton CO ₂ e	
CDM Gold Standard	Lumut Balai 1-2	581,784	445,973.64
	Lumut Balai 3-4	581,784	-*
	Ulubelu 3-4	581,518	745,239.37
	Karaha 1	156,669	54,090.15
	Kamojang 5	156,669	224,315.28
CDM	Kamojang 4 (dengan PLN) Kamojang 4 (with PLN)	402,789	368,669.01
VCS	Lahendong 5	181,030	246,498.89

*Proyek belum beroperasi.
*The project is not yet operational.

Penjualan Kredit Karbon

Peluang pengelolaan perubahan iklim salah satunya yaitu pembentukan pasar karbon, sehingga Perseroan melalui PT Pertamina Power Indonesia dapat melakukan penjualan kredit karbon. Saat ini, penjualan kredit karbon PT Pertamina Power Indonesia di bursa karbon menunjukkan peningkatan. Saat diluncurkannya perdagangan Perdana IDX Carbon pada 26 September 2023, volume kredit karbon yang terjual mencapai 483.112 ton CO₂e dan pada 2024, realisasi volume penjualan mencapai 380.183 ton CO₂e, sehingga total penjualan kredit karbon Pertamina NRE sebesar 864 ribu ton CO₂e atau menguasai 55% pangsa pasar kredit karbon di Indonesia.

Perdagangan kredit karbon juga dijalankan melalui kerja sama antara PT Pertamina Power Indonesia dan Subholding Commercial & Trading PT Pertamina Patra Niaga. Melalui kerja sama ini, *demand* kredit karbon dari perusahaan-perusahaan dalam negeri (sebagai *potential customers*) akan terus dijajaki. Kredit karbon tersebut dapat digunakan oleh pelanggan untuk *offsetting* karbon yang dihasilkan dari bisnisnya maupun untuk dijual kembali.

Carbon Credit Sales

One of the opportunities for climate change management is the establishment of a carbon market, allowing the Company, through PT Pertamina Power Indonesia, to sell carbon credits. Currently, PT Pertamina Power Indonesia's carbon credit sales on the carbon exchange are increasing. When IDX Carbon's inaugural trading was launched on September 26, 2023, the volume of carbon credits sold reached 483,112 tons of CO₂e and in 2024 the realized sales volume reached 380,183 tons of CO₂e, bringing Pertamina NRE's total carbon credit sales to 864 thousand tons of CO₂e or controlling 55% of the carbon credit market share in Indonesia.

Carbon credit trading is also carried out through cooperation between PT Pertamina Power Indonesia and PT Pertamina Patra Niaga Commercial & Trading Subholding. Through this cooperation, demand for carbon credits from domestic companies (as potential customers) will continue to be pursued. The carbon credits can be used by customers for offsetting carbon generated from their business or for resale.

PT Pertamina Power Indonesia juga menawarkan mekanisme *carbon neutral event*, yakni kegiatan yang diselenggarakan tanpa mengeluarkan emisi karbon atau emisi yang dikeluarkan dari kegiatan dikompensasi dengan pembelian kredit karbon. Selama 2024, PT Pertamina Power Indonesia telah memperdagangkan kredit karbon ke beberapa penyelenggaraan kegiatan:

- Anugerah Jurnalistik Pertamina 2024 untuk wilayah Jawa Barat;
- Pameran ESG yang diselenggarakan oleh PT Pertamina Bina Medika;
- Program Pertamina Goes to Campus (PGTC) di Universitas Riau (Unri);
- Indonesia *Millennial and Gen-Z Summit* yang diselenggarakan oleh IDN Times;
- Peluncuran Program BBM Satu Harga di empat provinsi di Indonesia; serta
- *Carbon Neutral Event: FGD Carbon Capture and Storage (CCS)* bersama Kementerian Perindustrian Republik Indonesia dan Sustainability Accelerator Program (SNAP).

PT Pertamina Power Indonesia also offers a carbon-neutral event mechanism, which is an activity that is held without carbon emissions, or the emissions released from the activity are compensated by purchasing carbon credits. During 2024, PT Pertamina Power Indonesia has traded carbon credits to several event organizers, including:

- Pertamina Journalistic Award 2024 for West Java region;
- ESG Exhibition organized by PT Pertamina Bina Medika;
- Pertamina Goes to Campus (PGTC) program at Riau University (Unri);
- Indonesia Millennial and Gen-Z Summit organized by IDN Times;
- Launching of One Price Fuel Program in four provinces in Indonesia; and
- Carbon Neutral Event: FGD on Carbon Capture and Storage (CCS) with the Ministry of Industry of the Republic of Indonesia and Sustainability Accelerator Program (SNAP).

Peluang Lain
Other Opportunities

Jenis Peluang Opportunity Type	Strategi Mitigasi/Adaptasi Mitigation/Adaptation Strategy	Tahun Mulai Started Year
CCS/CCUS	Melakukan pengembangan CCS dan CCUS. Developing CCS and CCUS.	2029
Nature-Ecosystem Based Solution (NBS)	<ol style="list-style-type: none"> Melakukan penyeimbangan karbon (<i>carbon offsetting</i>) melalui pengembangan proyek penghijauan. Melakukan validasi proyek kredit karbon (<i>carbon credit origination</i>) untuk memastikan pemenuhan standar metodologi pengurangan emisi oleh pihak ketiga. Registrasi sebagai sertifikat pengurangan emisi. Melakukan perdagangan karbon (<i>carbon trading</i>). 	2034
Green Power Generation (Geothermal)	Membangun Pembangkit Listrik Tenaga Panas Bumi (PLTP) Biner. Building a Binary Geothermal Power Plant.	2025

Jenis Peluang Opportunity Type	Strategi Mitigasi/Adaptasi Mitigation/Adaptation Strategy	Tahun Mulai Started Year
Biofuels	Melakukan produksi, distribusi, dan penjualan <i>biofuel</i> . Conduct production, distribution, and sales of biofuels.	2034
Ekosistem Baterai & EV Battery & EV Ecosystem	<ol style="list-style-type: none"> 1. Membangun bisnis ekosistem kendaraan listrik (penukaran dan pengisian daya). 2. Produksi baterai. <ol style="list-style-type: none"> 1. Building electric vehicle ecosystem business (swapping and charging). 2. Battery pack manufacturing. 	2034
Hidrogen dan Amonia Hijau Green Hydrogen and Ammonia	Melakukan produksi, distribusi, dan penjualan hidrogen dan amonia hijau. Conduct production, distribution, and sales of green hydrogen and ammonia.	2034
Petrokimia Petrochemical	Melakukan produksi, distribusi, dan penjualan petrokimia (termasuk metanol). Conduct production, distribution, and sales of petrochemicals (including methanol).	2034
Efisiensi Energi Energy Efficiency	<ol style="list-style-type: none"> 1. Penurunan Indeks Intensitas Energi (<i>Energy Intensity Index</i>) untuk operasi kilang, melalui utilisasi listrik dan gas eksternal/gasifikasi, serta peremajaan peralatan. 2. Penerapan teknologi hemat energi guna meningkatkan efisiensi operasional. <ol style="list-style-type: none"> 1. Declining Energy Intensity Index for refinery operations, through utilization of electricity and external gas/gasification, as well as equipment refurbishment. 2. Implementation of energy-saving technologies to improve operational efficiency. 	2024
Reduksi Kehilangan Loss Reduction	<ol style="list-style-type: none"> 1. Implementasi program <i>Zero Routine Flaring</i>. 2. Melakukan optimalisasi pemanfaatan <i>associated gas</i>. 3. Pemeriksaan kebocoran gas metana. 4. Optimalisasi <i>own use gas</i>. 5. Optimalisasi beban <i>boiler</i> dan <i>power generator</i>. 6. Optimalisasi <i>performance gas turbine compressor</i>. <ol style="list-style-type: none"> 1. Implementation of the Zero Routine Flaring program. 2. Optimizing the utilization of associated gas. 3. Methane leaking checking. 4. Optimization of own use of gas. 5. Optimization of boiler loads and power generators. 6. Optimization of gas turbine compressor performance. 	2024
Bahan Bakar Rendah/ Nol Karbon pada Operasi Internal Low/Zero Carbon Fuel on Internal Operations	<ol style="list-style-type: none"> 1. Subholding Integrated Marine Logistics PT Pertamina International Shipping mengoperasikan armada domestik menggunakan bahan bakar <i>biofuel</i> untuk kapal-kapal baru menggunakan bahan bakar alternatif rendah karbon, seperti MR Tankers melalui penerapan teknologi <i>dual-fuel-ready</i> LNG dan <i>Handysize</i> LPG dengan teknologi <i>dual-fuel-ready ammonia</i>, dan untuk armada <i>Very Large Gas Carrier</i> (VLGC) berbahan bakar <i>dual-fuel-ready ammonia</i>. 2. Anak Perusahaan PT Pelita Air Service yang mengoperasikan maskapai Pelita Air, menjadi operator penerbangan komersial menggunakan <i>Sustainable Aviation Fuel</i> (SAF). <ol style="list-style-type: none"> 1. Subholding Integrated Marine Logistics PT Pertamina International Shipping operates its domestic fleet using low-carbon alternative biofuel for new vessels, such as MR Tankers through the application of dual-fuel-ready LNG technology, and Handysize LPG with dual-fuel-ready ammonia technology, while Very Large Gas Carrier (VLGC) fleets with dual-fuel-ready ammonia. 2. Subsidiary PT Pelita Air Service, which operates Pelita Air, became a commercial flight operator using Sustainable Aviation Fuel (SAF). 	2024

Jenis Peluang Opportunity Type	Strategi Mitigasi/Adaptasi Mitigation/Adaptation Strategy	Tahun Mulai Started Year
Pembangkit Listrik Tenaga Hijau pada Operasi Internal Green Power Generation on Internal Operations	<ol style="list-style-type: none"> PT Kilang Pertamina Internasional (KPI) Refinery Unit VI Balongan mengoperasikan pembangkit listrik tenaga surya (PLTS) berkapasitas 1,51 Megawatt peak (MWp). Pembangunan PLTS merupakan hasil sinergi antara KPI dengan Subholding Power, New & Renewable Energi PT Pertamina Power Indonesia (Pertamina NRE). KPI Refinery Unit IV Cilacap mengoperasikan PLTS berkapasitas 0,99 MWp. Pembangunan PLTS merupakan hasil sinergi KPI dengan Pertamina NRE. PT Pertamina Hulu Rokan (PHR), mengoperasikan 64 ribu panel surya sebagai pembangkit listrik dengan kapasitas 25 MWp. Pembangunan PLTS tersebut merupakan kolaborasi antara Pertamina NRE dan Subholding Upstream PT Pertamina Hulu Energi (PHE). <ol style="list-style-type: none"> PT Kilang Pertamina International (KPI) Refinery Unit VI Balongan operates a solar power plant (PLTS) with a capacity of 1.51 Megawatt peak (MWp). The construction of the PLTS is a synergy between KPI and the Power, New & Renewable Energy Subholding of PT Pertamina Power Indonesia (Pertamina NRE). KPI Refinery Unit IV Cilacap operates a PLTS with a capacity of 0.99 MWp. The PLTS is built in synergy between KPI and Pertamina NRE. PT Pertamina Hulu Rokan (PHR), operates 64 thousand solar panels as a power plant with a capacity of 25 MWp. The construction of the PLTS is a collaboration between Pertamina NRE and Subholding Upstream PT Pertamina Hulu Energi (PHE). 	Dimulai pada 2021 dan berlanjut hingga 2024 Starting in 2021 and continuing until 2024
Elektrifikasi Electrification	<ol style="list-style-type: none"> Memasang EV <i>refueler</i> pada beberapa lokasi operasional. Melakukan penggantian mesin gas pada kompresor gas <i>flash</i> di Stasiun Ekstraksi Inti (SEI) dengan motor listrik. <ol style="list-style-type: none"> Installed EV refuelers at several operational locations. Replacing the gas engine in the flash gas compressor at the Core Extraction Station (SEI) with an electric motor. 	2025
Bunker Hijau dan Rendah Karbon Green and Low Carbon Bunker	<ol style="list-style-type: none"> Menggunakan kapal dengan energi hijau (amonia hijau, metanol hijau hidrogen, listrik) pada proses distribusi laut. Menggunakan kapal dengan intensitas energi yang rendah seperti <i>Liquefied Natural Gas</i> (LNG), <i>Liquefied Petroleum Gas</i> (LPG), dan kapal bahan bakar ganda (<i>dual-fuel</i>) pada proses distribusi laut. <ol style="list-style-type: none"> Using green energy vessels (green ammonia, green methanol hydrogen, electricity) in the marine distribution process. Use low-energy intensity vessels such as Liquefied Natural Gas (LNG), Liquefied Petroleum Gas (LPG), and dual-fuel vessels in the marine distribution process. 	2023

EBT sebagai Energi Masa Depan [CCE-1.C4][CCE-3.C1, 3.C2]

NRE as Future Energy

Peningkatan porsi EBT menjadi bagian dari inisiatif strategis dekarbonisasi dan pengembangan bisnis hijau baru yang dijalankan Perseroan bersama subholding meliputi kegiatan dan proses bisnis di hulu hingga hilir. Inisiatif yang dijalankan mencakup jangka pendek, jangka menengah, dan jangka panjang. [CCE-3.A1, 3.A2][EM-RM-110a.2]

Increasing the NRE portion is part of the strategic initiatives of decarbonization and the development of new green businesses carried out by the Company and subholding, covering activities and business processes from upstream to downstream. The initiatives are carried in the short term, medium term, and long term. [CCE-3.A1, 3.A2][EM-RM-110a.2]

Periode Period	Dekarbonisasi Kegiatan Bisnis Decarbonizing Business Activities	Pengembangan Bisnis Hijau Baru New Green Business Development
Subholding Upstream		
Jangka Pendek Near Term	Kampanye <i>Solar PV</i> di semua zona dan konversi diesel ke gas. Solar PV campaign in all zones and diesel fuel to gas conversion.	<i>Pilot project CCS/CCUS</i> pada Gundih, Sukowati, dan Ramba. CCS/CCUS pilot projects for Gundih, Sukowati and Ramba.
Jangka Menengah Mid Term	Komersialisasi CCUS di Gundih, Sukowati, dan Ramba, serta konversi diesel ke gas. Commercialize CCUS in Gundih, Sukowati, and Ramba, and convert diesel fuel to gas.	Penyiapan Infrastruktur CCS/CCUS. CCS/CCUS Infrastructure Setup.
Jangka Panjang Long Term	Elektrifikasi peralatan. Equipment electrification.	Pengembangan dan menskalakan CCS dan integrasi kluster untuk CCUS. Development and scaling of CCS and cluster integration for CCUS.
Subholding Refining and Petrochemical (R&P)		
Jangka Pendek Near Term	Kampanye <i>Solar PV</i> dan penerapan energi efisiensi. Solar PV campaign and application of energy efficiency.	Pengembangan <i>Green Refinery</i> , Produksi HVO dan HEFA. Green Refinery Development, HVO and HEFA Production.
Jangka Menengah Mid Term	Efisiensi energi, <i>flaring/venting</i> . Energy efficiency, flaring/venting.	Peralihan ke energi listrik ramah lingkungan. Switch to environmentally friendly electricity.
Jangka Panjang Long Term	Penerapan teknologi CCUS. CCUS technology application.	Peningkatan kapasitas HVO berbasis CPO dan pembangunan kapasitas HEFA. CPO-based HVO capacity building and HEFA capacity building.
Subholding Commercial and Trading (C&T)		
Jangka Pendek Near Term	Inisiatif energi rendah karbon. Low carbon energy initiative.	Pembangunan stasiun pengisi daya ke <i>two-wheel motor</i> melalui SPBKLU dan pengembangan implementasi produk Bioetanol. Construction of charging stations for two-wheel motor vehicles through SPBKLU and development of the Bioethanol product.
Jangka Menengah Mid Term	Instalasi stasiun pengisi daya. Charging station installation.	Instalasi stasiun pengisi daya. Charging station installation.
Jangka Panjang Long Term	Konversi ke baterai dan HDT rendah karbon. Convert to low carbon battery and HDT.	Memperluas cakupan stasiun pengisi daya, meningkatkan infrastruktur pencampuran <i>biofuel</i> , dan infrastruktur stasiun pengisi bahan bakar H ₂ cair. Expanding the coverage of charging stations, upgrading the biofuel blending infrastructure, and the liquid H ₂ fueling station infrastructure.

Periode Period	Dekarbonisasi Kegiatan Bisnis Decarbonizing Business Activities	Pengembangan Bisnis Hijau Baru New Green Business Development
Subholding Power New and Renewable Energy (PNRE)		
Jangka Pendek Near Term	<p><i>Low carbon power</i> dan Pembangkit Listrik Tenaga Biogas (PLTBg) Sei Mangkei.</p> <p>Low carbon power and Sei Mangkei Biogas Power Plant.</p>	<ul style="list-style-type: none"> · Pilot skala besar <i>Solar PV</i> dan peningkatan kapasitas panas bumi. · Memproduksi baterai. · <i>Pilot project</i> untuk NH₃ (Amonia). · Pilot large scale Solar PV and increasing geothermal capacity. · Producing batteries. · Pilot project for NH₃ (Ammonia).
Jangka Menengah Mid Term	<ul style="list-style-type: none"> · Efisiensi pada pembangkit <i>Combined Cycle Gas Turbine</i> (CCGT). · Efficiency in Combined Gas Turbine Cycle (CCGT) generator. · Bioethanol Cilegon. · Bioethanol NTT. 	<ul style="list-style-type: none"> · Peningkatan kapasitas Solar PV dan panas bumi. · Peningkatan rantai produksi baterai dan pengembangan pada E2W. · Pengembangan bisnis NBS. · Increasing the capacity of Solar PV and geothermal. · Improvement of the battery production chain and development of the E2W market. · NBS business development.
Jangka Panjang Long Term	<ul style="list-style-type: none"> · CCUS untuk aset panas bumi dan CCGT. · 6,1 GW kapasitas pembangkit PNRE. · 13,0 TWH Produksi Listrik PNRE. · 6,9 MT CO₂e <i>Carbon Credit Supply</i>. · 51,5 Kapasitas <i>Plant</i> Baterai. · 77,1 kTpa Produksi <i>Green H₂</i> · 630 Kapasitas <i>Plant</i> Bioetanol. · CCUS for geothermal assets and CCGT. · 6.1 GW PNRE generation capacity. · 13.0 TWH PNRE electricity production. · 6.9 MT CO₂e Carbon Credit Supply. · 51.5 Battery Plant Capacity. · 77.1 kTpa Green H₂ Production. · 630 Bioethanol Plant Capacity. 	<ul style="list-style-type: none"> · Peningkatan kapasitas <i>Solar PV</i> dan panas bumi. · Melanjutkan pertumbuhan baterai dan E2W. · Meningkatkan volume penjualan H₂ dan NH₃. · Increase the capacity of Solar PV and geothermal. · Continuing battery and E2W growth. · Increasing sales volume of H₂ and NH₃.
Subholding Gas		
Jangka Pendek Near Term	<p><i>Solar PV</i> dan efisiensi energi di transmisi gas dan operasi <i>pigging</i>.</p> <p>Solar PV and energy efficiency in gas transmission and pigging operations.</p>	<ul style="list-style-type: none"> · Pengembangan <i>biomethane</i> yang berasal dari gas metana <i>Palm Oil Mill Effluent</i> (POME) sebagai tambahan pasokan gas nasional. · Infrastruktur pengangkutan <i>Fatty Acid Methyl Ester</i> (FAME) sebagai bahan campuran BBM <i>biodiesel</i>. · Development of biogas through biomethane, which comes from Palm Oil Mill Effluent (POME) as an additional gas supply for the domestic market. · Transportation infrastructure for Fatty Acid Methyl Ester (FAME) as a mixture of biodiesel fuel.
Jangka Menengah Mid Term	<p>Peralihan ke listrik ramah lingkungan untuk aset transmisi.</p> <p>Switch to green electricity for transmission assets.</p>	<p>Infrastruktur untuk pengangkutan CO₂.</p> <p>Infrastructure for CO₂ transport.</p>

Periode Period	Dekarbonisasi Kegiatan Bisnis Decarbonizing Business Activities	Pengembangan Bisnis Hijau Baru New Green Business Development
Jangka Panjang Long Term	Elektrifikasi turbin gas, dan konversi pembangkit listrik sendiri ke ramah lingkungan. Electrification of gas turbines, and conversion of own power plants to environmentally friendly.	<ul style="list-style-type: none"> Meningkatkan infrastruktur bagi lebih banyak kluster untuk pengangkutan CO₂. Penyediaan <i>grey/blue</i> hidrogen dan amonia bagi pelanggan gas bumi. Improve infrastructure for more clusters for CO₂ transport. Providing <i>grey/blue</i> hydrogen and ammonia for natural gas customers.
Subholding Integrated Marine Logistic (IML)		
Jangka Pendek Near Term	Optimasi kecepatan dan rute kapal, serta penggunaan bahan bakar rendah emisi (LSFO). Ship speed and route optimization, and usage of low emission fuel (LSFO).	Pengembangan lini bisnis logistik untuk produk amonia, LPG/LNG, dan <i>biodiesel</i> . Development of business lines for ammonia, LPG/LNG and biodiesel logistics.
Jangka Menengah Mid Term	Penggunaan <i>Biofuel</i> , <i>Dual Fuel</i> , serta implementasi teknologi reduksi emisi dan peningkatan efisiensi. The use of Biofuel, Dual Fuel and emission reduction and efficiency enhancement technology implementation.	Pengembangan lini bisnis logistik untuk produk hidrogen dan <i>green ammonia</i> . Development of business lines for hydrogen and green ammonia logistics.
Jangka Panjang Long Term	Peremajaan kapal <i>existing</i> dengan kapal berbahan bakar <i>green fuel</i> . Existing fleet rejuvenation with green fueled vessels.	Pengembangan lini bisnis logistik untuk produk <i>biofuel</i> , CO ₂ , dan komponen kendaraan listrik. Development of business lines for biofuel, CO ₂ , and electric vehicle component logistics.

Membangun Ketahanan Iklim melalui Analisis Skenario

Building Climate Resilience through Scenario Analysis

Pertamina Grup menggunakan perangkat lunak *Low Emission Analysis Platform* (LEAP) untuk membuat model internal yang memungkinkan pembuatan skenario kuantitatif yang mencakup permintaan energi primer dan energi final, transformasi energi, serta dampak emisi. Pertamina Grup mengadopsi pendekatan pengembangan skenario ekonomi energi, dengan mempertimbangkan faktor kebijakan, kemajuan teknologi, preferensi pasar, pertimbangan hukum sebagai risiko transisi, serta perubahan iklim sebagai risiko fisik.

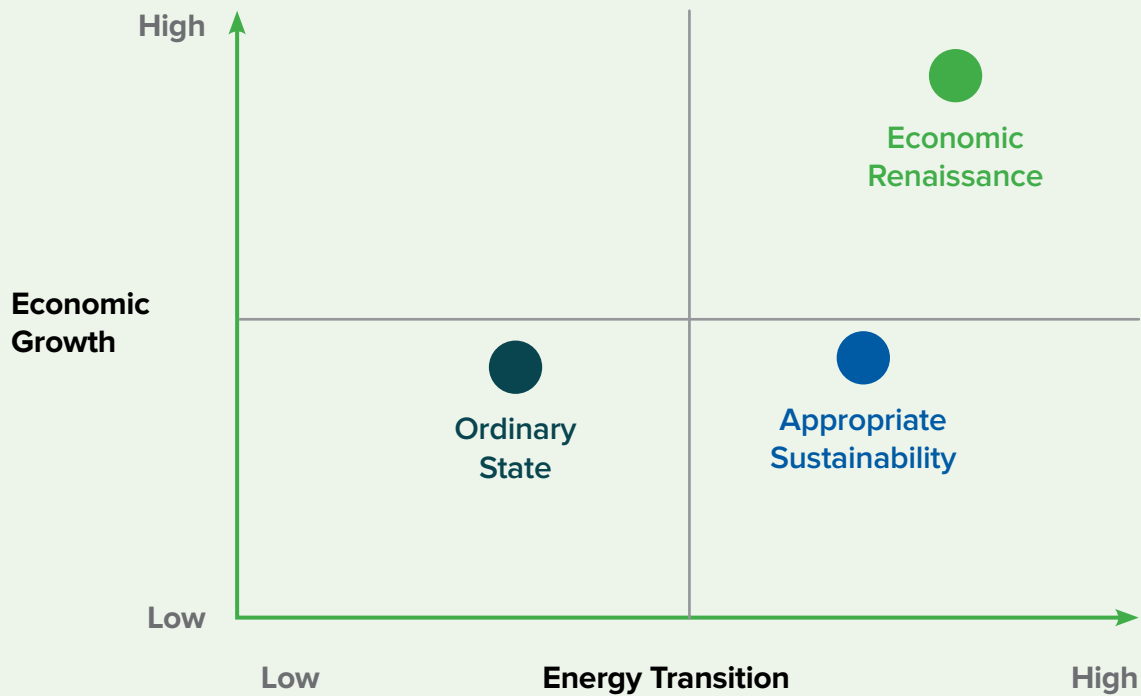
Pertamina Group uses *Low Emission Analysis Platform* (LEAP) software to create an internal model that enables the creation of quantitative scenarios covering primary and final energy demand, energy transformation, and emissions impacts. Pertamina Group adopts an energy economy scenario development approach, taking into account factors such as policy, technology advancement, market preferences, legal considerations as transition risks, as well as climate change as a physical risk.

Pemetaan Skenario ke dalam Prospek Energi dan Ekonomi

Berasal dari matriks skenario dan penyelarasan risiko perubahan iklim fisik, prospek transisi energi dan pertumbuhan ekonomi terungkap melalui skenario *Ordinary State* (OS), *Appropriate Sustainability* (AS), dan *Economic Renaissance* (ER) yang dijelaskan sebagai berikut:

Scenario Mapping into Energy and Economic Prospects

Based on the scenario matrix and the alignment of physical climate change risks, the prospects for energy transition and economic growth are elaborated through the Ordinary State (OS), Appropriate Sustainability (AS), and Economic Renaissance (ER) scenarios described below:



Ordinary State (OS)	<p>Pertumbuhan ekonomi Indonesia relatif sama dengan tren historis, berfokus pada energi yang terjangkau untuk memastikan ketahanan energi dan mendukung pertumbuhan ekonomi.</p> <p>Indonesia's economic growth is relatively similar to historical trends, focusing on affordable energy to ensure energy security and support economic growth.</p>
Appropriate Sustainability (AS)	<p>Pertumbuhan ekonomi Indonesia yang relatif sama dengan tren historis, memperkuat komitmen Indonesia terhadap transisi energi dengan menerapkan teknologi ramah lingkungan serta menyeimbangkan antara ketahanan dan keterjangkauan energi.</p> <p>Indonesia's economic growth is relatively similar to historical trends, strengthening its commitment to energy transition by implementing green technologies and balancing energy security and affordability.</p>
Economic Renaissance (ER)	<p>Indonesia telah bertransformasi menjadi negara berpenghasilan tinggi dengan kemajuan ekonomi hijau dan pencapaian NZE.</p> <p>Indonesia has transformed into a high-income country with advancement in the green economy and achieving NZE.</p>

Mengintegrasikan Manajemen Risiko Iklim ke dalam Keputusan Perusahaan [CCE-2.C1]

Integrating Climate Risk Management into Our Decisions

Proses Identifikasi, Penilaian, serta Pengelolaan Risiko Iklim

Perusahaan telah mengintegrasikan praktik-praktik manajemen risiko di seluruh kegiatan operasional dan rantai nilai Perusahaan, meliputi identifikasi, penilaian, pengelolaan, dan pemantauan secara berkelanjutan terhadap seluruh risiko. Dalam pengelolaan manajemen risiko, Perusahaan menerapkan kerangka kerja manajemen risiko yang komprehensif dengan tujuan memberikan pedoman standar bagi pemilik risiko dan fungsi manajemen risiko untuk mengidentifikasi seluruh risiko, menentukan risiko utama, serta menetapkan *key risk indicators* (KRIs) yang selaras dengan tujuan strategis Perusahaan.

Metodologi

Proses manajemen risiko iklim mengikuti metodologi yang diuraikan dalam ISO 31000:2018 dan Peraturan Menteri BUMN No. PER-2/MBU/03/2023 dengan menggunakan berbagai teknik seperti *brainstorming*, wawancara, *Fault Tree Analysis* (FTA) atau metode lainnya yang dinilai tepat dan sesuai untuk identifikasi dan penilaian risiko yang relevan. Metode penghitungan dampak kuantitatif seperti *Value at Risk* (VaR) serta penilaian ahli digunakan untuk menilai risiko secara akurat. KRI ditentukan melalui *Root Cause Analysis* dengan menggunakan metode FTA. Berikut adalah penjabaran pola integrasi tahap prioritas risiko Perseroan.

Climate Risk Identification, Assessment, and Management Process

The Company has integrated risk management practices in the Company's operations and value chain, covering identification, assessment, management, and continuous monitoring of all risks. The Company's comprehensive risk management implementation aims to provide standard guidelines for risk owners and risk management functions to register all risks, determine key risks and key risk indicators (KRIs) aligned with the Company's strategic goals.

Methodology

The climate-related risk management process follows the methodology outlined in ISO 31000:2018 and Minister of SOEs Regulation No. PER-2/MBU/03/2023 using techniques such as *brainstorming*, interviews, and *Fault Tree Analysis* (FTA) or other appropriate and relevant methods for risk identification and assessment. Quantitative impact calculation methods such as *Value at Risk* (VaR) and expert judgment are used to accurately assess risks. Meanwhile, KRI is determined through *Root Cause Analysis* using the FTA method. The following are descriptions of the Company's integrated risk prioritization pattern.

<p>Tahap 1 Penyusunan <i>all risk</i> di Perusahaan.</p> <p>Stage 1 Compilation of all risks in the Company.</p>	<p>Penyusunan <i>all risks</i> yang mencakup penentuan ruang lingkup, konteks, dan kriteria untuk penilaian, identifikasi, analisis, evaluasi dan perlakuan risiko. Pendekatan sistematis ini untuk memastikan seluruh risiko teridentifikasi secara komprehensif.</p> <p>The compilation of all risks includes determining the scope, context and criteria for risk assessment, identification, analysis, evaluation and treatment. This systematic approach ensures all risks are comprehensively identified.</p>
<p>Tahap 2 Penyusunan risiko utama (<i>Top Risk</i> Direktorat/Fungsi, Subholding dan Anak Perusahaan).</p> <p>Stage 2 Compilation of Top Risks of Directorate/Function, Subholding, and Subsidiaries.</p>	<p>Proses penyusunan <i>Top Risk</i> dilakukan dengan menggunakan pendekatan <i>bottom-up</i> dan <i>top-down</i>, memprioritaskan seluruh risiko berdasarkan kriteria kuantitatif atau kualitatif yang mempengaruhi tujuan strategis Perusahaan. Dalam rangka menjaga tujuan strategi Perusahaan, <i>Key Risk Indicators</i> (KRIs) ditetapkan sebagai indikator <i>early warning system</i> risiko utama.</p> <p>The process of compiling top risks is carried out using a bottom-up and top-down approach, prioritizing all risks based on quantitative or qualitative criteria that affect the Company's strategic goals. In maintaining the strategic goals, the Company determines Key Risk Indicators (KRIs) as early warning system indicators of top risks.</p>
<p>Tahap 3 Pengembangan risiko utama Korporat (<i>Top Risk Korporat</i>).</p> <p>Stage 3 Development of Corporate Top Risks.</p>	<p>Proses penyusunan <i>Top Risk</i> Korporat dilakukan dengan pendekatan <i>bottom-up</i> dan <i>top down</i> sesuai hasil Tahap 2 dengan mempertimbangkan kontributor laba/rugi, biaya, dan arahan strategis Perusahaan. Dilakukan proses koordinasi dan kolaborasi dengan para pemangku kepentingan serta pengkinian secara berkala terhadap daftar risiko penting untuk memastikan keselarasan dengan tujuan Perusahaan.</p> <p>The process of compiling the Corporate Top Risks was carried out with a bottom-up and top down approach based on the results of Stage 2 by considering profit/loss contributors, costs, and the Company's strategic direction. A process of coordination and collaboration with stakeholders and regular updating of the critical risk register to ensure alignment with the Company's goals.</p>

Perhitungan skala dan level risiko menggunakan kriteria skala dampak dan skala probabilitas dengan rentang skala 1 sampai dengan 5 yang digambarkan pada peta risiko. Dengan melakukan penilaian terhadap dampak dan probabilitas risiko, Perusahaan dapat secara efektif memvisualisasikan skala dan level risiko. Proses ini membantu Perusahaan melakukan evaluasi risiko secara komprehensif dalam menentukan prioritas perlakuan risiko.

The calculation of risk scale and level uses the criteria of impact scale and probability scale on a scale of 1 to 5, which is illustrated on the risk map. By assessing the impact and probability of risk, the Company can effectively visualize the scale and level of risk. This process helps the Company conduct a comprehensive risk evaluation in determining the priority of risk treatment.

Peta Risiko
Risk Map



Keterangan | Note:

Skala Risiko Risk Scale	Level Risiko Risk Level
1-5	Rendah Low
6-11	Rendah-Menengah Low to Moderate
12-15	Menengah Moderate
16-19	Menengah-Tinggi Moderate to High
20-25	Tinggi High

Jenis Perlakuan Risiko antara lain:

1. *Risk Avoidance*, dengan memutuskan untuk tidak memulai atau melanjutkan aktivitas yang dapat menimbulkan risiko.
2. *Risk Reduction/Mitigation*, dengan mengurangi kemungkinan risiko atau Konsekuensi/Dampak Risiko.
3. *Risk Sharing*, dengan melibatkan dan berbagi dengan pihak eksternal untuk mengurangi risiko.
4. *Risk Retention* dapat dilakukan jika biaya perlakuan risiko dan manfaat dari menerima risiko lebih besar dari potensi eksposur.
5. Kombinasi dari beberapa alternatif di atas.

Types of Risk Treatment include:

1. Risk Avoidance, by deciding not to start or continue an activity that may pose a risk.
2. Risk Reduction/Mitigation, by reducing the likelihood of risk or risk consequences/impacts.
3. Risk Sharing, by involving and sharing with external parties to reduce risk.
4. Risk Retention can be done if the cost of risk treatment and the benefits of accepting the risk outweigh the potential exposure.
5. A combination of some of the above alternatives.

Metrik dan Target [OG 11.3.1][CCE-2.C4]

Metrics and Targets

Pertamina Grup mengembangkan dan berinvestasi pada EBT sebagai bentuk dukungan pada pencapaian NZE di 2060 atau lebih cepat. Pengembangan dan investasi EBT dilakukan di dalam proses bisnis internal maupun meningkatkan portofolio energi. Realisasi *Milestone NRE Development* tahun 2024 mencapai 54,7% atau setara 58,67 MW, meningkat dari tahun 2023 sebesar 22,6% (setara 16,2 MW). Pertamina Grup juga memperluas portofolio bisnis di sektor EBT, dengan target mencapai 17% pada 2030.

Pertamina Group develops and invests in NRE to support the achievement of NZE by 2060. NRE development and investment are carried out in internal business processes as well as increasing the energy portfolio. In 2024, the realization of the NRE Development Milestone reached 54.7% or equivalent to 58.67 MW, an increase from 22.6% (equivalent to 16.2 MW) in 2023. Pertamina Group is also expanding its business portfolio in the NRE sector, with a target of reaching 17% by 2030.

Pengelolaan Energi

Energy Management

Pertamina Grup konsisten menerapkan efisiensi energi melalui berbagai kebijakan dan inisiatif berkelanjutan serta penerapan ISO 50001:2018 Sistem Manajemen Energi di beberapa lokasi. Sejalan dengan kebijakan transisi energi, Pertamina Grup meningkatkan produksi dan penggunaan EBT.

Pertamina Group consistently implements energy efficiency through sustainable policies and initiatives, as well as the implementation of ISO 50001:2018 Energy Management System in several locations. In line with the energy transition policy, Pertamina Group increases the production and use of NRE.

Total Konsumsi dan Penjualan Energi [OJK F.6][GRI 302-1, 302-2][OG 11.2, 11.3][CCE-6.C1][CCE-6.A1]

Informasi pemakaian energi dalam Laporan ini mencakup pemakaian energi hanya di dalam Perseroan. Total pemakaian energi tahun 2024 mencapai 190.800,79 TeraJoule (TJ), menurun 4,2% dari tahun 2023 sebesar 198.398,07 TJ. Jumlah pemakaian EBT di 2024 mencapai 12.946,89 TJ atau 6,78% dari total pemakaian energi, dan meningkat 16,12% dari tahun 2023 sebesar 11.143,90 TJ. Total energi terjual tahun 2024 mencapai 18.317,29 TJ. [CCE-3.A4, 3.A7]

Total Energy Consumption and Sales [OJK F.6][GRI 302-1, 302-2][OG 11.2, 11.3][CCE-6.C1][CCE-6.A1]

The energy consumption information in this Report covers only the Company's energy use. Total energy consumption in 2024 reached 190,800.79 TeraJoule (TJ), a decrease of 4.2% from 198,398.07 TJ in 2023. Total NRE use in 2024 reached 12,946.89 TJ or 6.78% of total energy use, and an increase of 16.12% from 11,143.90 TJ in 2023. Total energy sales in 2024 reached 18,317.29 TJ. [CCE-3.A4, 3.A7]

Konsumsi Energi Berdasarkan Sumber Energi (TJ) Energy Consumption Based on Energy Sources (TJ)

Sumber Konsumsi Energi Energy Consumption Sources	2024	2023*	2022*
Energi yang Dihasilkan Sendiri Self-generated Energy	171,977.49	181,681.87	183,020.06
Listrik yang Dibeli Purchased Electricity	14,899.42	10,556.33	10,287.94
Uap dan Panas yang Dibeli Purchased Steam and Heat	22,241.16	24,827.14	30,372.33
Listrik yang Dijual Electricity for Sale	9,278.09	8,966.53	8,599.91
Uap dan Panas yang Dijual Steam and Heat for Sale	9,039.20	9,700.74	8,528.18
Total Konsumsi Energi Total Energy Consumption	190,800.79	198,398.07	206,552.25

Keterangan | Note:

- Listrik yang dibeli berasal dari *Power Producer* konversi dari satuan kWh menjadi TeraJoule (TJ) sesuai dengan Standar GRI. Sementara untuk energi yang dihasilkan sendiri dihitung menggunakan tiga metode perhitungan, yaitu berdasarkan bahan bakar yang digunakan, nilai kalor, serta volume bahan bakar yang dikonversi ke satuan bahan bakar.
- Terdapat perbedaan perhitungan karena adanya selisih pembulatan.
- The electricity purchased from Power Producer is converted from kWh units to TeraJoule (TJ) in accordance with the GRI Standards. The self-generated energy is calculated using three methods, i.e. the fuel used, caloric value, and fuel volume converted to fuel unit.
- There are differences in calculations due to rounding differences.

- * Penyajian kembali informasi (*restatement*) karena adanya penambahan kegiatan operasi yang belum dilingkupi. [GRI 2-4]
- * Restatement of information due to additional operations not yet covered.

Konsumsi Energi dari Sumber Energi Terbarukan Berdasarkan Sumber (TJ) Energy Consumption from Renewable Energy by Source (TJ)

Sumber Energi yang Dikonsumsi Energy Consumption Sources	2024	2023*	2022*
Pembangkit Energi Internal Internal Energy Generator	12,946.89	11,143.90	9,707.30
Listrik Dibeli dari Sumber Terbarukan Electricity Purchased from Renewable	7,991.21	34.69	34.08
Listrik dari Sumber Terbarukan yang Dijual ke <i>Grid</i> Electricity from Renewable Sources Sold to Grid	17,411.41	16,790.84	16,771.75

- *Penyajian kembali informasi (*restatement*) karena adanya penambahan kegiatan operasi yang belum dilingkupi. [GRI 2-4]
- *Restatement of information due to additional operations not yet covered.

Konsumsi Bahan Bakar untuk Operasional Sumber Emisi Tidak Bergerak

Fuel Consumption for Operations Using Stationary Emission Sources

Sumber Energi yang Dikonsumsi Energy Consumption Sources	Satuan Unit	2024	2023*	2022*
Fuel Gas	MMSCF	601,701.29	664,885.46	858,993.78
	TJ	22.64	25.02	32.32
Fuel Oil	m ³	1,018,234.04	1,145,282.20	1,174,849.72
	TJ	38,591.07	43,406.20	44,526.80
Gasoline	m ³	5.13	25.13	60.60
	TJ	0.15	0.73	1.76
Diesel	m ³	15,171.70	20,373.51	45,192.27
	TJ	556.80	747.71	1,658.56

*Penyajian kembali informasi (*restatement*) karena adanya penyesuaian perhitungan terhadap jenis bahan bakar yang digunakan. [GRI 2-4]
*Restatement of information due to an adjustment in the calculation of the type of fuel used.

Konsumsi Bahan Bakar untuk Operasional Sumber Emisi Bergerak

Fuel Consumption for Operations Using Mobile Emissions Sources

Sumber Energi yang Dikonsumsi Energy Consumption Sources	Satuan Unit	2024	2023*	2022*
Diesel/Solar	m ³	304,805.27	270,578.39	322,798.16
	TJ	11,186.35	9,930.23	11,846.69
Gasoline	m ³	11,626.18	2,392.08	2,692.12
	TJ	338.32	69.61	78.34
Marine Fuel	m ³	254,906.89	202,624.45	229,847.67
	TJ	9,660.97	7,679.47	8,711.23

*Penyajian kembali informasi (*restatement*) karena adanya penyesuaian kembali cakupan perhitungan bahan bakar. [GRI 2-4]
*Restatement of information due to readjustment of fuel calculation scope.

Konsumsi Energi Berdasarkan Segmen Bisnis (TJ)

Energy Consumption Based on Business Segments (TJ)

Segmen Bisnis Business Segment	2024	2023*	2022*
SH Upstream	180,623.11	189,216.19	197,333.09
SH Refining and Petrochemical	5,634.11	6,893.72	6,852.93
SH Commercial & Trading	343.41	276.70	695.27
SH Power & NRE	539.63	542.34	513.42
SH Gas	3,623.18	1,444.25	1,150.22
SH Integrated Marine Logistics	37.35	24.88	7.32
Total	190,800.79	198,398.07	206,552.25

Keterangan | Note:

Terdapat perbedaan perhitungan karena adanya selisih pembulatan.
There are differences in calculations due to rounding differences.

*Penyajian kembali informasi (*restatement*) karena adanya penyesuaian kembali cakupan perhitungan bahan bakar. [GRI 2-4]
*Restatement of information due to readjustment of fuel calculation scope.

Intensitas Konsumsi Energi [OJK F.6][GRI 302-3][OG 11.1.4][CCE-6.A2]

Energy Consumption Intensity

Intensitas Konsumsi Energi Berdasarkan Segmen Bisnis Energy Consumption Intensity Based on Business Segment

Keterangan Description	Satuan Unit	2024	2023	2022
SH Upstream	TJ/MBOE	0.53	0.49*	0.54*
SH Refinery & Petrochemical	Solomon Energy Intensity Index	105.52	106.40	108.40
SH Gas	TJ/MMSCF	6.42	2.71	2.34
SH Commercial & Trading	TJ/Juta KL TJ/Million KL	3.99	3.42	8.80
SH Integrated Marine Logistics	TJ/KL	0.05	0.15	0.21

*Penyajian kembali informasi (*restatement*) karena adanya penyesuaian kembali cakupan perhitungan bahan bakar. [GRI 2-4]
*Restatement of information due to readjustment of fuel calculation coverage.

Jumlah Emisi GRK [OJK F.11][GRI 305-1, 305-2, 305-3][OG 11.1.5, 11.1.6, 11.1.7]

Total GHG Emissions

Perhitungan emisi GRK mengacu pada Peraturan Menteri Lingkungan Hidup (Permen LH) Nomor 12 Tahun 2012. Penghitungan meliputi Cakupan 1 (penggunaan sendiri) dan Cakupan 2 (konsumsi energi yang berasal dari luar). Sementara itu, untuk nilai *global warming potential* (GWP) mengacu pada IPCC AR4.

Hasil penghitungan disampaikan sebagai total emisi GRK, termasuk dari fasilitas/unit yang dioperasikan bersama maupun dari penjualan energi, dan serta tidak ada yang berasal dari kegiatan produksi *oil sands*. Khusus emisi metana (CH₄) mencapai 0,32% dari total emisi GRK. Berdasarkan perhitungan pada 2024, didapatkan hasil emisi Cakupan 1 sebesar 24,38 juta ton CO₂e dan emisi Cakupan 2 mencapai 2.784,37 ribu ton CO₂e. [CCE-4.C1, 4.C2, 4.C3][CCE-4.A1, 4.A3, 4.A4, 4.A5, 4.A6][EM-RM-110a.1]

The calculation of GHG emissions refers to the Minister of Environment Regulation Number 12 Year 2012. The calculation covers Scope 1 (own use) and Scope 2 (external energy consumption). Meanwhile, the global warming potential (GWP) refers to IPCC AR4.

The calculation results are presented as total GHG emissions, including those from jointly operated facilities/units as well as from energy sales, and none from oil sands production activities. Methane (CH₄) emissions in particular account for 0.32% of total GHG emissions. Based on calculations in 2024, Scope 1 emissions amounted to 24.38 million tons CO₂e and Scope 2 emissions reached 2,784.37 thousand tons CO₂e. [CCE-4.C1, 4.C2, 4.C3][CCE-4.A1, 4.A3, 4.A4, 4.A5, 4.A6][EM-RM-110a.1]

Jumlah Emisi GRK Cakupan 1
 Total GHG Emissions Scope 1

Keterangan Description	Satuan Unit	2024	2023*	2022*
Total Emisi GRK Langsung Total Direct GHG Emissions	Juta Ton CO₂e Million Tons of CO ₂ e	24.38	24.88	24.84
Berdasarkan Jenis Emisi Based on Emission Types				
Karbon Dioksida (CO ₂) Carbon Dioxide (CO ₂)		22.12	19.40	19.38
Metana (CH ₄) Methane (CH ₄)	Juta Ton Million Tons	0.09	0.09	0.09
Nitrogen Oksida (N ₂ O) Nitrogen Oxide (N ₂ O)		0.0003	0.01	0.01
Berdasarkan Segmen Usaha Based on Business Segment				
SH Upstream		13.36	11.99	12.12
SH Refining and Petrochemical		9.07	11.12	10.83
SH Commercial and Trading	Juta Ton CO ₂ e Million Tons of CO ₂ e	0.21	0.18	0.28
SH Power & NRE		0.09	0.09	0.12
SH Gas		0.62	0.62	0.63
SH Integrated Marine Logistics		1.02	0.88	0.86
Berdasarkan Sumber Emisi Based on Emission Sources				
Pembakaran Combustion		14.24	12.77	13.00
Routine Flaring		1.67	2.22	2.35
Non-routine Flaring	Juta Ton CO ₂ e Million Tons of CO ₂ e	0.24	0.22	0.22
Safety Flaring		0.44	0.53	0.34
Process Emission & Venting		7.21	8.49	8.44
Fugitives		0.57	0.55	0.40

Keterangan | Note:

Terdapat perbedaan perhitungan karena adanya selisih pembulatan.

There are differences in calculations due to rounding differences.

 *Penyajian kembali informasi (*restatement*) karena adanya penambahan kegiatan operasi yang belum dilingkupi. [GRI 2-4]

*Restatement of information due to additional operations not yet covered.

Jumlah Emisi GRK Cakupan 2

Total GHG Emissions Scope 2

Keterangan Description	Satuan Unit	2024	2023*	2022*
Berdasarkan Segmen Usaha Based on Business Segment				
Total Emisi Tidak Langsung Total Indirect Emissions		2,784.37	2,207.33	2,015.07
SH Upstream		2,484.49	1,971.92	1,757.99
SH Refining and Petrochemical	Ribu Ton CO ₂ e Thousand Tons of CO ₂ e	160.47	160.42	135.51
SH Commercial and Trading		89.73	60.22	104.04
SH Power & NRE		2.13	1.89	2.78
SH Gas		47.55	12.88	14.74

Keterangan | Note:

Terdapat perbedaan perhitungan karena adanya selisih pembulatan.

There are differences in calculations due to rounding differences.

*Penyajian kembali informasi (*restatement*) karena adanya penyesuaian kembali cakupan perhitungan energi yang dibeli. [GRI 2-4]

*Restatement of information due to readjustment of the scope of calculation of purchased energy.

Pengukuran emisi GRK Cakupan 3 mengacu pada GHG Protocol/IPIECA Scope 3 untuk *Category 1: Purchased Goods and Services* serta *Category 11: Use of Sold Products*. Faktor emisi yang digunakan mengacu pada faktor emisi lokal produk BBM yang dijual di Indonesia, serta pembelian minyak mentah dan produk BBM dari luar. Produk non-BBM yang digunakan oleh konsumen tidak termasuk dalam perhitungan emisi Cakupan 3. [CCE-4.C3] [CCE-4.A2, 4.A7]

Scope 3 GHG emission measurement refers to GHG Protocol/IPIECA Scope 3 for Category 1: Purchased Goods and Services and Category 11: Use of Sold Products. The emission factors used refer to the local emission factors of fuel products sold in Indonesia, and the purchase of crude oil and fuel products from overseas. Non-fuel products used by consumers are not included in the Scope 3 emissions calculation. [CCE-4.C3][CCE-4.A2, 4.A7]

Jumlah Emisi GRK Cakupan 3 (Juta Ton CO₂e)

Total GHG Emissions Scope 3 (Million Tons of CO₂e)

Keterangan Description	2024	2023*	2022*
Pembelian Barang dan Jasa - Kategori 1 Purchased Goods and Services - Category 1	23.73	22.63	21.30
Penggunaan Produk yang Dijual – Kategori 11 Use of Products Sold – Category 11	174.68	181.21	168.06

*Penyajian kembali informasi (*restatement*) karena ada penambahan lingkup data pembelian BBM. [GRI 2-4]

*Restatement of information due to additional scope of fuel purchase data.

Penghitungan Intensitas Emisi GRK [OJK F.1][GRI 305-4][OG 11.1.8][CCE-4.C4]

GHG Emission Intensity Calculation

Intensitas Emisi GRK Cakupan 1 dan Cakupan 2

GHG Emissions Scope 1 and Scope 2 Intensity

Keterangan Description	Satuan Unit	2024	2023*	2022*
Total Emisi GRK Cakupan 1 & 2	Juta Ton CO ₂ e	27.16	27.09	26.86
Total GHG Emissions Scope 1 & 2	Million Tons CO ₂ e			
Pendapatan Perusahaan Company Revenue	Juta USD Million USD	75,327	75,788	84,888
Intensitas Emisi GRK Cakupan 1 & 2 GHG Emissions Scope 1 & 2 Intensity	Ton CO ₂ e/Juta USD Tons CO ₂ e/Million USD	360.62	357.41	316.36

*Penyajian kembali informasi (*restatement*) karena adanya penambahan kegiatan operasi yang belum dilingkupi. [GRI 2-4]
*Restatement of information due to additional operations not yet covered.

Intensitas Emisi GRK Cakupan 3

GHG Emissions Scope 3 Intensity

Keterangan Description	Satuan Unit	2024	2023*	2022*
Pembelian Barang dan Jasa - Kategori 1 Purchased Goods and Services - Category 1	Juta Ton CO ₂ e Million Tons CO ₂ e	23.73	22.63	21.30
Penggunaan Produk yang Dijual – Kategori 11 Use of Products Sold – Category 11		174.68	181.21	168.06
Pendapatan Perusahaan Company Revenue	Juta USD Million USD	75,327	75,788	84,888
Intensitas Emisi GRK Cakupan 3 Kategori 1 GHG Emissions Scope 3 Category 1 Intensity	Ton CO ₂ e/Juta USD Tons CO ₂ e/Million USD	315.03	298.60	250.92
Intensitas Emisi GRK Cakupan 3 Kategori 11 GHG Emissions Scope 3 Category 11 Intensity		2,318.96	2,391.01	1,979.79

*Penyajian kembali informasi (*restatement*) karena ada penambahan lingkup data pembelian BBM. [GRI 2-4]
*Restatement of information due to additional scope of fuel purchase data.

Emisi Gas Metana [CCE-2.C3][CCE-5.C1, 5.C2][CCE-5.A1, 5.A2, 5.A4]

Methane Gas Emissions

Langkah dan strategi yang dilakukan untuk mengurangi emisi metana adalah bekerja sama dan berkolaborasi dengan beberapa pihak, antara lain: [CCE-5.A3]

- Pertamina Grup bergabung dalam Oil and Gas Methane Partnership 2.0 (OGMP 2.0) pada Mei 2024 untuk pengelolaan emisi metana yang lebih terukur dan terkontrol.
- Bekerja sama dengan Japan Organization for Metals and Energy Security (JOGMEC) untuk tujuan melakukan studi komprehensif pengukuran dan kuantifikasi emisi metana, dari kegiatan hulu migas serta mendorong upaya pengurangan emisi metana di Donggi-Matindok Field dan JOB Pertamina Medco Tomori Sulawesi.
- Bekerja sama dengan United States Agency for International Development (USAID) SINAR untuk *technical assistance* dalam rangka penyusunan strategi dan *framework* pengelolaan emisi gas metana di Pertamina Grup.
- Partisipasi aktif dalam Methane Leadership Program (MLP), bekerja sama dengan ASCOPE dan USAID SPP melalui berbagai program *capacity building* dan *site visit*.

Kerja sama juga dilakukan untuk di luar kegiatan operasional, antara lain: [CCE-3.A3][CCE-5.A3]

- Kerja sama proyek bio-metana antara PT Perusahaan Gas Negara Tbk (PGN) dengan beberapa perusahaan gas dari Jepang. Kerja sama meliputi studi kelayakan produksi bio-metana dari limbah pabrik kelapa sawit (*palm oil mill effluent* atau POME) dan potensinya menjadi gas alam cair (LNG) di Indonesia. Hingga akhir 2024, telah dilakukan approach ke Sinar Mas Agro dan Asian Agri untuk potensi Pabrik Kelapa Sawit (PKS) yang ada di Sumatra Selatan untuk pelaksanaan studi.

Pertamina Group cooperated and collaborated with several parties to reduce methane emissions, including:

[CCE-5.A3]

- Pertamina Group joined the Oil and Gas Methane Partnership 2.0 (OGMP 2.0) in May 2024 for more measurable and controlled methane emission management.
- Cooperating with the Japan Organization for Metals and Energy Security (JOGMEC) for a comprehensive study on the measurement and quantification of methane emissions, from upstream oil and gas activities and encouraging efforts to reduce methane emissions in the Donggi-Matindok Field and JOB Pertamina Medco Tomori Sulawesi.
- Cooperating with the United States Agency for International Development (USAID) SINAR for technical assistance in the preparation of methane emission management strategy and framework in Pertamina Group.
- Active participation in the Methane Leadership Program (MLP), in collaboration with ASCOPE and USAID SPP through various capacity building programs and site visits.

Cooperation is also carried out for non-operational activities, including: [CCE-3.A3][CCE-5.A3]

- Bio-methane project cooperation between PT Perusahaan Gas Negara Tbk (PGN) and several Japanese gas companies. The cooperation includes a feasibility study of bio-methane production from palm oil mill effluent (POME) and its potential to be processed into liquefied natural gas (LNG) in Indonesia. Until the end of 2024, approaches have been made to Sinar Mas Agro and Asian Agri for potential Palm Oil Mills (PKS) in South Sumatra for the study.

Pertamina Grup juga akan memulai Proyek *Gas to Power* yang memanfaatkan gas suar untuk pembangkit listrik, yang akan dilaksanakan Pertamina NRE dengan PT Pertamina Geothermal Energy Tbk (PGE) dan PT Jawa Satu Power. Pengerjaan proyek dilakukan di Kilang Balongan dengan kapasitas 10–20 Megawatt dan nilai investasi 60-100 juta USD. Pengerjaan proyek ditujukan untuk memenuhi kebutuhan listrik di kilang Pertamina Grup, sehingga bisa menjaga sisi lingkungan dan sekaligus menekan biaya dalam penggunaan listrik yang awalnya menggunakan solar atau gas. [CCE-3.A3][CCE-5.A3]

Pertamina Grup telah melakukan studi pengukuran dan kuantifikasi emisi metana di tiga lokasi subholding (*Refinery Unit V Balikpapan, Integrated Terminal Balikpapan, dan Pertamina Hulu Kalimantan Timur*). Studi dilakukan dengan melakukan deteksi kebocoran menggunakan *infrared* kamera dan selanjutnya dilakukan perbaikan. Adapun sumber emisi metana antara lain dari proses pembakaran, *process emission*, dan *fugitive*. [EM-EP-110a.1][EM-MD-110a.1]

Pada 2024, telah dilakukan studi lebih lanjut di area Subholding *Upstream Donggi Matindok Field* dan *JOB Pertamina Medco Tomori* sesuai dengan standar pemantauan OGMP level 4 dan level 5. Pada studi tersebut dilakukan kuantifikasi emisi gas metana menggunakan teknologi *optical gas imaging, high flow sampler, LiDAR camera*, maupun pengukuran citra satelit dan peningkatan kompetensi terkait pengukuran metana.

Pertamina Group will also start a *Gas to Power* Project that utilizes flare gas for power generation, which will be implemented by Pertamina NRE with PT Pertamina Geothermal Energy Tbk (PGE) and PT Jawa Satu Power. The project will take place at the Balongan Refinery with a capacity of 10-20 Megawatts and an investment value of USD60-100 million. The project aims to meet the electricity needs at the Pertamina Group refinery to protect the environment, and at the same time reduce costs in the use of electricity that originally used diesel or gas. [CCE-3.A3][CCE-5.A3]

Pertamina Group has conducted a study on the measurement and quantification of methane emissions in three subholding sites (*Refinery Unit V Balikpapan, Integrated Terminal Balikpapan, and Pertamina Hulu East Kalimantan*). The study was conducted by detecting leaks using an infrared camera and then repairing them. The sources of methane emissions include combustion, *process emission*, and *fugitive*. [EM-EP-110a.1][EM-MD-110a.1]

In 2024, further studies were conducted in the *Upstream Subholding area of Donggi Matindok Field* and *JOB Pertamina Medco Tomori* according to the OGMP level 4 and level 5 monitoring standards. In the study, methane gas emission quantification was carried out using optical gas imaging technology, high flow sampler, LiDAR camera, as well as satellite image measurement and competency improvement related to methane measurement.

Upaya dan Pencapaian Reduksi Energi dan Emisi GRK [OJK F.7, F.12][GRI 302-4,

302-5, 305-5][OG 11.2.3][ENV-3.A4][EM-EP-110a.3][EM-RM-110a.2]

Energy and GHG Emission Reduction Efforts and Achievements

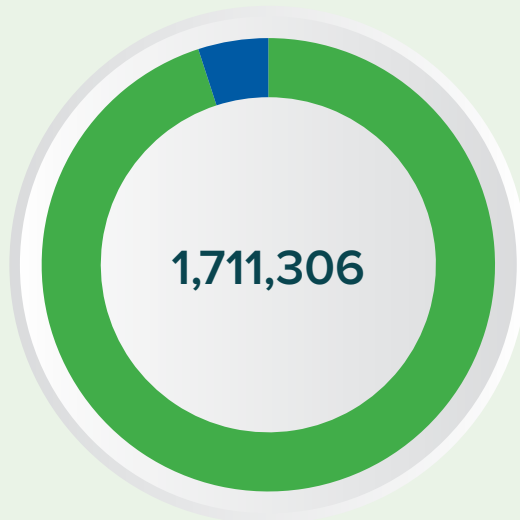
Upaya reduksi emisi dilakukan melalui sejumlah inisiatif, yakni efisiensi energi, *zero routine flaring, green/low carbon power, renewable energy, low carbon heat, loss reduction*, serta *reduce non-routine emission*. Total kumulatif reduksi emisi tahun 2024 dari seluruh subholding mencapai 1,7 juta ton CO₂e (termasuk program yang telah berjalan tiga tahun terakhir), lebih tinggi 56% dari target 1.091.881 ton CO₂e. Dari jumlah tersebut, sebanyak 1.676.276 ton CO₂e atau 98% merupakan emisi GRK Cakupan 1, dan 35.029 ton CO₂e atau 2% merupakan emisi GRK Cakupan 2.

Emission reduction efforts are carried out through several initiatives, namely energy efficiency, zero routine flaring, green/low carbon power, renewable energy, low carbon heat, loss reduction, and non-routine emission reduction. The cumulative total emission reduction from all subholdings reached 1.7 million tons CO₂e (including programs that have been running for the last three years), 56% higher than the target of 1,091,881 tons CO₂e. Of these, 1,676,276 tons CO₂e or 98% are Scope 1 GHG emissions, and 35,029 tons CO₂e or 2% are Scope 2 GHG emissions.

Kumulatif Reduksi Emisi GRK Berdasarkan Subholding
Cumulative GHG Emission Reduction Based on Subholding

Subholding	2024		2023	2022
	Target	Realisasi Realization	Realisasi Realization	
SH Upstream	789,180	1,186,873	872,496	384,794
SH Refining & Petrochemical	259,000	430,668	228,411	128,496
SH Commercial & Trading	5,833	7,092	5,871	2,572
SH Gas	1,205	29,722	598	209
SH Power & NRE	1,773	12,166	2,278	1,295
SH Integrated Marine Logistics	34,890	44,785	25,445	6,866
Total	1,091,881	1,711,306	1,135,099	524,232

Kumulatif Reduksi Emisi GRK 2024 Berdasarkan Cakupan (Ton CO₂eq)
Cumulative GHG Emission Reduction 2024 by Scope (Tons CO₂eq)



- **98%**
Cakupan | Scope 1 = 1,676,277
- **2%**
Cakupan | Scope 2 = 35,029

Kumulatif Reduksi Emisi GRK Berdasarkan Inisiatif
Cumulative GHG Emission Reduction Based on Initiatives

Inisiatif Initiative	2024	
	Realisasi Realization	Persentase (%) Percentage
Efisiensi Energi Energy Efficiency	1,157,014	67.61
Zero Routine Flaring	294,002	17.18
Green/Low Carbon Power	78,549	4.59
Low Carbon Heat	161,718	9.45
Loss Reduction	685	0.04
Renewable Energy	12,322	0.72
Non Routine Emission	7,016	0.41
Total	1,711,306	100.00

Reduksi Gas Suar [OG 11.1.1][CCE-7.C3, 7.C5]

Flare Gas Reduction

Salah satu inisiatif untuk mendukung reduksi emisi GRK adalah mengurangi gas suar. Pertamina Grup konsisten mengurangi gas suar dari seluruh lini operasional Perseroan, sejalan dengan *Zero Routine Flaring Initiative* (ZRF). Total volume gas suar di wilayah operasi di Indonesia tahun 2024 mencapai 2,35 juta ton CO₂e, berkurang dari tahun 2023 sebesar 2,96 juta ton CO₂e, dan meliputi 9,7% dari total emisi GRK. Selama 2024, Pertamina Grup melakukan serangkaian inisiatif *zero routine flaring*, antara lain pemanfaatan gas *flaring* dan komersialisasi yang berhasil dilakukan reduksi volume gas suar dari tahun sebelumnya sebesar 0,61 juta ton. Volume gas suar terdiri atas *routine flaring*, *non-routine flaring*, dan *safety flaring*. Gas suar non-rutin antara lain gas ventilasi, yakni pelepasan ke udara gas-gas yang tidak terbakar. [CCE-7.C1, 7.C2, 7.C4][CCE-7.A1, 7.A2, 7.A3][EM-EP-110a.2]

One of the initiatives to support GHG emission reduction is flare gas reduction. Pertamina Group consistently reduces flare gas from all operational lines of the Company, in line with the Zero Routine Flaring (ZRF) Initiative. In 2024, the total volume of flare gas in operating areas in Indonesia reached 2.35 million tons CO₂e, a decrease from 2.96 million tons CO₂e in 2023, and accounted for 9.7% of total GHG emissions. During 2024, Pertamina Group conducted a series of zero routine flaring initiatives, including flaring gas utilization and commercialization which successfully reduced flare gas from previous year by 0.61 tons. Flare gas volume consists of routine flaring, non-routine flaring, and safety flaring. Non-routine flare gas includes vent gas, which is the release into the air of unburned gases. [CCE-7.C1, 7.C2, 7.C4][CCE-7.A1, 7.A2, 7.A3][EM-EP-110a.2]

Pelaksanaan Inisiatif *Flaring* di 2024, di antaranya:

1. Optimalisasi pemanfaatan gas suar untuk bahan bakar turbin pada 2 fasilitas dan *recovery condensate* (Petani GP/GS dan Pematang GS), dengan realisasi reduksi emisi GRK mencapai 100.224 ton CO₂e.
2. Pengurangan *gas flare* dengan penggunaan *Own Gas Compressor* menggantikan *Mini Gas Compressor-SP BBS*, dengan realisasi pengurangan emisi GRK sebesar 85.887 ton CO₂e.
3. Monetisasi *gas flaring* dan LP sumur gas dengan relokasi *gas compressor* dari SKG-1 Limau ke SKG 12 Benuang, dengan realisasi pengurangan emisi GRK sebesar 16.736 ton CO₂e.
4. Pengurangan *Flaring* dengan Teknologi *Steam Atomizing*, dengan realisasi pengurangan emisi GRK sebesar 14.882 ton CO₂e.
5. Eliminasi Gas *Flaring* Sumur dengan melakukan konversi HPU ke *Gas Lift* di Field Adera, dengan realisasi pengurangan emisi GRK 14.064 ton CO₂e.
6. Instalasi *Wellhead Compressor (WHC)* di BNG-049/043 untuk utilisasi gas *flare* dan gas *associated* menjadi *sales gas* dan *own use*.
7. Pemasangan gas *flare* RAMA-P menggunakan gas *compressor* dan *ejector* di Anjungan RAMA-H.

Implementation of the Flaring Initiative in 2024, including:

1. Optimization of flare gas utilization for turbine fuel at 2 facilities and condensate recovery (Petani GP/GS and Pematang GS), with the realization of GHG emission reduction reaching 100,224 tons CO₂e.
2. Flare gas reduction with the use of Own Gas Compressor replacing Mini Gas Compressor-SP BBS, with the realization of GHG emission reduction of 85,887 tons CO₂e.
3. Monetization of flaring gas and LP gas wells by relocating gas compressors from SKG-1 Limau to SKG 12 Benuang, with the realization of GHG emission reduction of 16,736 tons CO₂e.
4. Flaring Reduction with Steam Atomizing Technology, with the realization of GHG emission reduction of 14,882 tons CO₂e.
5. Well Flaring Gas Elimination by converting HPU to Gas Lift in Adera Field, with realized GHG emission reduction of 14,064 tons CO₂e.
6. Installation of Wellhead Compressor (WHC) at BNG-049/043 to utilize flare gas and associated gas into sales gas and own use.
7. Installation of RAMA-P flare gas using gas compressor and ejector at RAMA-H platform.

Volume Emisi Gas Suar (*Flare Gas*)

Volume of Flare Gas Emission

Uraian Description	Satuan Unit	2024	2023	2022
Routine Flaring	Juta Ton Million Tons	1.67	2.22	2.35
Non-Routine Flaring		0.24	0.22	0.22
Safety Flaring		0.44	0.53	0.34

Inisiatif *Nature-Based Solutions (NBS)*

Inisiatif solusi berbasis alam atau *nature-based solutions (NBS)* dilakukan melalui kerja sama dengan beberapa pihak. Program NBS akan mendukung reduksi emisi GRK melalui pengelolaan hutan, sehingga memperkuat kontribusi Pertamina Grup menurunkan target emisi Indonesia, yaitu sebesar 31,89% pada 2030. Pada 2023, telah dilakukan penandatanganan *master agreement* sebanyak 9 konsesi dengan Perum Perhutani. Kemudian di 2024, telah dilakukan *Feasibility Study (FS)* untuk NEBS – Sei Tubu dengan *total crediting area* mencapai 77.683 ha dan NEBS – Kunyit Simendurut dengan *total crediting area* sebesar 120.120 ha. [CCE-3.A5][ENV-3.A1, 3.A4]

Nature-Based Solutions (NBS) Initiative

The nature-based solutions (NBS) initiative is carried out through cooperation with several parties. The NBS program will support the GHG emission reduction through forest management, thus strengthening Pertamina Group's contribution to reducing Indonesia's emission target of 31.89% by 2030. In 2023, a master agreement was signed for 9 concessions with Perum Perhutani. Later in 2024, a Feasibility Study (FS) was conducted for NEBS - Sei Tubu with a total crediting area of 77,683 ha and NEBS - Kunyit Simendurut with a total crediting area of 120,120 ha. [CCE-3.A5][ENV-3.A1, 3.A4]

Pengembangan Teknologi CCS/CCUS [CCE-3.A2, 3.A6]

Proyek CCS/CCUS sangat strategis dikarenakan potensi penyimpanan karbon di Indonesia besar. Saat ini Pertamina Grup mengembangkan 6 proyek CCS/CCUS, yakni CCS/CCUS Hubs Central Sumatra, CCS for coal to Dimethyl Ether (DME) plant di Tanjung Enim, CCS/CCUS Hubs Kutai and South Asri Basin, CCUS/EGR Gundih, CCUS CO₂-EOR Sukowati, serta CCS di Donggi Matindok.

Di 2024, Pertamina Grup melaksanakan injeksi CO₂ melalui teknologi CO₂-Enhanced Oil Recovery (EOR) di Lapangan Sukowati, Bojonegoro, Jawa Timur, sebagai implementasi teknologi CCUS. Lebih lanjut, Pertamina Grup bersama mitra di tahun depan akan menerapkan implementasi teknologi CCS/CCUS di berbagai lapangan migas seperti di Sumatra Tengah, Sumatra Selatan, Asri Basin, Jatibarang, Gundih, Kalimantan Timur, dan Sulawesi Tengah.

Mendukung Ekosistem Kendaraan Bermotor Listrik Berbasis Baterai

Pertamina Grup melalui Indonesia Battery Corporation (IBC) yang merupakan afiliasi Subholding Power & NRE menyiapkan investasi hingga USD1,7 miliar untuk membangun ekosistem baterai kendaraan bermotor listrik berbasis baterai (KBLBB) di Indonesia. Perseroan juga terus mendorong keberadaan stasiun penukaran baterai kendaraan listrik umum (SPBKLU). Sampai dengan akhir 2024, tercatat ada 103 SPBKLU atau mencapai 79% dari target 130 SPBKLU. Unit-unit SPBKLU tersebar di stasiun pengisian bahan bakar umum (SPBU), baik yang dikelola Pertamina Grup maupun mitra kerja sama operasi (KSO).

Target dan Realisasi SPBKLU Tahun 2024

SPBKLU Target and Realization in 2024

Uraian Description	TW I Q1	TW II Q2	TW III Q3	TW IV Q4
Target	60	90	120	130
Realisasi Realization	55	82	92	103

CCS/CCUS Technology Development [CCE-3.A2, 3.A6]

CCS/CCUS projects are very strategic due to the large carbon storage potential in Indonesia. Pertamina Group is currently developing 6 CCS/CCUS projects, namely CCS/CCUS Hubs Central Sumatra, CCS for coal to Dimethyl Ether (DME) plant in Tanjung Enim, CCS/CCUS Hubs Kutai and South Asri Basin, CCUS/EGR Gundih, CCUS CO₂-EOR Sukowati, and CCS at Donggi Matindok.

In 2024, Pertamina Group carried out CO₂ injection through CO₂-Enhanced Oil Recovery (EOR) technology in Sukowati Field, Bojonegoro, East Java, as an implementation of CCUS technology. Furthermore Pertamina Group and its partners will implement CCS/CCUS technology in various oil and gas fields such as Central Sumatra, South Sumatra, Asri Basin, Jatibarang, Gundih, East Kalimantan, and Central Sulawesi next year.

Supporting Battery Electric Vehicle Ecosystem

Pertamina Group, through Indonesia Battery Corporation (IBC), an affiliate of Power & NRE Subholding, has prepared an investment of up to USD1.7 billion to build a battery ecosystem for battery electric vehicles (BEVs) in Indonesia. The Company also continues to promote the public electric vehicle battery swapping station (SPBKLU). By the end of 2024, there were 103 SPBKLU or 79% of the target of 130 SPBKLU. SPBKLU units are located at public gas stations (SPBU), both managed by Pertamina Group and joint operation partners (KSO).

Upaya dan Pencapaian Efisiensi Energi serta Penggunaan EBT [OJK F.7, F.12][GRI 302-4, 302-5][CCE-6.C2][CCE-6.A3]

Pencapaian efisiensi energi diukur berdasarkan ketentuan dalam International Energy Agency (IEA) dan diaudit berkala. Pencapaian efisiensi energi harus memenuhi tiga kriteria, meliputi intervensi spesifik yang telah berhasil mengurangi konsumsi energi; pengurangan harus terukur dan berkelanjutan; serta pengurangan dilaporkan untuk periode 12 bulan sejak dimulainya intervensi atau tindakan. Selama 2024, telah dilakukan berbagai upaya efisiensi energi dan dekarbonisasi, di mana didapatkan hasil pengurangan atau penghematan emisi sebesar 694.303,31 ton CO₂e.

10 Proyek Terbesar Penurunan Emisi GRK [CCE-6.A4]

Beberapa inisiatif efisiensi energi yang dijalankan Pertamina Grup termasuk dalam 10 Proyek Terbesar Penurunan Emisi GRK. Melalui 10 proyek tersebut, penurunan emisi GRK di Pertamina Grup mencapai 745.487 ton CO₂e atau 43,5% dari total penurunan emisi GRK di 2024. 10 proyek tersebut antara lain:

- **Subholding Refining & Petrochemical**
 1. Upgrade Burner Boiler 550-B-1/2 (MHI Stork)-RU II: 108.322 ton CO₂e.
 2. Optimasi Load Boiler (Idle WHB 1): 42.664 ton CO₂e.
 3. Program Improvement pada saat TA RU III Oktober-November 2023: 40.584 ton CO₂e.
- **Subholding Upstream**
 4. Optimalisasi pemanfaatan Gas Suar untuk Bahan Bakar Turbin pada dua fasilitas dan Recovery Condensate (Petani GP/GS dan Pematang GS): 100.224 ton CO₂e.
 5. Pengurangan Gas Flare dengan Penggunaan Own Gas Compressor menggantikan Mini Gas Compressor-SP BBS: 85.887 ton CO₂e.
 6. Penghematan Konsumsi Bahan Bakar Gas dari 1 Unit Pembangkit Listrik PHR WK ROKAN dengan Mengoptimalkan Pembangkitan Daya Reaktif (MVAR): 81.022 ton CO₂e.
 7. Efisiensi penggunaan Fuel Gas dengan Optimasi Pengoperasian Gas Turbin (Pengurangan penggunaan gas fuel sebesar 2 MMSCFD dari sebelumnya 28 MMSCFD menjadi 26 MMSCFD): 77.364 ton CO₂e.

Energy Efficiency Efforts and Achievements, and NRE Use [OJK F.7, F.12][GRI 302-4, 302-5][CCE-6.C2][CCE-6.A3]

Energy efficiency achievements are measured based on the provisions of the International Energy Agency (IEA) and audited periodically. Energy efficiency achievements must meet three criteria, including specific interventions that have successfully reduced energy consumption; reductions must be measurable and sustainable; and reductions are reported for a 12-month period since the start of the intervention or action. During 2024, energy efficiency and decarbonization efforts resulted in emission reduction or savings of 694,303.31 ton CO₂e.

10 Largest GHG Emission Reduction Projects [CCE-6.A4]

Some of the energy efficiency initiatives carried out by Pertamina Group are included in the 10 Largest GHG Emission Reduction Projects. Through these 10 projects, the GHG emission reduction in Pertamina Group reached 745,487 tons CO₂e or 43.5% of the total GHG emission reduction in 2024. The 10 projects include:

- **Subholding Refining & Petrochemical**
 1. Boiler 550-B-1/2 Burner Upgrade (MHI Stork)-RU II: 108,322 tons CO₂e.
 2. Boiler Load Optimization (Idle WHB 1): 42,664 tons CO₂e.
 3. Improvement program during RU III FY October-November 2023: 40,584 tons CO₂e.
- **Subholding Upstream**
 4. Optimization of Flare Gas utilization for Turbine Fuel at two facilities and Condensate Recovery (Petani GP/GS and Pematang GS): 100,224 tons CO₂e.
 5. Flare Gas Reduction with the Use of Own Gas Compressor replacing Mini Gas Compressor-SP BBS: 85,887 tons CO₂e.
 6. Fuel Gas Consumption Savings from 1 Unit of PHR WK ROKAN Power Plant by Optimizing Reactive Power Generation (MVAR): 81,022 tons CO₂e.
 7. Efficiency of Fuel Gas use by Optimizing Gas Turbine Operation (Reduction of gas fuel use by 2 MMSCFD from 28 MMSCFD to 26 MMSCFD): 77,364 tons CO₂e.

- | | |
|---|--|
| <p>8. Efisiensi penggunaan <i>Fuel Gas</i> dengan Optimasi Pengoperasian Gas Turbin (Pengurangan penggunaan <i>gas fuel</i> sebesar 6 MMSCFD dari sebelumnya 40 MMSCFD menjadi 34 MMSCFD): 76,788 ton CO₂e.</p> <p>9. Efisiensi penggunaan <i>Fuel Gas</i> dengan Optimasi Pengoperasian Gas Turbin (Pengurangan penggunaan <i>gas fuel</i> sebesar 4 MMSCFD dari sebelumnya 34 MMSCFD menjadi 30 MMSCFD): 68,083 ton CO₂e.</p> <p>10. Penggunaan Biosolar sebagai Bahan Bakar untuk <i>Marine Fleet</i>: 64,543 ton CO₂e.</p> | <p>8. Fuel Gas use efficiency with Gas Turbine Operation Optimization (Reduction of fuel gas use by 6 MMSCFD from previously 40 MMSCFD to 34 MMSCFD): 76,788 tons CO₂e.</p> <p>9. Efficiency of Fuel Gas use with Gas Turbine Operation Optimization (Reduction of gas fuel use by 4 MMSCFD from 34 MMSCFD to 30 MMSCFD): 68,083 tons CO₂e.</p> <p>10. Use of Biodiesel as Fuel for Marine Fleet: 64,543 tons CO₂e.</p> |
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Pengendalian Emisi Penipis Lapisan Ozon [GRI 305-6][ENV-5-A1]

Control of Ozone Layer Depleting Emissions

Selama 2024, operasional Pertamina Grup tidak menggunakan *ozone depleting substance* (ODS), sehingga Laporan ini tidak mengungkapkan informasi total volume emisi ODS. Subholding R&P (PT Kilang Pertamina Indonesia) berhasil memproduksi *refrigerant*, yaitu Breezon MC-32 untuk bahan pendingin dalam berbagai mesin pendingin. Breezon MC-32 memiliki berbagai varian produk dengan indeks *Global Warming Potential* (GWP) = 2 dan indeks *Ozone Depletion Potential* (ODP) = 0 (dalam metrik ton setara CFC-11). Breezon MC-32 menjadi produk yang dikomersialisasikan ke masyarakat. Total penjualan Breezon MC-32 dan varian produknya pada 2024 mencapai 22,35 MT.

During 2024, Pertamina Group's operations did not use ozone depleting substances (ODS), therefore, this Report does not disclose information on the total volume of ODS emissions. R&P Subholding (PT Kilang Pertamina Indonesia) successfully produces refrigerant, Breezon MC-32, for various cooling machines. Breezon MC-32 has various products with Global Warming Potential (GWP) index = 2 and an Ozone Depletion Potential (ODP) index = 0 (in metric tons of CFC-11 equivalent). Breezon MC-32 has been commercialized to the public. Total sales of Breezon MC-32 and its product variants in 2024 reached 22.35 MT.



Beban Emisi Non-GRK [GRI 305-7][OG 11.3.2][ENV-5.C1, 5.C2, 5.A1][ENV-5.A2, 5.A3][EM-EP-120a.1][EM-MD-120a.1][EM-RM-120a.1][EM-SV-110a.2]

Non-GHG Emission Load

Pertamina Grup secara berkala memantau kualitas udara ambien di wilayah operasinya dengan mengukur emisi NO₂, SO₂, partikulat, VOC, PM, dan TOC menggunakan metode manual dan kontinu. Pemantauan ini mengacu pada PP No. 22 Tahun 2021. Hasil pengukuran menunjukkan seluruh lokasi kerja telah memenuhi baku mutu emisi udara yang ditetapkan pemerintah. Hasil pengukuran dan perhitungan dilaporkan secara total, sementara data per wilayah operasi dicantumkan dalam Laporan Keberlanjutan entitas anak. Selama 2024, kualitas udara ambien di seluruh wilayah operasi tetap dalam batas aman sesuai regulasi.

Pertamina Group regularly monitors ambient air quality in its operating areas by measuring emissions of NO₂, SO₂, particulates, VOC, PM, and TOC using manual and continuous methods. This monitoring refers to Government Regulation No. 22 of 2021. The measurement results show that all work locations have met the air emission quality standards set by the government. Measurement and calculation results are reported in total, while data per operating area is included in the subsidiaries' Sustainability Reports. During 2024, ambient air quality in all operating areas remained within safe limits according to regulations.

Upaya yang dilakukan dalam pengendalian emisi Non-GRK di antaranya penggunaan *Low NOx burner*, teknologi *scrubber*, perubahan dari *fuel oil* menjadi *fuel gas* pada *heater*, dan melaksanakan pemeliharaan peralatan berkala. Selain itu dilakukan pemantauan emisi secara berkala dan penggunaan *Continuous Emission Monitoring System (CEMS)* di beberapa lokasi guna memastikan emisi dari kegiatan operasi berada di bawah baku mutu yang ditetapkan.

Efforts in controlling Non-GHG emissions include the use of Low NOx burners, scrubber technology, changing from fuel oil to fuel gas in the heater, and carrying out periodic equipment maintenance. In addition, regular emission monitoring is carried out and the use of Continuous Emission Monitoring System (CEMS) in several locations to ensure that emissions from operating activities are below the established quality standards.

Beban Emisi Non-GRK (Ton) Non-GHG Emissions Load (Tons)

Parameter	2024	2023*	2022*
SOx	564,198.57	544,088.46	577,657.42
NOx	118,078.32	121,648.15	93,054.20
VOC	139,491.14	164,880.90	196,889.42
PM	5,537.72	8,774.03	3,798.99
TOC	133,554.95	104,294.46	102,768.55

*Penyajian kembali informasi (*restatement*) karena adanya penyesuaian perhitungan terhadap jenis bahan bakar yang digunakan. [GRI 2-4]
*Restatement of information due to an adjustment in the calculation of the type of fuel used.

Pengelolaan Dampak dan Mengurangi Jejak Lingkungan

Impact Management and Reducing Environmental Footprint

Konsistensi Pertamina Grup dalam berkontribusi pada upaya bersama mengelola perubahan iklim juga dilakukan dengan meminimalkan dampak kegiatan operasi terhadap lingkungan melalui pengelolaan penggunaan air, timbulan limbah, dan tumpahan minyak sesuai aspirasi yang ditetapkan Perseroan.

Pertamina Group's consistency in contributing to joint efforts to manage climate change is also carried out by minimizing the impact of operational activities on the environment through the management of water use, waste generation, and oil spills according to the aspirations established by the Company.

Kepatuhan dan Pencapaian PROPER

Compliance and PROPER Achievements

Pengelolaan dampak lingkungan dijalankan dengan mengedepankan kepatuhan terhadap regulasi, disertai dukungan terhadap kesejahteraan sosial masyarakat di sekitar wilayah operasi. Langkah ini mendapatkan apresiasi Pemerintah melalui penghargaan Program Penilaian Peringkat Kinerja Perusahaan Dalam Pengelolaan Lingkungan (PROPER) dari Kementerian Lingkungan Hidup. Pada 2024, Pertamina Grup memperoleh 36 PROPER Emas, 60 Biru, dan 93 PROPER Hijau. Dengan meningkatnya jumlah PROPER Emas dari 34 menjadi 36 dan Hijau dari 78 menjadi 93, Pertamina Grup memperkuat posisinya sebagai perusahaan energi yang bertanggung jawab terhadap lingkungan dan masyarakat di sekitar wilayah operasi. Tahun 2024, Pertamina Grup menjadi perusahaan yang paling banyak memperoleh PROPER Emas. Beberapa lokasi Pertamina Grup juga yaitu Badak dan Kamojang telah memperoleh PROPER Emas selama 14 kali berturut-turut.

Environmental impact management is carried out by upholding compliance with regulations, as well as supporting the social welfare of communities around the operational area. This effort has earned the Government's appreciation through the Corporate Performance Rating Program in Environmental Management (PROPER) award from the Ministry of Environment. In 2024, Pertamina Group received 36 Gold PROPER, 60 Blue PROPER, and 93 Green PROPER. With the increase in the number of Gold PROPER from 34 to 36 and Green from 78 to 93, Pertamina Group has solidified its position as an energy company that is responsible for the environment and communities around its operations. In 2024, Pertamina Group became the company that earned the most Gold PROPER. Pertamina Group's Badak and Kamojang sites have received Gold PROPER for 14 consecutive years.

Pencapaian PROPER Pertamina Grup

Pertamina Group PROPER Achievements

Peringkat PROPER PROPER Ratings	2024	2023	2022
PROPER Emas Gold PROPER	36	34	20
PROPER Hijau Green PROPER	93	78	82
PROPER Biru Blue PROPER	60	44	66

Sebaran Pencapaian PROPER Emas Pertamina Grup

Distribution of Pertamina Group Gold PROPER Achievements

Subholding dan Entitas Anak Subholding and Subsidiaries	2024	2023	2022
SH Upstream	12	12	7
SH Refining and Petrochemical	6	4	4
SH Commercial and Trading	12	12	6
SH Power & NRE	2	3	2
SH Gas	4	3	1
SH Integrated Marine Logistics	-	-	-
Entitas AP Jasa dan Portofolio Service and Portfolio Subsidiary	-	-	-
Total	36	34	20

Pengelolaan Air dan Konservasi Sumber Daya Air [OJK F.8][OG 11.6.1]

Water Management and Water Resources Conservation

Perubahan iklim berdampak langsung maupun tidak langsung terhadap daya dukung sumber daya air. Perseroan menggunakan air secara bijak dan mendukung konservasi sumber daya air di wilayah operasi terutama pada kawasan stres/langka air.

Climate change has a direct and indirect impact on the carrying capacity of water resources. The Company uses water wisely and supports the conservation of water resources in the operating area, especially in stressed or water-scarce areas.

Dukungan pada World Water Forum (WWF)

Dalam World Water Forum (WWF) ke-10, Pertamina Grup memaparkan langkah yang dilakukan untuk mendukung pengelolaan melalui dua pendekatan, yakni upaya internal terkait aspek perilaku dan aspek teknologi, serta upaya eksternal melalui kolaborasi dengan komunitas maupun program TJSL. Pendekatan tersebut disertai dengan penerapan aplikasi Pertamina *Water Tools*, sehingga dapat melakukan penilaian cepat terhadap penerapan sistem pengelolaan air di seluruh unit bisnis/unit operasional. Tujuan dari pengelolaan air adalah menciptakan dampak *Net Positive Water Impact* (NPWI) untuk mendukung pengelolaan air berkelanjutan. [ENV-1.A7]

Support for World Water Forum (WWF)

In the 10th World Water Forum (WWF), Pertamina Group described the steps taken to support management through two approaches: internal efforts related to behavioral and technological aspects, and external efforts through collaboration with communities and CSR programs. The approach is coupled with the application of Pertamina *Water Tools* to conduct a quick assessment of the implementation of water management systems in all business units/operational units. The water management aims to create a *Net Positive Water Impact* (NPWI) to support sustainable water management. [ENV-1.A7]

Pengelolaan Sumber Air Bersama [GRI 303-1][OG 11.6.2, 11.6.3]

Perseroan memastikan pengambilan/penarikan dan pemanfaatan air dilakukan dengan bertanggung jawab disertai upaya meminimalkan dampaknya. Langkah tersebut dilakukan dengan prioritas pada sumber air yang juga digunakan masyarakat dan/atau sumber air di kawasan dilindungi/memiliki keanekaragaman hayati tinggi. Selama 2024, Pertamina Grup tidak mendapatkan tuntutan hukum dari masyarakat maupun regulator berkaitan dengan terganggunya sumber air.

Management of Shared Water Resources [GRI 303-1][OG 11.6.2, 11.6.3]

The Company ensures that water withdrawal and utilization are carried out responsibly with efforts to minimize its impact. The action is carried out by prioritizing water sources that are also used by the community and/or water sources in protected areas/high biodiversity. During 2024, Pertamina Group did not face any lawsuits from the community or regulators related to the disruption of water sources.

Pemanfaatan Air dari Sumber Air yang Digunakan Bersama Masyarakat dan Pengelolaannya
 Utilization of Water from Community Shared Water Sources and Their Management

Sumber Air Water Source	Bentuk Pemanfaatan Types of Utilization	Pengelolaan Management
Laut dan pantai Sea and beach	<ul style="list-style-type: none"> Operasional anjungan lepas pantai oleh Pertamina Grup. Pencarian ikan oleh nelayan. Sebagai prasarana transportasi dan mobilitas warga pesisir. Operating offshore platforms by Pertamina Group. Fishing by fishermen. Functioning as transportation and mobility means for coastal residents. 	<p>Pemenuhan regulasi terkait baku mutu air buangan, serta koordinasi dengan pemangku kepentingan terkait.</p> <p>Meeting regulations concerning the quality standards of discharged water and coordinating with the relevant stakeholders.</p>
Sungai dan waduk River and reservoir	<ul style="list-style-type: none"> Operasional kilang oleh Subholding Refining & Petrochemical dan pembangkit listrik tenaga air (PLTA) oleh Pertamina Grup maupun mitra. Pemeliharaan dan pencarian ikan oleh nelayan. Sebagai sumber air kebutuhan domestik oleh warga. Sebagai prasarana transportasi dan mobilitas warga. Refinery operations by Subholding Refining & Petrochemical and operating hydroelectric power plants (PLTA) by Pertamina Group and its partners. Performing maintenance and fishing by fishermen. Functioning as domestic needs by residents. Functioning as residents' transportation and mobility means. 	<p>Implementasi inisiatif konservasi pemanfaatan air, pemenuhan regulasi baku mutu, pengelolaan air buangan, serta kerja sama dengan pemangku kepentingan.</p> <p>Implementing water use conservation, meeting the quality standards regulation, managing discharged water, and cooperating with stakeholders.</p>

Pengambilan/Penarikan dan Pemakaian Air [GRI 303-3, 303-5][OG 11.6.4, 11.6.5, 11.6.6][EM-EP-140a.1][EM-MD-160a.1][EM-RM-140a.1][EM-SV-140a.1]

Pertamina Grup menerapkan prosedur ketat dalam pengambilan dan penggunaan air. Proses pengambilan air dari setiap sumbernya dilengkapi alat pengukur untuk memantau serta mengatur volume maupun debit air. Total volume pengambilan air tahun 2024 di wilayah operasi di Indonesia mencapai 729.699,41 Megaliter. [ENV-1.C1, 1.C2][ENV-1.A4, 1.A8]

Water Withdrawal and Consumption [GRI 303-3, 303-5][OG 11.6.4, 11.6.5, 11.6.6][EM-EP-140a.1][EM-MD-160a.1][EM-RM-140a.1][EM-SV-140a.1]

Pertamina Group implements strict procedures in the withdrawal and consumption of water. The process of water withdrawal from each source is equipped with measuring devices to monitor and regulate the volume and debit of water. The total volume of water withdrawal in 2024 in the operating areas in Indonesia reached 729,699.41 Megaliters. [ENV-1.C1, 1.C2][ENV-1.A4, 1.A8]



Pengambilan dan Pemanfaatan Air Berdasarkan Sumber (Megaliter)

Water Withdrawal and Use Based on Sources (Megaliters)

Sumber Air Water Sources	2024		2023*	2022*
	Jumlah Total	%		
Air Permukaan Surface Water	357,595.95	49.01	332,061.38	408,002.15
Air Tanah Groundwater	17,850.42	2.45	18,040.80	17,136.68
Air Laut Seawater	347,467.74	47.62	313,243.15	306,423.31
Pembelian dari Pihak Ketiga Purchased from Third Parties	6,628.54	0.91	5,681.12	4,890.98
Harvested Rain Water	156.76	0.02	-	-
Total Pengambilan Air Total Water Withdrawal	729,699.41	100.00	669,026.45	736,453.12

*Penyajian kembali informasi (*restatement*) karena adanya perubahan lingkup pelaporan terkait dengan jumlah pemanfaatan air di beberapa lokasi. [GRI 2-4]
*Restatement of information due to changes in the scope of reporting related to the amount of water utilization in some locations.

Total Pengambilan dan Pemanfaatan Air Berdasarkan Kategori (Megaliter)

Total Water Withdrawal and Use Based on Categories (Megaliters)

Kategori Categories	2024		2023*	2022*
	Jumlah Total	%		
Air Tawar Freshwater	382,231.66	52.38	355,783.30	430,029.82
Air Lainnya Other Water	347,467.75	47.62	313,243.15	306,423.30
Total Pengambilan Air Total Water Withdrawal	729,699.41	100.00	669,026.45	736,453.12

Keterangan | Note:

- Air Tawar (≤ 1.000 mg/L Total Padatan Terlarut) | Freshwater ($\leq 1,000$ mg/L of Total Dissolved Solids)
- Air Lainnya (> 1.000 mg/L Total Padatan Terlarut) | Other Water ($> 1,000$ mg/L of Total Dissolved Solids)

*Penyajian kembali informasi (*restatement*) karena adanya perubahan lingkup pelaporan terkait dengan jumlah pemanfaatan air di beberapa lokasi. [GRI 2-4]

*Restatement of information due to changes in the scope of reporting related to the amount of water utilization in some locations.

Total Pengambilan dan Pemanfaatan Air Berdasarkan Segmen Bisnis (Megaliter)
Total Water Withdrawal and Use Based on Business Segment (Megaliters)

Segmen Bisnis Business Segment	2024		2023*	2022*
	Jumlah Total	%		
SH Upstream	26,840.41	3.68	25,307.08	24,585.36
SH Refining & Petrochemical	689,519.01	94.49	636,889.48	711,053.55
SH Commercial & Trading	615.20	0.08	481.04	392.25
SH Power & NRE	400.12	0.05	293.54	114.31
SH Integrated Marine Logistics	12,102.09	1.66	5,776.78	51.99
Total Pengambilan Air Total Water Withdrawal	729,699.41	100.00	669,026.45	736,453.12

*Penyajian kembali informasi (*restatement*) karena adanya perubahan lingkup pelaporan terkait dengan jumlah pemanfaatan air di beberapa lokasi. [GRI 2-4]
*Restatement of information due to changes in the scope of reporting related to the amount of water utilization in some locations.

Volume terbesar pengambilan air laut dilakukan oleh Subholding Refining & Petrochemical, yang dimanfaatkan untuk proses produksi termasuk utilitas *Residual Fluid Catalytic Cracking* (RFCC), air pendingin, dan utilitas yang ada. [ENV-1.A3, 1.A4, 1.A11][EM-EP-140a.3][EM-EP-140a.4][EM-SV-150a.1]

The Refining & Petrochemical Subholding withdraws the largest volume of seawater for production processes including Residual Fluid Catalytic Cracking (RFCC) utilities, cooling water and existing utilities. [ENV-1.A3, 1.A4, 1.A11][EM-EP-140a.3][EM-EP-140a.4][EM-SV-150a.1]

Total Air yang Dikonsumsi Berdasarkan Segmen Bisnis (Megaliter)
Total Water Consumed Based on Business Segment (Megaliters)

Segmen Bisnis Business Segment	2024		2023*	2022*
	Jumlah Total	%		
SH Upstream	11,354.97	4.47	11,912.65	12,292.79
SH Refining & Petrochemical	242,027.60	95.21	219,230.15	286,598.74
SH Commercial & Trading	436.64	0.17	9.67	92.91
SH Power & NRE	46.34	0.02	57.64	5.78
SH Integrated Marine Logistics	349.53	0.14	45.61	51.99
Total Konsumsi Air Total Water Consumption	254,215.08	100.00	231,255.72	299,042.21

*Penyajian kembali informasi (*restatement*) karena adanya perubahan lingkup pelaporan terkait dengan jumlah pemanfaatan air di beberapa lokasi. [GRI 2-4]
*Restatement of information due to changes in the scope of reporting related to the amount of water utilization in some locations.

Efisiensi Air dan Konservasi Sumber Daya Air [ENV-1.C5]

[ENV-2.A1, 2.A2]

Selama 2024, ada beberapa upaya untuk mengurangi pemakaian air, di antaranya:

- Seluruh subholding maupun Entitas AP Jasa dan Portofolio serta unit operasional/unit bisnis di dalamnya dilengkapi instalasi pengolahan air limbah (IPAL) dengan metode fisikawi, kimiawi, dan biologis. Secara berkala, kualitas olahan air limbah/efluen dipantau dan diukur untuk memastikan pemenuhan baku mutu sesuai Peraturan Menteri Lingkungan Hidup Nomor 19 Tahun 2010. Olahan efluen dari IPAL yang seluruhnya air tawar, digunakan kembali dan/atau dialirkan ke badan air. [ENV-1.A.9, 1.A10][EM-SV-140a.1][EM-RM-140a.2]
- Menyelenggarakan Program *Interconnection Block* sebagai solusi penghematan air pendingin di Unit Alkilasi Plaju. Program ini bertujuan mengurangi konsumsi air permukaan (sungai) di RU III Plaju akibat inefisiensi penggunaan dan rendahnya kualitas air sebagai *cooling water once-through* di Unit Alkilasi. Program ini mengubah sistem penyaluran menjadi *fully circulated* dengan memasang *closure plate flange* pada jalur distribusi *cooling water*. Hasilnya, penggunaan air permukaan berkurang, efisiensi meningkat, serta kehandalan peralatan *condenser/heat exchanger* lebih terjaga, meminimalkan risiko *unplanned shutdown*. Konsumsi air permukaan yang semula mencapai 25 m³/jam tanpa sirkulasi, hasilnya penggunaan air permukaan berkurang sebesar 218.400 m³/tahun. [ENV-1.A.10]
- Pertamina Grup melakukan Program Gerakan Membangun Bersih Indah Lestari Rahayu Ciliwung (Gerbang Biru Ciliwung), dengan fokus mendorong pengelolaan sungai secara mandiri oleh masyarakat menuju ekoriparian berkelanjutan melalui kontribusi dalam pengurangan emisi karbon dengan membuka ruang terbuka hijau dan pemakaian energi terbarukan. Program ini terbagi menjadi tiga sub program, yakni Gerbang Si Bersih yang berfokus pada pengelolaan lingkungan, Gerbang Si Indah yang berfokus pada penghijauan, dan Gerbang Si Rahayu yang berfokus pada pendidikan dan pemberdayaan.

Water Efficiency and Conservation of Water Resources

[ENV-1.C5][ENV-2.A1, 2.A2]

During 2024, there are several efforts to reduce water use, including:

- All subholding and Service and Portfolio Subsidiary and their operational units/business units are equipped with wastewater treatment plants (WWTP) using physical, chemical, and biological methods. Periodically, the quality of treated wastewater/effluent is monitored and measured to ensure compliance with quality standards according to the Minister of Environment Regulation No. 19 of 2010. Treated effluent from the WWTP, which is entirely freshwater, is reused and/or discharged to water bodies. [ENV-1.A.9, 1.A10][EM-SV-140a.1][EM-RM-140a.2]
- Organizing the *Interconnection Block* Program as a cooling water saving solution in the Plaju Alkylation Unit. This program aims to reduce the consumption of surface water (river) in RU III Plaju due to inefficient use and low water quality as once-through cooling water in the Alkylation Unit. The program changed the distribution system to fully circulated by installing a closure plate flange on the cooling water distribution line. As a result, the use of surface water was reduced, efficiency increased, and the reliability of condenser/heat exchanger equipment was better maintained, minimizing the risk of unplanned shutdown. Surface water consumption originally reached 25 m³/hour without circulation, resulting in a reduction in surface water use of 218,400 m³/year. [ENV-1.A.10]
- Pertamina Group conducts the river preservation program called Gerakan Membangun Bersih Indah Lestari Rahayu Ciliwung (Gerbang Biru Ciliwung), with a focus on encouraging independent river management by the community towards sustainable eco riparian through contributions in reducing carbon emissions by creating green open spaces and using renewable energy. This program is divided into three sub-programs: Gerbang Si Bersih, which focuses on environmental management, Gerbang Si Indah, which focuses on reforestation, and Gerbang Si Rahayu, which focuses on education and empowerment.

Total Air Tawar yang Didaur Ulang Berdasarkan Segmen Bisnis (Megaliter)
Total Recycled Freshwater Based on Business Segment (Megaliters)

Segmen Bisnis Business Segment	2024	2023*	2022*
SH Upstream	9.49	12.85	48.73
SH Refining & Petrochemical	8,194.87	7,965.61	6,230.49
Total Air Tawar yang Didaur Ulang Total Recycled Freshwater	8,204.36	7,978.46	6,279.22
Persentase Total Air yang Didaur Ulang terhadap Total Konsumsi Air (%) Percentage of Total Recycled Water to Total Water Consumption (%)	3.23	3.45	2.01

*Penyajian kembali informasi (*restatement*) karena adanya perubahan lingkup pelaporan terkait dengan jumlah pemanfaatan air di beberapa lokasi. [GRI 2-4]
*Restatement of information due to changes in the scope of reporting related to the amount of water utilization in some locations.

Intensitas Konsumsi Air [ENV-1.A1, 1.A2]

Efektivitas pengambilan dan pemakaian air juga diketahui dari penghitungan Intensitas Konsumsi Air. Penghitungan konsumsi air mencakup kegiatan operasional, produksi, dan pendukung.

Water Consumption Intensity [ENV-1.A1, 1.A2]

The effectiveness of water withdrawal and consumption is also determined by calculating the Water Consumption Intensity. The calculation of water consumption covers operational, production, and support activities.

Intensitas Konsumsi Air Berdasarkan Segmen Bisnis

Water Consumption Intensity Based on Business Segment

Segmen Bisnis Business Segment	Satuan Unit	2024	2023	2022
SH Upstream	m ³ /MBOE	42,610.97	41,376.30	43,540.50
SH Refining & Petrochemical	m ³ /Barel Minyak Mentah Diproses m ³ /Barrel of Processed Crude Oil	749,775.71	643,073.39	860,501.83
SH Commercial & Trading	m ³ /Juta KL m ³ /Million KL	5,077.21	119.38	188.63
SH Power & NRE	m ³ /GWH	5.47	10.57	1.24
SH Integrated Marine Logistics	m ³ /KL	1,975.53	275.39	322.70

Pengelolaan Air di Daerah Stres/Langka Air [GRI 303-4][ENV-1.C3, 1.C4][ENV-1.A6][EM-EP140a.1][EM-ER-140a.1]

Pertamina Grup telah melakukan identifikasi risiko mengacu pada Pertamina *Water Risk Assessment Tools* yang dikembangkan Pertamina Grup, dan mengacu pada beberapa referensi di antaranya GEMI *Local Water Tools* serta *Alliance of Water Stewardship* (AWS). Dari identifikasi tersebut terdapat beberapa wilayah kerja Pertamina Grup yang terletak pada area yang mengalami stress/langka air. Selain itu, Pertamina Grup juga telah melakukan identifikasi daerah aliran sungai (DAS) yang berpengaruh pada kegiatan operasional sesuai dengan aspek *availability*, *accessibility*, dan *quality*. Berdasarkan identifikasi tersebut DAS Musi berpengaruh pada regional 1, pada regional 2 fasilitas terbagi merata di beberapa DAS yaitu Kali Bekasi, Citarum, dan Cipunagara, pada regional 3 DAS Mahakam, dan pada regional 4 DAS Bengawan Solo.

Water Management in Stressed/Water Scarce Areas [GRI 303-4][ENV-1.C3, 1.C4][ENV-1.A6][EM-EP140a.1][EM-ER-140a.1]

Pertamina Group has conducted risk identification referring to Pertamina Water Risk Assessment Tools™ developed by Pertamina Group, and refers to several references including GEMI Local Water Tools and Alliance of Water Stewardship (AWS). The results of this identification found that some of Pertamina Group's working areas are located in stressed/water scarce areas. In addition, Pertamina Group has also identified watersheds that affect its operations based on the availability, accessibility, and quality aspects. Based on this identification, region 1 is affected by the Musi watershed; in region 2, the facilities are evenly distributed in several watersheds of Bekasi, Citarum, and Cipunagara rivers; in region 3, Mahakam watershed; and in region 4, Bengawan Solo watershed.

Volume Air yang Dikonsumsi di Wilayah Stres/Langka Air (Megaliter)

Volume of Water Consumed in Water-Stressed/Water-Scarce Areas (Megaliters)

Tahun Year	Volume dari Wilayah Stres/Langka Air Volume of Water Stressed/Scarce Areas	Persentase (%) Percentage (%)
2024	199,220.67	78.37
2023	171,300.77*	74.07
2022	234,649.64*	78.47

*Penyajian kembali informasi (*restatement*) karena adanya perubahan lingkup pelaporan terkait dengan jumlah pemanfaatan air di beberapa lokasi. [GRI 2-4]
*Restatement of information due to changes in the scope of reporting related to the amount of water utilization in some locations.

Pengelolaan Efluen dan Tujuan Pembuangan [OJK F.13][GRI 303-2, 303-4][ENV-1.A10][ENV-2.C1, 2.C2][EMRM-140a.2]

Efluen atau air limbah terdiri atas air limbah dari kegiatan operasional dan produksi, serta kegiatan domestik. Perseroan melalui unit operasional/unit bisnis mengelola efluen dengan cara diolah di unit instalasi pengolahan air limbah (IPAL) disertai pemantauan dan pengukuran berkala, termasuk kandungan hidrokarbon di dalam air terproduksi maupun efluen dari kegiatan hulu migas dan panas bumi; pengolahan (pengilangan) minyak, *liquified petroleum gas* (LPG) dan *liquified natural gas* (LNG); serta operasional instalasi, depot, dan terminal minyak.

Effluent Management and Discharge Destination [OJK F.13][GRI 303-2, 303-4][ENV-1.A10][ENV-2.C1, 2.C2][EMRM-140a.2]

Effluent or wastewater consists of wastewater from operational and production activities, as well as domestic activities. The Company through operational units/business units manages effluent by treating it in the wastewater treatment plant (WWTP) and conducts periodic monitoring and measurement, including hydrocarbon content in produced water and effluent from upstream oil and gas and geothermal activities; refining oil, liquified petroleum gas (LPG) and liquified natural gas (LNG); and operating oil installations, depots and terminals.

Berdasarkan hasil pengukuran efluen pada 2024, kualitas olahan air terproduksi maupun efluen di seluruh unit bisnis/unit operasional telah memenuhi baku mutu yang ditetapkan Pemerintah. Pengelolaan efluen mengacu pada pedoman pengelolaan lingkungan berkelanjutan serta pedoman pengelolaan air. Pertamina Grup juga telah menetapkan target baku mutu olahan efluen termasuk kandungan hidrokarbon (*oil content*), disertai dengan pemantauan rutin terhadap kualitas olahan efluen. [OJK F.14]

Total volume olahan efluen yang dilepaskan ke badan air penerima mencapai 475.136,54 Megaliter. Sebagian besar olahan efluen dialirkan ke laut, dan lainnya dilepaskan kembali ke sumber air permukaan dan ke dalam tanah dalam bentuk air terinjeksi, serta didistribusikan kepada pihak ketiga. Pelepasan olahan efluen ke laut dan sumber air permukaan, disertai pemantauan dan pengukuran berkala untuk parameter tertentu seperti *chemical oxygen demand* (COD), sulfat, ammonia, fenol, *total suspended solids* (TSS), serta lumpur pengeboran. Langkah ini dilakukan untuk mencegah dan meminimalkan pencemaran badan air. [ENV-1.A9][ENV-2.A1, 2.A5, 2.A6]

In 2024, the results of effluent measurements showed that the quality of produced water and effluent in all business units/operational units has met the quality standards set by the Government. Effluent management adheres to sustainable environmental management guidelines and water management guidelines. Pertamina Group has also set a target for the quality of treated effluent including hydrocarbon content (*oil content*), along with routine monitoring of the quality of treated effluent. [OJK F.14]

The total volume of treated effluent discharged to the destination water bodies reached 475,136.54 Megaliters. Most of the treated effluent is discharged to the sea, and others are discharged back to surface water sources and into the ground in the form of injected water, as well as distributed to third parties. The discharge of treated effluent to the sea and surface water sources is monitored and measured periodically for certain parameters such as chemical oxygen demand (COD), sulfate, ammonia, phenol, total suspended solids (TSS), and drilling mud. This measure is taken to prevent and minimize pollution of water bodies. [ENV-1.A9][ENV-2.A1, 2.A5, 2.A6]

Volume Pembuangan Air (*Water Discharged*) dari IPAL Berdasarkan Tujuan Pembuangan (Megaliter)
 Volume of Wastewater Discharge from WWTP Based on Discharge Destination (Megaliters)

Tujuan Pembuangan Discharge Destination	2024		2023*	2022*
	Jumlah Total	%		
Air Laut Sea Water	355,000.09	74.72	321,573.00	315,816.93
Air Permukaan Surface Water	111,017.55	23.37	108,329.98	115,028.00
Air Tanah Groundwater	5,610.79	1.18	4,941.91	4,437.75
Distribusi Pihak Ketiga Third Party Distribution	3,508.11	0.74	2,697.95	2,026.94
Jumlah Total	475,136.54	100.00	437,542.84	437,309.62

*Penyajian kembali informasi (*restatement*) karena adanya perubahan lingkup pelaporan terkait dengan jumlah pemanfaatan air di beberapa lokasi. [GRI 2-4]
 *Restatement of information due to changes in the scope of reporting related to the amount of water utilization in some locations.

Volume Pembuangan Air (*Water Discharged*) dari IPAL Berdasarkan Segmen Bisnis (Megaliter)

Volume of Wastewater Discharge from WWTP Based on Business Segment (Megaliters)

Segmen Bisnis Business Segment	2024		2023*	2022*
	Jumlah Total	%		
SH Upstream	15,485.44	3.26	13,394.43	12,292.57
SH Refining & Petrochemical	447,491.40	94.18	417,659.32	424,454.82
SH Commercial & Trading	178.56	0.04	471.37	299.33
SH Power & NRE	6.00	0.00	8.49	7.72
SH Gas	222.58	0.05	278.05	255.18
SH Integrated Marine Logistics	11,752.56	2.47	5,731.18	-
Jumlah Total	475,136.54	100.00	437,542.84	437,309.62

*Penyajian kembali informasi (*restatement*) karena adanya perubahan lingkup pelaporan terkait dengan jumlah pemanfaatan air di beberapa lokasi. [GRI 2-4]
*Restatement of information due to changes in the scope of reporting related to the amount of water utilization in some locations.

Volume Pembuangan Air dari IPAL Berdasarkan Kategori (Megaliter)

Volume of Wastewater Discharge from WWTP Based on Categories (Megaliters)

Kategori Categories	2024		2023*	2022*
	Jumlah Total	%		
Air Tawar Fresh Water	120,136.45	25.28	115,969.84	121,492.69
Air Lainnya Other Water	355,000.09	74.72	321,573.00	315,816.93
Jumlah Total	475,136.54	100.00	437,542.84	437,309.62

Keterangan | Notes:

- Air Tawar (≤ 1.000 mg/L Total Padatan Terlarut) | Freshwater ($\leq 1,000$ mg/L of Total Dissolved Solids)
- Air Lainnya (> 1.000 mg/L Total Padatan Terlarut) | Other Water ($> 1,000$ mg/L of Total Dissolved Solids)

*Penyajian kembali informasi (*restatement*) karena adanya perubahan lingkup pelaporan terkait dengan jumlah pemanfaatan air di beberapa lokasi. [GRI 2-4]
*Restatement of information due to changes in the scope of reporting related to the amount of water utilization in some locations.

Volume Hidrokarbon Dilepas ke Badan Air (Metrik Ton)

Volume of Hydrocarbons Released to Water Bodies (Metric Tonnes)

2024	2023*	2022*
0.07	0.08	0.10

*Penyajian kembali informasi (*restatement*) karena adanya perubahan satuan unit yang ditampilkan. [GRI 2-4]
*Restatement of information due to a change in the units displayed.

Pengelolaan Air dan Efluen pada Lapangan *Mature* [ENV-2.A4, 2.A5][EM-EP-140a.2]

Tingkat penggunaan air dipengaruhi oleh tingkat kematangan lapangan. Sepanjang 2024, penggunaan air pada lapangan *mature* mencapai 12.895 megaliter, naik 1,01% dari tahun 2023 sebesar 12.766 megaliter. Air yang digunakan berasal dari sumber air permukaan dan air terproduksi yang kemudian diinjeksikan kembali ke dalam *reservoir*. Sebagian dari air terproduksi diolah di IPAL dan kemudian dialirkan ke badan air.

Water and Effluent Management in Mature Fields [ENV-2.A4, 2.A5][EM-EP-140a.2]

The level of water use is influenced by field maturity. During 2024, water use in mature fields reached 12,895 megaliters, an increase of 1.01% from 12,766 megaliters in 2023. The water used comes from surface water sources and produced water which is then reinjected into the reservoir. Some of the produced water is treated at the WWTP and then discharged into the water body.

Pengambilan dan Pemakaian Air pada Lapangan *Mature* Water Withdrawal and Use in Mature Fields

Lapangan Field	Sumber Air Terpakai Sources of Water Used	Volume Air Terpakai (Megaliter) Volume of Water Used (Megaliters)		
		2024	2023	2022
Rantau	Produksi air struktur Rantau Water production of Rantau structure	1,150	1,211	1,100
Jirak	Produksi air struktur Jirak ditambah produksi struktur Sopa dan Musi Water production of Jirak structure plus Sopa and Musi structure	958	668	910
Belimbing	Produksi air struktur Belimbing Water production of Belimbing structure	1,125	1,163	1,370
Ramba	Produksi air struktur Ramba Water production of Ramba structure	788	1,063	1,370
North East Air Serdang	Produksi air struktur North East Air Serdang Water production of North East Air Serdang structure	1,518	1,404	1,490
Meruap	Produksi air struktur Meruap Water production of Meruap structure	275	284	420
Handil	Produksi air struktur Handil Water production of Handil structure	4,475	4,621	3,980
Tanjung	Produksi air struktur Tanjung Water production of Tanjung structure	2,606	2,352	2,330
Total Air Diinjeksi Total Injected Water		12,895	12,766	12,970

Pengelolaan Air Terproduksi (Megaliter)
Produced Water Management (Megaliters)

Uraian Description	2024	2023*	2022*
Volume Air Terproduksi Diinjeksikan Kembali Volume of Produced Water Reinjecting	589,819.83	571,656.10	550,559.77
Volume Air Terproduksi Dialirkan ke Badan Air Volume of Produced Water Distributed to Water Bodies	183,408.66	185,380.40	172,012.97
Volume Air Terproduksi Dialirkan ke Kolam Evaporasi Volume of Produced Water Distributed to the Evaporation Pond	29.20	29.29	17.67
Total Volume Air Terproduksi Total Volume of Produced Water	773,257.70	757,065.79	722,590.41

* Penyajian kembali informasi (*restatement*) karena adanya perubahan lingkup pelaporan, yaitu terkait penyesuaian volume air terproduksi dari beberapa lokasi yang dilaporkan. [GRI 2-4]

* Restatement of information due to changes in the scope of reporting, namely related to adjustments in the volume of produced water from several reported locations.

Penggunaan Material dan Pengelolaan Limbah [GRI 306-1,

306-2][OG 11.5.1, 11.5.2, 11.5.3][ENV-7.C1]

Use of Materials and Waste Management

Penggunaan Material Ramah Lingkungan [OJK F.5][GRI 301-1, 301-2, 301-3]

Use of Environmentally Friendly Materials

Perseroan terus mendorong unit operasi/unit bisnis untuk meningkatkan penggunaan material ramah lingkungan guna meminimalkan timbulan limbah. Pengungkapan informasi mengenai pemakaian material ramah lingkungan, termasuk penarikan dan pengelolaan kembali kemasan bekas pakai pada subholding maupun Entitas AP Jasa dan Portofolio, disampaikan dalam Laporan Keberlanjutan masing-masing. Laporan ini hanya mengungkapkan informasi mengenai material ramah lingkungan sebagai bahan baku produksi bahan bakar nabati (BBN), termasuk yang berasal dari limbah industri seiring dengan kebijakan penerapan transisi energi Pertamina Grup. Pada 2024, Pertamina Grup mengolah *Refined, Bleached, and Deodorized Palm Oil* (RBDPO) dari kelapa sawit sebanyak 4.716 MT untuk produksi minyak diesel hidrokarbon nabati (*hydrotreated vegetable oil/HVO*) sebanyak 4.026 MT.

[ENV-7.C2]

The Company continuously encourages operating units/business units to increase the use of environmentally friendly materials to minimize waste generation. Disclosure of information on the use of environmentally friendly materials, including the withdrawal and reuse of packaging at subholding and Service and Portfolio Subsidiary, is presented in their respective Sustainability Reports. This report only discloses information on environmentally friendly materials as raw materials for biofuel production, including those originating from industrial waste, following Pertamina Group's policy of implementing energy transition. In 2024, Pertamina Group processed Refined, Bleached, and Deodorized Palm Oil (RBDPO) from 4,716 MT of palm oil to produce 4,026 MT of bio hydrocarbon diesel hydrotreated vegetable oil/HVO). [ENV-7.C2]

Material ramah lingkungan juga digunakan untuk pembangunan beberapa gedung di Pertamina Grup. Sampai dengan akhir 2024, ada 32 gedung yang memiliki sertifikat *Green Building* dari Green Building Council Indonesia (GBCI), bertambah dari tahun 2023 sebanyak 13 gedung.

Pertamax Green 95

Bioetanol dari molase tanaman tebu untuk produksi Pertamax Green 95, dan diluncurkan pertama kali pada pertengahan 2023. Pertamax Green 95 merupakan produk BBM Pertamina dengan kandungan bioetanol sebesar 5% yang dicampur dengan bensin RON 95. Realisasi penjualan Pertamax Green 95 dilakukan di 107 stasiun pengisian bahan bakar umum (SPBU) Pertamina Grup di 4 provinsi, yaitu Banten, DKI Jakarta, Jawa Barat, dan Jawa Timur, dari target 100 SPBU Pertamina Grup di 2024. Total penjualan Pertamax Green 95 tahun 2024 mencapai 7.488 kiloliter (KL), meningkat signifikan dari tahun 2023 sebesar 812,3 KL.

Environmentally friendly materials are also used for the construction of several buildings within Pertamina Group. Until the end of 2024, a total of 32 buildings have been certified as Green Buildings from the Green Building Council Indonesia (GBCI), an increase of 13 buildings from 2023.

Pertamax Green 95

Bioethanol from sugarcane molasses for Pertamax Green 95 production, which was launched for the first time in mid-2023. Pertamax Green 95 is Pertamina's fuel product with 5% bioethanol content mixed with RON 95 gasoline. The Pertamax Green 95 was sold at 107 Pertamina Group gas stations (SPBU) in 4 provinces: Banten, Jakarta, West Java, and East Java, from the target of 100 Pertamina Group SPBUs in 2024. Total sales of Pertamax Green 95 in 2024 reached 7,488 kiloliters (KL), a significant increase from 812.3 KL in 2023.

Pengelolaan dan Volume Timbulan Limbah [OJK F.13, F.14][GRI 306-3, 306-4, 306-5][OG 11.5.4,

11.5.5, 11.5.6][ENV-7.C1, 7.C2, 7.C3][EM-RM-150a.1]

Waste Management and Volume

Pengelolaan timbulan limbah mengacu pada regulasi, ISO 14001:2015 Sistem Manajemen Lingkungan, SUPREME, serta standar HSSE, termasuk bagi kontraktor terutama dalam pengelolaan limbah B3. Pengelolaan limbah dilakukan di masing-masing unit operasional/unit bisnis. Pengelolaan limbah dapat dilakukan sendiri oleh unit operasional/unit bisnis maupun melibatkan pihak lain sesuai persyaratan yang ditentukan, antara lain memiliki izin dari Kementerian Lingkungan Hidup serta memiliki fasilitas pengangkutan dan penyimpanan yang aman.

Pertamina Grup berkomitmen untuk terus mengurangi timbulan limbah non-B3. Limbah padat non-B3 dikelola dengan cara disimpan di tempat penampungan sementara (TPS). Dari TPS, timbulan limbah diolah oleh unit operasional/unit bisnis melalui program *reduce*, *reuse*, dan *recycle* (3R) atau dengan melibatkan pihak ketiga, termasuk masyarakat melalui kegiatan pemberdayaan. Salah satu limbah non-B3 yang menjadi perhatian Perseroan adalah penggunaan plastik. [ENV-7.A2, 7.A4]

Waste management refers to regulations, ISO 14001:2015 Environmental Management System, SUPREME, and HSSE standards, including for contractors, especially for hazardous waste management. Waste management is carried out in each operational unit/business unit. It may be carried out by the operational units/business units themselves or involve other parties based on the specified requirements, including having a license from the Ministry of Environment and owning safe transportation and storage facilities.

Pertamina Group is committed to continuously reducing the generation of non-hazardous waste. Non-hazardous solid waste is managed by storing it in temporary landfills (TPS). From TPS, the waste is processed by operational units/business units with reduce, reuse, and recycle (3R) methods or by involving third parties, including the community through empowerment activities. One of the non-hazardous waste that has become the Company's concern is the use of plastic. [ENV-7.A2, 7.A4]

Demikian pula, limbah padat maupun cair B3 dikelola dengan cara disimpan di TPS dan kemudian diangkut pihak ketiga berizin ke tempat pengolahan untuk proses insinerasi, penimbunan, maupun pemanfaatan kembali. Seluruh proses pengelolaan limbah dijalankan disertai pencatatan timbulan limbah sesuai regulasi sistem pelaporan yang berlaku yang ditetapkan Kementerian Lingkungan Hidup melalui aplikasi SIRAJA Limbah. Total volume limbah padatan disampaikan tanpa dipilah berdasarkan kegiatan rutin, remediasi, maupun unit operasional/unit bisnis tidak aktif. [ENV-7.A3]

Similarly, hazardous solid and liquid waste is managed by storing it in TPS and then transporting it by a licensed third party to a processing site for incineration, dumping, or reuse. The entire waste management process is conducted with the recording of waste generation following the applicable reporting system regulations established by the Ministry of Environment through the SIRAJA Limbah application. The total volume of solid waste is disclosed without separating it based on routine activities, remediation, or inactive operational units/business units. [ENV-7.A3]

Jumlah Volume Timbulan Limbah Non-B3 dan Pengelolaannya (Ton)
Total Volume of Non-hazardous Waste Generated and Its Management (Tons)

Uraian Description	2024	2023*	2022*
Jumlah Volume Timbulan Limbah Non-B3 Total Non-hazardous Waste Generated Volume	21,073.69	20,427.19	22,721.86
Volume Limbah yang Dapat Dicegah dan Direduksi Volume of Preventable and Reducible Waste	201.50	513.90	105.38
Limbah Digunakan Kembali dan Didaur Ulang Waste Reused and Recycled	5,506.40	4,839.57	3,056.19
Limbah yang Dikelola Sendiri Self-managed Waste	2,832.30	2,600.14	7,148.10
Limbah Dikelola Pihak Ketiga (di Dalam dan Luar Lokasi) Waste Generated by Third Parties (Inside and Outside the Location)	12,044.66	31,251.36	10,266.43

* Penyajian kembali informasi (*restatement*) karena adanya penambahan lingkup pelaporan, yaitu dengan menambahkan kategori *self-managed*. [GRI 2-4]
* Restatement of information due to the addition of reporting scope, namely by adding the self-managed category.

Jumlah Volume Timbulan Limbah B3 dan Pengelolaannya (Ton)
Total Volume of Hazardous Waste Generated and its Management (Tons)

Uraian Description	2024	2023*	2022*
Jumlah Volume Timbulan Limbah B3 Total Hazardous Waste Generated Volume	233,108.79	257,818.87	197,431.30
Volume Limbah yang Dapat Dicegah dan Direduksi Volume of Preventable and Reducible Waste	635.03	680.70	470.71
Limbah Digunakan Kembali dan Didaur Ulang Waste Reused and Recycled	2,406.90	4,864.84	4,924.42
Limbah yang Dikelola Sendiri Self-managed Waste	74,535.83	70,707.34	69,823.72
Limbah Dikelola Pihak Ketiga (di Dalam dan Luar Lokasi) Waste Generated by Third Parties (Inside and Outside the Location)	153,622.87	179,561.74	122,125.98

* Penyajian kembali informasi (*restatement*) karena adanya penambahan lingkup pelaporan, yaitu dengan menambahkan kategori *self-managed*. [GRI 2-4]
* Restatement of information due to the addition of reporting scope, namely by adding the self-managed category.

Volume Pengurangan Limbah (Ton)

Volume of Waste Reduction (Tons)

Uraian Description	2024	2023*	2022*
B3 Hazardous	2,383.12	421.07	189.70
Non-B3 Non-hazardous	520.22	430.48	183.90

*Penyajian kembali informasi (*restatement*). [GRI 2-4]

*Restatement of information.

Secara bertahap, Pertamina Grup mendorong subholding dan entitas Anak Perusahaan jasa/portofolio menerapkan ekonomi sirkular dalam pengelolaan limbah melalui pengurangan (*reduce*), penggunaan kembali (*reuse*), daur ulang (*recycle*), manufaktur ulang produk atau komponen (*refurbish*), serta penggunaan material terbarukan (*renew*). Beberapa kegiatan ekonomi sirkular yang dijalankan selama 2024 antara lain: [ENV-7A1]

- Pertamina Grup melakukan daur ulang 7.066 baju seragam yang dikumpulkan 1.834 pekerja. Pelaksanaan kegiatan sejalan dengan program *sustainable fashion* dengan tagline 'Give Your Uniform a Second Life', yang bertujuan membudayakan gaya hidup berkelanjutan guna mendukung penerapan ekonomi sirkular dan pengurangan emisi GRK cakupan 3. Total limbah dari program daur ulang baju seragam ini sekitar 2,22 ton dan dikalkulasi sebagai penghematan emisi karbon setara 41,82 ton CO₂e.
- PT Pertamina Hulu Mahakam (PHM) meluncurkan program ekonomi sirkular bernama "Untuk Bumi Kita" (UBUKI). Program ini mengelola pakaian kerja pekerja migas, atau pakaian *coverall* bekas pakai, untuk dimanfaatkan menjadi produk yang lebih bernilai ekonomis seperti sepatu, *pouch*, atau produk lainnya.
- PT Kilang Pertamina Internasional Refinery Unit III Plaju memanfaatkan barang bekas limbah non-B3 berupa 158 palet plastik bekas alas produk *polypropylene* (bijih plastik) untuk dipasang di pinggiran kolam budidaya ikan air tawar sebagai penahan erosi dinding kolam. Upaya ini mampu memperpanjang siklus hidup limbah yang sebelumnya langsung dibuang ke Tempat Pembuangan Akhir (TPA) untuk dimanfaatkan kembali.
- Pemanfaatan kembali pelumas bekas yang dimanfaatkan sebagai bahan baku untuk *co-processing*.

Pertamina Group gradually encourages subholding and service/portfolio subsidiary to implement circular economy in waste management through reduce, reuse, recycle, remanufacturing (*refurbish*), and use of renewable materials (*renew*). Some of the circular economy activities carried out during 2024 include: [ENV-7A1]

- Pertamina Group recycled 7,066 uniforms collected by 1,834 employees. The initiative was implemented in line with the sustainable fashion program with the tagline 'Give Your Uniform a Second Life', which aims to cultivate a sustainable lifestyle to support the circular economy and the reduction of scope 3 GHG emissions. The total waste from the uniform recycling program was approximately 2.22 tons and calculated as carbon emission savings equivalent to 41.82 tons of CO₂e.
- PT Pertamina Hulu Mahakam (PHM) launched a circular economy program called "Untuk Bumi Kita" (UBUKI). This program manages the workwear of oil and gas workers, or used coveralls, to be utilized into more economically valuable products such as shoes, pouches, or other products.
- PT Pertamina International Refinery Unit III Plaju utilizes non-hazardous waste in the form of 158 used plastic pallets for polypropylene (plastic seed) products to be installed on the edge of freshwater fish farming ponds as a retention barrier for the pond wall against erosion. This effort can extend the life cycle of waste that was previously dumped directly into landfill to be reused.
- Utilization of used lubricants as raw materials for *co-processing*.

- Pertamina Grup saat ini sedang mengembangkan dan uji coba program daur ulang botol plastik bekas pelumas.
- Pertamina Grup memiliki program BIOFERDOM yang merupakan singkatan dari 'Biosulfur Fertilizer Donggi Matindok, yaitu inovasi pengelolaan limbah biosulfur untuk mendukung Ketahanan Pangan yang Berkelanjutan. Melalui inovasi ini, biosulfur diproses di BIOFERDOM Plant yang berada di lokasi Unit Operasi Donggi Matindok Field (DMF). Biosulfur dicampur dengan Kotoran Sapi (KOHE) dan diolah menjadi pupuk organik siap pakai. BIOFERDOM kemudian didistribusikan kepada petani dan pemangku kepentingan lainnya. Melalui inovasi ini Perseroan berhasil menurunkan limbah non-B3 sebesar 238 ton.
- Pertamina Group is currently developing and piloting a recycling program for used lubricant plastic bottles.
- Pertamina Group has implemented the Biosulfur Fertilizer Donggi Matindok (BIOFERDOM) program, an innovation in biosulfur waste management to support Sustainable Food Security. Through this innovation, biosulfur is processed at the BIOFERDOM Plant at the Donggi Matindok Field (DMF) Operating Unit site. Biosulfur is mixed with cow manure (KOHE) and processed into ready-to-use organic fertilizer. BIOFERDOM is then distributed to farmers and other stakeholders. Through this innovation, the Company managed to reduce non-hazardous waste by 238 tons.

Tumpahan Minyak dan Penanganannya [OJK F.15][OG 11.81, 11.8.2][ENV-6.C1, 6.C2][EM-EP-160a.2]

[ENV-6.C3]

Oil Spills and Handling

Selama 2024, tidak terjadi tumpahan minyak/hidrokarbon besar. Adapun pada Subholding Upstream terjadi tumpahan minyak minor (di bawah 15 barel) sebanyak 4 kali dengan total volume 26,44 barel. Selain itu, tidak adanya tumpahan bahan kimia maupun non-hidrokarbon di lingkungan dalam jumlah signifikan, termasuk yang terjadi dalam proses pengangkutan oleh pihak ketiga.

[ENV-6.A1, 6.A2, 6.A3, 6.A4, 6.A5, 6.A6, 6.A7, 6.A8]

Dalam rangka memastikan kesiapan penanggulangan tumpahan minyak, Pertamina Grup secara berkala melakukan *assessment* kesiapan seluruh unit operasi melalui tim yang ditunjuk mengacu pada *tools* penanggulangan tumpahan minyak di perairan.

- *Assessment* kesiapan penanggulangan tumpahan minyak melalui *Oil Spill Emergency Response Readiness Assessment Tools* (OSERAT).
- Kerja sama regional antar unit operasi Pertamina Grup dan antar perusahaan di kawasan.
- Kerja sama dengan *provider* eksternal penyediaan sumber daya penanggulangan tumpahan minyak.

During 2024, there were no major oil/hydrocarbon spills. As for the Subholding Upstream, there were 4 minor oil spills (under 15 barrels) with a total volume of 26.44 barrels. In addition, there were no chemical or non-hydrocarbon spills in the environment in significant quantities, including those that occurred in the transportation process by third parties.

[ENV-6.A1, 6.A2, 6.A3, 6.A4, 6.A5, 6.A6, 6.A7, 6.A8]

In order to ensure the preparedness of oil spill response, Pertamina Group periodically assesses the preparedness of all operating units through a designated team referring to oil spill response tools in waters.

- Assessment of oil spill response preparedness through Oil Spill Emergency Response Readiness Assessment Tools (OSERAT).
- Regional cooperation between Pertamina Group's operating units and between companies in the region.
- Cooperation with external providers of oil spill response resources.

Jumlah Peristiwa Tumpahan Minyak
Number of Oil Spill Incidents

Tahun Year	Jumlah Kasus Number of Cases			Volume Tumpahan Minyak (Barel) Volume of Oil Spills (Barrel)
	1-15 Barrel	15-100 Barrel	>100 Barrel	
2024	4	-	-	39.37
2023*	12	-	-	39.88
2022*	90	-	-	88.92
2021	171	-	-	262.08
2020	191	-	-	378.38

*Penyajian kembali informasi (*restatement*). [GRI 2-4]
*Restatement of information.

Prosedur penanganan tumpahan minyak dan hidrokarbon dilakukan sesuai dengan Pedoman Penanggulangan Tumpahan Minyak di Perairan No.A-013/I00400/2009-S0; dan Pedoman Pengelolaan Keadaan Darurat, Crisis, dan Keberlangsungan Bisnis di Pertamina Grup No.A4.4-02/S00000/2024-S9 Revisi ke-0. Perseroan senantiasa mempersiapkan peralatan penanggulangan, tim atau personel, serta melakukan latihan berkala. Secara struktur organisasi, tanggung jawab penanganan tumpahan minyak dan hidrokarbon ditetapkan berjenjang dari level terendah di unit operasi/unit bisnis hingga level tertinggi di holding, yang bertanggung jawab kepada Direktur Utama Perseroan. [ENV-6.C3, 6.C4]

Procedures for oil and hydrocarbon spill response are carried out in accordance with the Guidelines for Oil Spill Response in Waters No.A-013/I00400/2009-S0; and Guidelines for Emergency, Crisis, and Business Continuity Management at Pertamina Group No.A4.4-02/S00000/2024-S9 Revision 0. The Company always prepares response equipment, teams or personnel, and conducts regular training. In terms of organizational structure, the hierarchy of responsibility for oil and hydrocarbon spill is established from the lowest level in the operating unit/business unit to the highest level in the holding company, and reports to the President Director. [ENV-6.C3, 6.C4]

Perlindungan dan Konservasi Keanekaragaman Hayati [OJK F.9][OG 11.4.1][ENV-3.C1, 3.C2]

Protecting and Conserving Biodiversity

Kegiatan yang dijalankan unit operasi/unit bisnis Pertamina Grup, termasuk distribusi dan penjualan produk migas berdampak terhadap keanekaragaman hayati, baik distribusi dan penjualan migas melalui pipa di daratan maupun perairan. Selain itu, transportasi migas menggunakan kapal berpotensi menimbulkan pertukaran biota laut yang terbawa saat kapal melakukan proses *ballast* dan *deballasting*. [ENV-3.A3]

Activities carried out by Pertamina Group's operating units/business units, including the distribution and sales of oil and gas products, have an impact on biodiversity, both distribution and sales of oil and gas through onshore and offshore pipelines. In addition, oil and gas transportation by vessels has the potential to cause the exchange of marine biota that is carried while ballasting and deballasting. [ENV-3.A3]

Sampai dengan akhir 2024, Pertamina Grup memiliki 205 kegiatan terkait keanekaragaman hayati. Pengungkapan informasi tentang hal ini disampaikan di halaman 115 tentang Konservasi Keanekaragaman Hayati. [ENV-3.A2]

Until the end of 2024, Pertamina Group had 205 biodiversity-related activities. Disclosure of this information can be found on page 115 regarding Biodiversity Conservation. [ENV-3.A2]

Dampak Kegiatan Operasi terhadap Keanekaragaman Hayati [OJK

F.9][GRI 304-1, 304-2][OG 11.4.2, 11.4.3][ENV-3.C3][ENV-4.A1, 4.C1, 4.C2][EM-EP-160a.3]

Impact of Operations on Biodiversity

Sebagian wilayah operasi Pertamina Grup berada dan/atau berdekatan dengan kawasan dilindungi/kawasan bernilai keanekaragaman hayati tinggi. Perseroan memastikan bahwa kegiatan di wilayah operasionalnya telah dilengkapi dokumen perizinan dari Kementerian Lingkungan Hidup, serta menerapkan hierarki mitigasi: *avoid, minimize, restore, offsetting*, dengan memperhatikan ketentuan yang mengatur kegiatan inventarisasi dan verifikasi kawasan dengan nilai keanekaragaman hayati tinggi. Sampai dengan akhir 2024, Pertamina Grup melakukan konservasi di area seluas 101.033,15 Ha. [GRI 304-3]

Some of Pertamina Group's operational areas are located in or adjacent to protected areas or those with high biodiversity value. The Company ensures that activities in its operational areas are equipped with licensing documents from the Ministry of Environment, and applies the mitigation hierarchy: *avoid, minimize, restore, offsetting*, by taking into account the provisions on inventory and verification activities of areas with high biodiversity value. Until the end of 2024, Pertamina Group has conserved an area of 101,033.15 Ha. [GRI 304-3]

Luas Wilayah Konservasi yang Dikelola oleh Pertamina Grup Berdasarkan Segmen Bisnis (Ha)

Conservation Area Managed by Pertamina Group Based on Business Segment (Ha)

Segmen Bisnis Business Segment	2024	2023	2022
SH Upstream	91,760.64*	18,568.48	13,511.37
SH Refining & Petrochemical	4,578.37	12,502.94	12,638.36
SH Commercial & Trading	4,580.74	4,580.74	4,580.74
SH Power & NRE	54.60	26.65	24.63
SH Gas	58.80	58.80	55.71
Jumlah Total	101,033.15	35,737.61	30,810.81

*Peningkatan luas wilayah konservasi yang signifikan disebabkan karena adanya penambahan kerja sama konservasi.
*The significant increase in conservation area is due to the addition of conservation cooperation.

Wilayah Operasi Perseroan yang Berada/Berdekatan dengan Kawasan Dilindungi/Nilai Keanekaragaman Hayati Tinggi
 The Company's Operating Areas Located in/Adjacent to Conservation Areas/High-Biodiversity Areas

Segmen Upstream Upstream Segment	
Blok ONWJ ONWJ Block	<p>Seluas 71,5 km² dari WK di perairan Kabupaten Kepulauan Seribu berada di Kawasan Taman Nasional Kepulauan Seribu.</p> <p>A 71.5 km² area of WK in the waters of the Thousand Islands Regency located in the Thousand Islands National Park.</p>
Jambi Merang	<p>Wilayah Kerja PHE Jambi Merang beririsan dengan Kawasan Taman Nasional Sembilang, namun hingga saat ini, PHE Jambi Merang tidak melakukan aktivitas di dalam area Taman Nasional Sembilang.</p> <p>The Jambi Merang PHE Working Area overlaps with the Sembilang National Park, but to date, PHE Jambi Merang has not performed any activities within the Sembilang National Park.</p>
Blok OSES OSES Block	<p>Wilayah Kerja terluar PHE OSES di perairan Laut Jawa, berbatasan dengan Taman Nasional Kepulauan Seribu di Tenggara dan Taman Nasional Way Kambas di Barat.</p> <p>The outer Working Area of PHE OSES in the waters of the Java Sea, bordering the Thousand Islands National Park in the southeast and the Way Kambas National Park in the west.</p>
Sanga-Sanga	<p>Wilayah Kerja PEP Sanga-Sanga <i>Field Area</i> Samboja berbatasan dengan Taman Nasional Bukit Soeharto.</p> <p>PEP Sanga-Sanga Field Working Area of Samboja borders Bukit Soeharto National Park.</p>
Donggi Matindok	<p>Wilayah Kerja PEP Donggi Matindok <i>Field</i> berbatasan dengan Taman Keanekaragaman Hayati Kokolomboi, Banggai Kepulauan, Sulawesi Tengah.</p> <p>PEP Donggi Matindok Field Working Area overlaps with the Kokolomboi Biodiversity Park, Banggai Islands, Central Sulawesi.</p>
Sangata	<p>Wilayah Kerja PEP Sangatta <i>Field</i> beririsan dengan Kawasan Taman Nasional Kutai.</p> <p>PEP Sangatta Field Working Area overlaps with the Kutai National Park.</p>
Rokan	<p>Wilayah Kerja PHR beririsan dengan Taman Hutan Raya Sultan Syarif Hasyim pada Wilayah Operasi Minas Siak dan beririsan dengan Suaka Margasatwa Balairaja pada wilayah operasi Bekasap Rokan.</p> <p>PHR Working Area overlaps with the Sultan Syarif Hasyim Grand Forest Park in Minas Siak Operating Area, and it overlaps with the Balairaja Wildlife Sanctuary in the Bekasap Rokan operating area.</p>
Segmen Power New dan Renewable Energy Power New and Renewable Energy Segment	
Kamojang	<p>PGE Area Kamojang bersilangan serta berdekatan dengan Wilayah Hutan Lindung (HL) Rakutakpulus dan Taman Wisata Alam (TWA) Kawah Kamojang, Kabupaten Bandung dan Kabupaten Garut, Jawa Barat.</p> <p>PGE Kamojang Area intersects and is adjacent to the Rakutakpulus Protection Forest and Kamojang Crater Nature Park, Bandung Regency and Garut Regency, West Java.</p>
Lumut Balai	<p>PGE Area Lumut Balai bersilangan serta berdekatan dengan Wilayah Hutan Lindung (HL) Bukit Jambul - Bukit Nanti, Provinsi Sumatra Utara.</p> <p>PGE Lumut Balai Area intersects with and is adjacent to the Bukit Jambul - Bukit Nanti Protected Forest Area, North Sumatra Province.</p>
Karaha	<p>PGE Area Karaha bersilangan serta berdekatan dengan Wilayah Hutan Lindung (HL) Gunung Galunggung, Desa Linggajati, Kecamatan Sukaratu, Kabupaten Tasikmalaya, Jawa Barat.</p> <p>PGE Karaha Area intersects with and is adjacent to the Mount Galunggung Protected Forest, Linggajati Village, Sukaratu District, Tasikmalaya Regency, West Java.</p>
Hululais	<p>PGE Area Hululais bersilangan serta berdekatan dengan Wilayah Hutan Lindung (HL) Bukit Gedang dan Hutan Lindung (HL) Ketahun, Kabupaten Wonogiri, Jawa Tengah.</p> <p>PGE's Hululais Area intersects with and is adjacent to Bukit Gedang and Ketahun protected forests, Wonogiri Regency, Central Java.</p>
Ulubelu	<p>PGE Area Ulubelu bersilangan serta berdekatan dengan Wilayah Hutan Lindung (HL) Bukit Rindingan, Provinsi Lampung.</p> <p>PGE's Ulubelu Area intersects with and is adjacent to the Bukit Rindingan Protected Forest, Lampung Province.</p>
Sibayak	<p>PGE Area Sibayak bersilangan serta berdekatan dengan Wilayah Tahura Bukit Barisan, Sumatra Utara.</p> <p>PGE's Sibayak Area intersects with and is adjacent to Bukit Barisan Forest Park, North Sumatra.</p>

Sampai dengan akhir 2024, Pertamina Grup telah mempersiapkan beberapa proyek pengembangan energi. Berdasarkan studi dan analisis yang dilakukan, tidak ada proyek pengembangan yang berlokasi di dalam dan/atau berdekatan dengan kawasan dilindungi/kawasan bernilai keanekaragaman hayati tinggi. [ENV-4.A2]

Until the end of 2024, Pertamina Group has prepared several energy development projects. The study and analysis that have been conducted showed no development projects located within or adjacent to protected or high biodiversity value areas. [ENV-4.A2]

Perlindungan terhadap Warisan Dunia Preserving World Heritage

Pertamina Grup berkomitmen untuk mengelola dampak operasionalnya terhadap kawasan yang dilindungi secara internasional, termasuk Situs Warisan Dunia UNESCO, baik alam maupun budaya. Saat ini, tidak ada area operasi Pertamina Grup yang berdekatan atau bersinggungan dengan UNESCO World Heritage Natural Sites. Selain itu, berdasarkan data yang ada, terdapat 8 lokasi operasional yang tumpang tindih dengan area konservasi dan 17 lokasi yang berdekatan dengan area konservasi dalam radius kurang dari satu kilometer.

Pertamina Group is committed to managing its operational impacts on internationally preserved areas both natural and cultural, including UNESCO World Heritage Sites. Currently, Pertamina Group has no operating areas that are adjacent to or intersect with UNESCO World Heritage Natural Sites. Based on available data, eight operational sites overlap with conservation areas, and 17 sites are adjacent to conservation areas less than one kilometer radius.

Konservasi Keanekaragaman Hayati Biodiversity Conservation

Perlindungan keanekaragaman hayati dijalankan Pertamina Grup sebelum kegiatan operasional berlangsung, dan dilaksanakan mengacu pada standar International Union for Conservation of Nature (IUCN) dan IPIECA untuk mencapai *net positive impact*. Langkah lain adalah melakukan MoU terkait kesepakatan luasan wilayah dengan pihak ketiga sesuai dengan ketentuan dari Kementerian. Kami melakukan identifikasi spesies *endemic* dan/atau spesies dilindungi, diikuti pemindahan ke kawasan konservasi yang sudah disiapkan ataupun kawasan lain yang tidak terdampak kegiatan operasi. Seluruh tahapan kegiatan dijalankan dengan melibatkan pihak-pihak berwenang, termasuk Balai Konservasi dan Sumber Daya Alam (BKSDA) maupun Dinas Lingkungan Hidup setempat yang disertai pelaporan berkala.

Biodiversity conservation is carried out by Pertamina Group prior to operational activities, and is carried out in accordance with the International Union for Conservation of Nature (IUCN) and IPIECA standards to achieve a net positive impact. Another measure is to conduct MoUs related to area agreements with third parties under the provisions of the Ministry. We have identified endemic species and protected species, followed by their relocation to designated conservation areas or other areas that are not affected by our operations. All stages of activities are carried out with the involvement of the authorities, including the Natural Resources and Conservation Center (BKSDA) and the local Environmental Agency, with regular reporting.

Pertamina Grup juga melakukan kerja sama dengan pihak ketiga untuk menjalankan rehabilitasi lahan sesuai situasi dan kondisi lahan tersebut. Kegiatan ini diprioritaskan untuk flora yang akan menjadi sumber pakan fauna yang akan dipindahkan. Identifikasi spesies dilindungi dilakukan mengacu pada Peraturan Menteri Lingkungan Hidup dan Kehutanan Nomor P.106/MENLHK/SETJEN/KUM.1/12/2018 dan Daftar Merah (*Red List*) IUCN. Sampai akhir 2024, Pertamina Grup telah melindungi 248 spesies fauna dan 300 spesies flora, meningkat dibandingkan tahun sebelumnya karena adanya penambahan kerja sama dengan pihak ketiga seperti LSM maupun pemerintah daerah.

Pertamina Group also cooperates with third parties to rehabilitate the land according to its situation and condition. The activities are prioritized for flora as feed source for fauna that will be relocated. Identification of protected species is carried out referring to the Regulation of the Minister of Environment and Forestry Number P.106/MENLHK/SETJEN/KUM.1/12/2018 and the IUCN Red List. Until the end of 2024, Pertamina Group has conserved 248 species of fauna and 300 species of flora, an increase compared to the previous year due to additional cooperation with third parties such as NGOs and local governments.

Jumlah Spesies Dilindungi sesuai Status Berdasarkan IUCN Red List
 Number of Protected Species by Status Based on the IUCN Red List

Status	Fauna			Flora		
	2024	2023	2022	2024	2023	2022
Kritis atau Sangat Terancam Critically Endangered (CR)	15	6	6	8	8	8
Terancam Endangered (EN)	28	17	17	27	5	5
Rentan Vulnerable (VU)	31	20	20	38	27	27
Hampir Terancam Near Threatened (NT)	9	9	9	23	12	12
Risiko Rendah Least Concern (LC)	165	84	84	204	132	132
Jumlah Total	248	136	136	300	184	184



Kegiatan Konservasi Tahun 2024

Sepanjang 2024, Pertamina Grup melaksanakan beberapa kegiatan konservasi flora dan fauna, di antaranya:

1. Ikan Belida Lopis (*Chitala lopis*) dan Belida Jawa (*Notopterus notopterus*)

PT Kilang Pertamina Internasional (KPI) – RU III Plaju memiliki program keanekaragaman hayati yaitu Inovasi Perlindungan Keanekaragaman Hayati Penerapan Teknologi Kriopreservasi pada semen ikan Belida Lopis (*Chitala lopis*) dan Belida Jawa (*Notopterus notopterus*). Berdasarkan IUCN, Ikan Belida Lopis berstatus “*Extinct*”. Sementara menurut PermenLHK Nomor P.106/MENLHK/SETJEN/KUM.1/12/2018, Ikan Belida Lopis dan Belida Jawa berstatus dilindungi. RU III Plaju bersama dengan BRIN mengembangkan teknologi inovasi kriopreservasi, yakni metode pengkoleksian sperma (semen) ikan belida dengan tujuan untuk melestarikan genetika dari spesies unggulan ikan belida. Inovasi ini menurunkan tingkat mortalitas spesies hingga 30-50% sehingga terdapat peningkatan fauna dari 2023 sebanyak 114 ekor menjadi 177 ekor di 2024.

2. Tuntong Laut (*Batagur borneoensis*)

Tuntong laut (*Batagur borneoensis*) terdaftar sebagai satwa langka yang terancam punah (CR) menurut IUCN. Sementara itu berdasarkan SK Bupati Aceh Tamiang Nomor 63 Tahun 2014, tuntong laut berstatus dilindungi. Program konservasi yang telah dilakukan adalah Tuntong BIOEDU Tourism. Jumlah tuntong laut yang berhasil dilepasliarkan sebanyak 4.767 dari 2018 hingga 2024.

3. Monyet Yaki (*Macaca nigra*)

PGE memiliki program konservasi monyet yaki, *endemic* hewan yang berada di area Lahendong, yaitu Program Inovasi Lestari Manimpang “Mapalus” Torang Lestarikan dan Lindungi Monyet Yaki. Program ini menggandeng Balai Konservasi Sumber Daya Alam (BKSDA) Sulawesi Utara dan Yayasan Masarang di Pusat Penyelamatan Satwa (PPS) Tasikoki, Minahasa Utara, Sulawesi Utara. Program dilakukan dengan rehabilitasi monyet yaki yang didapatkan dari sitaan masyarakat dan perdagangan satwa liar di wilayah Sulawesi Utara. Terhitung sejak 2020 hingga 2024, terdapat 21 ekor monyet yaki yang dikonservasi dan 12 ekor yang dilepas liarkan dengan total luasan lahan rehabilitasi sebesar 6,94 Ha.

Conservation Activities in 2024

During 2024, Pertamina Group carried out several flora and fauna conservation activities, including:

1. Belida Lopis (*Chitala lopis*) and Javanese Belida (*Notopterus notopterus*) Fish

PT Kilang Pertamina Internasional (KPI) - RU III Plaju has made an innovation in biodiversity conservation by applying Cryopreservation Technology on semen of Belida Lopis (*Chitala lopis*) and Belida Jawa (*Notopterus notopterus*). The IUCN listed the status of Lopis Belida fish as “*extinct*”. Meanwhile, according to the Minister of Environment and Forestry Regulation No. P.106/MENLHK/SETJEN/KUM.1/12/2018, Belida Lopis and Belida Jawa are protected. RU III Plaju, together with BRIN, developed an innovation in cryopreservation technology, which is a method of collecting belida sperm (semen) to preserve the genetics of the superior species of belida fish. This innovation reduces the mortality rate of the species by 30-50%, resulting in an increase in fauna from 114 fish in 2023 to 177 fish in 2024.

2. Sea Turtle (*Batagur borneoensis*)

The painted terrapin or locally known as sea turtle (*Batagur borneoensis*) is listed as Critically Endangered (CR) by the IUCN. Based on Aceh Tamiang Regent Decree No. 63/2014, the painted terrapin has 'protected' status. The conservation program that has been carried out is Tuntong BIOEDU Tourism. The accumulated number of sea turtles successfully released from 2018 to 2024 was 4,767.

3. Yaki Monkeys (*Macaca nigra*)

PGE has a conservation program for yaki monkeys, an endemic animal in the Lahendong area, called the Manimpang Sustainable Innovation Program “Mapalus” Torang Lestarikan dan Lindungi Monyet Yaki. This program partners with the North Sulawesi Natural Resources Conservation Agency (BKSDA) and the Masarang Foundation at the Tasikoki Animal Rescue Center (PPS), North Minahasa, North Sulawesi. The program is carried out by rehabilitating yaki monkeys from confiscations and wildlife trade in the North Sulawesi region. From 2020 to 2024, a total of 21 yaki monkeys were conserved while 12 were released with a total rehabilitation area of 6.94 hectares.

4. Orangutan Kalimantan (*Pongo pygmaeus*)

Orangutan memiliki peran penting sebagai Spesies Payung (*Umbrella Species*) dengan membantu meregenerasi hutan untuk menyeimbangkan kebutuhan hidup spesies lain di hutan, termasuk kebutuhan manusia akan udara segar, air bersih, dan perlindungan tanah. Orangutan Kalimantan (*Pongo pygmaeus*) terdaftar sebagai Sangat Terancam Punah dalam Daftar Merah Spesies Terancam Punah IUCN, yaitu karena perusakan habitat, degradasi, dan fragmentasi karena penebangan liar, konversi hutan untuk dijadikan lahan pertanian dan pertambangan, serta kebakaran hutan dan berburu untuk perdagangan satwa liar ilegal.

Pertamina Grup dengan anak perusahaannya yaitu PT Pertamina EP Tanjung Field, PT Pertamina EP Sangasanga Field, dan PT Pertamina EP Sangatta Field (PEP TSS) bekerja sama dengan Yayasan Borneo Orangutan Survival untuk mendukung keberlangsungan hidup orangutan yang terancam melalui program:

a. Konservasi Habitat Orangutan

PEP TSS bekerja sama dalam penanaman dan perawatan pohon sebanyak 4.800 anakan pohon (tanaman utama) pada hutan sekunder. Tujuan dari program ini adalah untuk menyediakan pakan dan sarang bagi Orangutan Kalimantan ke depannya, sarana berlatih orangutan sebelum dilepasliarkan, meningkatkan keragaman jenis tanaman yang memiliki usia tanam panjang, serta memberikan manfaat kepada lingkungan secara hidrologis, klimatologis, dan ekologis.

b. Konservasi Rehabilitasi Orangutan

Tujuan rehabilitasi adalah untuk membekali orangutan yatim dengan keterampilan yang mereka butuhkan untuk bertahan hidup begitu mereka cukup dewasa untuk dilepasliarkan kembali ke hutan. PEP TSS mendukung program rehabilitasi untuk tiga orangutan bernama Otan, Serge, dan Feruza. Kerja sama ini sangat membantu dalam melakukan kegiatan harian dan aktivitas dalam proses Rehabilitasi. PT Pertamina EP Sangatta Field juga berkolaborasi dengan Taman Nasional Kutai (TNK) dalam upayanya untuk melakukan konservasi orangutan, khususnya pada wilayah

4. Orangutan Kalimantan (*Pongo pygmaeus*)

Orangutans play an important role as an Umbrella Species by helping regenerate forests to balance the needs of other species, including human needs for fresh air, clean water, and soil protection. The Bornean Orangutan (*Pongo pygmaeus*) is listed as Critically Endangered on the IUCN Red List of Endangered Species, due to habitat destruction, degradation, and fragmentation from illegal logging, forest conversion for agriculture and mining, as well as forest fires and poaching for the illegal wildlife trade.

Pertamina Group, with its subsidiaries PT Pertamina EP Tanjung Field, PT Pertamina EP Sangasanga Field, and PT Pertamina EP Sangatta Field (PEP TSS), collaborates with Borneo Orangutan Survival Foundation to support the survival of threatened orangutans through the following program:

a. Orangutan Habitat Conservation

PEP TSS collaborates in planting and maintaining 4,800 tree saplings (main plants) in secondary forests. The program aims to provide food and nests for Bornean orangutans in the future, a means of training orangutans before being reintroduced, increasing the diversity of plant species that have a long planting life, and providing benefits to the environment hydrologically, climatologically, and ecologically.

b. Orangutan Rehabilitation Conservation

The rehabilitation aims to equip orphaned orangutans with the skills they need to survive once they are old enough to be reintroduced to the forest. PEP TSS has been supporting the rehabilitation program for three orangutans: Otan, Serge, and Feruza. This collaboration has been very helpful in carrying out daily activities and activities in the Rehabilitation process. PT Pertamina EP Sangatta Field also collaborates with the Kutai National Park (TNK) in its efforts to conserve orangutans, especially in the Pertamina EP Sangatta Field working area, which directly intersects with TNK.

kerja Pertamina EP Sangatta Field yang berisikan langsung dengan TNK. Sangatta Field dalam hal ini sangat memperhatikan dan berkomitmen untuk terus menjaga keseimbangan ekosistem setempat, khususnya orangutan dengan berbagai program di antaranya Sangkima Jungle Park dan Petak Ukur Permanen (PUP) yang digunakan sebagai metode dalam konservasi orangutan di area TNK.

Sangatta Field, in this case, is very concerned and committed to continuously maintaining the balance of the local ecosystem, especially orangutans with various programs including Sangkima Jungle Park and Permanent Measurement Plots (PUP) which are used as methods in orangutan conservation in the TNK area.

5. Kantong Semar Sumatra (*Nepenthes sumatrana*)

PT Kilang Pertamina Internasional (KPI) - RU II Sungai Pakning memiliki Program Pengembangan Arboretum Gambut Marsawa yang telah menjadi rujukan konservasi flora *endemic* khas lahan gambut khususnya Kantong Semar Sumatra (*Nepenthes sumatrana*) berdasarkan *Red List* IUCN dengan status *Critically Endangered* (CR). *Nepenthes sumatrana* merupakan tumbuhan asli Sumatra dan mengalami penurunan populasi dalam beberapa dekade terakhir. Program yang dilakukan berupa *monitoring* dan evaluasi Program Keanekaragaman Hayati yang berfungsi sebagai alat untuk mengetahui perkembangan program pelestarian keanekaragaman hayati. Hal ini dilakukan untuk mengevaluasi dampak yang ditimbulkan suatu program apakah berdampak positif atau negatif bagi kondisi lingkungan tersebut.

5. Kantong Semar Sumatra (*Nepenthes sumatrana*)

PT Kilang Pertamina Internasional (KPI) - RU II Sungai Pakning has a Marsawa Peat Arboretum Development Program, which has become a reference for the conservation of endemic flora typical of peatlands, especially the tropical pitcher plant Kantong Semar Sumatra (*Nepenthes sumatrana*), based on the IUCN Red List with Critically Endangered (CR) status. *Nepenthes sumatrana* is native to Sumatra and its population has declined in recent decades. The program is carried out in the form of monitoring and evaluation of the Biodiversity Program which serves as a tool to determine the development of biodiversity conservation programs. It aims to evaluate whether a program has a positive or negative impact on the environment.

6. Anggrek

Program Konservasi Tanaman Anggrek Asli Indonesia dengan Siraman Otomatis merupakan program yang terbentuk karena PT Pertamina Gas Operation East Java Area (OEJA) berinisiatif dalam konservasi flora langka dan dilindungi di Indonesia, khususnya anggota famili *Orchidaceae*. Penambahan indeks kehati disebabkan adanya penambahan beberapa jenis anggrek di antaranya anggrek kasut berbulu, anggrek kelip, anggrek bulan Sulawesi, anggrek bulan raksasa, dan anggrek bulan Jawa di mana kelima jenis anggrek tersebut menurut PERMENLHK No. 106 Tahun 2018 termasuk kategori dilindungi. Bentuk konservasi adalah melalui pemeliharaan dan perawatan individu anggrek pada sebuah Rumah Anggrek yang dibangun di area ORF Permisan, Desa Permisan, Kab. Sidoarjo. Kebanyakan spesies anggrek dapat beradaptasi dengan berbagai kondisi iklim mikro.

6. Orchid

The Indonesian native orchid conservation program with automatic watering is created by PT Pertamina Gas Operation East Java Area (OEJA) as an initiative in the conservation of rare and protected flora in Indonesia, especially members of the *Orchidaceae* family. The addition of the kehati index is due to the addition of several types of orchids, including *Paphiopedilum glaucophyllum*, *Phalaenopsis violacea*, *Phalaenopsis celebensis*, *Phalaenopsis gigantea*, and *Phalaenopsis amabilis*. The five species of orchids according to the Minister of Environment and Forestry Regulation No. 106 of 2018 are included in the protected category. The form of conservation is through the maintenance and care of individual orchids in the Orchid House built in the Permisan ORF area, Permisan Village, Sidoarjo Regency. Most orchid species can adapt to different microclimate conditions.

7. Hiu Paus (*Rhincodon typus*)

PT Pertamina International Shipping (PIS) menginisiasi penggunaan teknologi *tagging* untuk mendukung pelestarian hiu paus (*Rhincodon typus*) di Taman Nasional Teluk Cenderawasih (TNTC), Kabupaten Nabire, Papua Tengah. Hasil data *monitoring* pergerakan hiu paus akan digunakan oleh PIS untuk mempelajari jalur migrasi hiu paus di perairan Papua dan menyesuaikan rute pelayaran kapal PIS agar tidak mengganggu jalur hiu paus.

8. Rehabilitasi Daerah Aliran Sungai (DAS) dan Lahan Kritis

- PT Pertamina EP melakukan rehabilitasi DAS dengan total lahan rehabilitasi mencapai 23,27 Ha di Gunung Tilu, Desa Girmukti, Kecamatan Kasokandel, Kabupaten Majalengka, Jawa Barat. Hampir 30% dari luasan total atau 6,27 Ha telah memasuki tahapan penanaman dan masa pemeliharaan. Sebanyak 3.918 bibit pohon telah ditanam untuk menjalankan revegetasi pasca-aktivitas hulu migas selain di area operasional PT Pertamina EP. Program ini melibatkan Kelompok Tani Hutan “Tani Mandiri” untuk berperan aktif mulai pembuatan bibit tanaman, penanaman hingga pemeliharaan yang akan berlangsung selama tiga tahun.
- PT Pertamina EP melaksanakan rehabilitasi/reboisasi pada lahan kompensasi di Desa Ngadirenggo, Kecamatan Wlingi, Kabupaten Blitar, Jawa Timur dengan total luas 148,63 Ha berdekatan dengan Petak 27 RPH Tembalang BKPH Wlingi KPH Blitar. Pada kegiatan tersebut, ditanam 183.771 bibit pohon dari berbagai jenis pohon.
- PT Pertamina International Shipping (PIS) mendukung kelestarian laut dan menjaga pesisir pantai nusantara dengan menanam 10.000 mangrove lewat program Tanggung Jawab Sosial dan Lingkungan (TJSL): BerSEnergi untuk Laut, yang dilaksanakan sejak 2023.

7. Whale Shark (*Rhincodon typus*)

PT Pertamina International Shipping (PIS) initiated the use of tagging technology to support whale shark (*Rhincodon typus*) conservation in Teluk Cenderawasih National Park (TNTC), Nabire Regency, Central Papua. The results of whale shark movement monitoring data will be used by PIS to study whale shark migration routes in Papuan waters and adjust the shipping routes of PIS vessels to avoid disturbing whale shark trails.

8. Watershed and Critical Land Rehabilitation

- PT Pertamina EP conducted watershed rehabilitation with a total area reaching 23.27 Ha in Mount Tilu, Girmukti Village, Kasokandel District, Majalengka Regency, West Java. Nearly 30% of the total area or 6.27 Ha has entered the planting and maintenance stages. A total of 3,918 tree seedlings have been planted for revegetation after upstream oil and gas activities apart from PT Pertamina EP's operational area. This program involves the Forest Farmer Group “Tani Mandiri” to play an active role from breeding, planting to maintenance that will take place for three years.
- PT Pertamina EP carried out rehabilitation/ reforestation on compensation land in Ngadirenggo Village, Wlingi District, Blitar Regency, East Java, with a total area of 148.63 Ha adjacent to Petak 27 RPH Tembalang BKPH Wlingi KPH Blitar. In this activity, 183,771 tree seedlings of various tree species were planted.
- PT Pertamina International Shipping (PIS) is supporting marine preservation and protecting the coastline of the archipelago by planting 10,000 mangroves through the Corporate Social Responsibility (CSR) program called BerSEnergi untuk Laut, which has been implemented since 2023.

Pembongkaran [ENV-8.C1, 8.C2]

Decommissioning

Pembongkaran anjungan migas lepas pantai yang tidak beroperasi (*decommissioning*) direncanakan melalui beberapa pendekatan dan metode. Pada 2024, Pertamina Grup bekerja sama dengan Korea National Oil Corporation (KNOC) dalam pengembangan Rig-to-CCS (*Rig-to-Carbon Capture Storage*) melalui penandatanganan *Joint Study Agreement*. Inisiatif ini berupa pengembangan teknologi untuk memanfaatkan anjungan migas lepas pantai yang sudah tidak dimanfaatkan lagi menjadi fasilitas CCS. Selain bentuk kepatuhan terhadap ketentuan pemerintah yang mengatur tentang *decommissioning* anjungan migas lepas pantai, diharapkan pengembangan *Rig-to-CCS* dapat mendukung target reduksi emisi GRK, serta membantu menyelesaikan masalah Indonesia pada *Abandonment and Site Restoration* (ASR) anjungan lepas pantai. [ENV-8.A1, 8.A2]

Selain itu, metode lain yang diterapkan adalah *Rig-to-LNG*, *Rig-to-Fish-Farm* serta *Rig to Reef Method*. Melalui pemantauan yang dilakukan Kementerian Kelautan dan Perikanan (KKP) diketahui, pertumbuhan karang yang positif, dan keberadaan satwa laut yang stabil di dalam dan sekitar terumbu yang dibentuk dari bekas Anjungan Attaka-EB. Secara berkelanjutan, kondisi ini diharapkan akan mendorong terciptanya efek berantai pertumbuhan ekonomi berupa peningkatan tangkapan nelayan dan ekonomi wisata penyelaman. [ENV-8.A3, 8.A4]

Decommissioning of offshore oil and gas platforms is planned through several approaches and methods. In 2024, Pertamina Group collaborated with Korea National Oil Corporation (KNOC) in the development of Rig-to-CCS (*Rig-to-Carbon Capture Storage*) through the signing of a *Joint Study Agreement*. This initiative is a technology development to utilize decommissioned offshore oil and gas platforms into CCS facilities. In addition to compliance with government regulations concerning the decommissioning of offshore oil and gas platforms, the Rig-to-CCS development is expected to support GHG emission reduction targets, as well as help solve Indonesia's problems with *Abandonment and Site Restoration* (ASR) of offshore platforms. [ENV-8.A1, 8.A2]

In addition, other methods applied are *Rig-to-LNG*, *Rig-to-Fish-Farm* and *Rig to Reef Method*. The monitoring conducted by the Ministry of Maritime Affairs and Fisheries (KKP) showed positive coral growth, and stable presence of marine animals in and around the reef formed from the former Attaka-EB platform. This is expected to create a sustainable multiplier effect of economic growth in the form of an increase in fishermen's catches and the economy of diving tourism. [ENV-8.A3, 8.A4]

Biaya Lingkungan Hidup [OJK F.4]

Environmental Cost

Biaya lingkungan hidup yang dikeluarkan Perseroan mencakup biaya pada kegiatan pencegahan dan penanganan dampak lingkungan hidup, termasuk biaya reduksi emisi.

Environmental costs incurred by the Company include costs for activities to prevent and mitigate environmental impacts, including emission reduction costs.

Biaya Lingkungan Hidup Berdasarkan Segmen Bisnis (Rp Miliar)
Environmental Cost Based on Business Segment (Billion Rp)

Segmen Bisnis Business Segment	2024	2023	2022
SH Upstream	1,135.98	1,134.43	1,157.66
SH Refining & Petrochemical	244.91	233.38	259.53
SH Commercial & Trading	128.46	108.09	78.92
SH Power & NRE	9.05	7.85	6.10
SH Gas	19.79	44.20	25.53
SH Integrated Marine Logistics	24.79	8.25	1.66
Holding	1,562.98	1,536.20	1,529.40

*Penyajian kembali informasi (*restatement*) karena adanya penambahan kegiatan operasi yang belum dilingkupi. [GRI 2-4]
*Restatement of information due to additional operations not yet covered.

Pengaduan terkait Lingkungan Hidup [OJK F.16]

Complaints Concerning Environment

Selama 2024, Perseroan melalui Pertamina *Call Center* (PCC) 135 menerima 1.679 pengaduan terkait pencemaran lingkungan hidup. Jumlah tersebut meliputi 5% dari total pengaduan yang disampaikan melalui PCC 135, dan menurun dari 2023 sebanyak 1.765 pengaduan. Seluruh pengaduan telah ditindaklanjuti Perseroan maupun entitas anak perusahaan.

Perseroan secara berkala mengumpulkan data mengenai denda atau hukuman nonfinansial berkaitan dengan pelanggaran terhadap regulasi lingkungan, seperti pencemaran udara atau air, pengelolaan limbah yang tidak sesuai dengan ketentuan, atau kerusakan terhadap ekosistem. Hukuman nonfinansial ini meliputi, namun tidak terbatas pada sanksi berupa pembatasan operasional, kewajiban untuk melakukan rehabilitasi lingkungan, atau kewajiban untuk mengikuti program perbaikan yang diselenggarakan oleh lembaga lingkungan. Data tersebut dikumpulkan dari seluruh unit yang ada di dalam grup perusahaan, untuk memastikan konsistensi dan kepatuhan terhadap peraturan yang berlaku. Selama 2024, Pertamina Grup tidak melakukan pembayaran denda karena pelanggaran aspek lingkungan yang dipersyaratkan pengadilan.

During 2024, the Company through Pertamina Call Center (PCC) 135 received 1,679 complaints on environmental pollution. The figure represents 5% of the total complaints submitted through PCC 135, and decreased from 1,765 complaints in 2023. All complaints have been followed up by the Company and its subsidiary.

The Company periodically collects data on non-financial fines or penalties related to violations of environmental regulations, such as air or water pollution, waste management that is not compliant with regulations, or damage to ecosystems. These non-financial penalties include, but are not limited to, sanctions in the form of operational restrictions, obligations to carry out environmental rehabilitation, or obligations to participate in remediation programs organized by environmental agencies. The data is collected from all units within the company group, to ensure consistency and compliance with applicable regulations. During 2024, Pertamina Group did not pay any fines for violations of environmental aspects required by the court.

Jumlah Keluhan/Pengaduan terkait Pengelolaan Lingkungan
 Number of Complaints on Environmental Management

Jenis Pengaduan Types of Complain	Jumlah Keluhan yang Diterima Number of Complaints Received			Persentase Keluhan Terselesaikan (%) Percentage of Complaints Resolved (%)		
	2024	2023	2022	2024	2023	2022
Kebocoran pipa instalasi Installation pipe leakage	1,617	1,716	133	100.00	100.00	100.00
Dugaan kebocoran jaringan Alleged leakage on the network	57	45	16			
Keluhan terkait pipa BBM Complaints related to fuel pipes	5	4	2			
Jumlah Total	1,679	1,765	151			



Kinerja Pengelolaan Sosial: Bersama dan Berkelanjutan Memperkuat Transisi Energi

Social Management Performance: Sustainably Strengthening the Energy Transition Together



Melalui kolaborasi yang erat, Pertamina Grup ingin memastikan bahwa transisi energi tidak hanya berdampak positif pada lingkungan, tetapi juga menciptakan manfaat sosial dan ekonomi bagi seluruh pemangku kepentingan, menjadikan keberlanjutan sebagai tujuan bersama.

Through close collaboration, Pertamina Group aims to ensure energy transition not only has a positive impact on the environment but also creates social and economic benefits for all stakeholders, making sustainability a common goal.



Memperkuat Lingkungan Kerja Layak dan Aman serta Keselamatan Proses [OJK F.21]

Strengthening Decent and Safe Work Environment and Process Safety

Salah satu pemangku kepentingan strategis untuk mendukung Perseroan mewujudkan transisi energi adalah para pekerja Pertamina Grup dan pekerja kontraktor/vendor/mitra kerja. Perseroan konsisten menciptakan lingkungan kerja layak dan aman bagi mereka, guna mendukung tercapainya aspirasi serta target yang ditetapkan.

One of the strategic stakeholders to support the Company in realizing the energy transition is Pertamina Group employees/workers and contractor/vendor/partner workers. The Company consistently creates a decent and safe working environment for them, to support the achievement of aspirations and targets that have been set.

Pengelolaan K3 dan Keselamatan Proses [GRI 403-1, 403-8]

OHS Management and Process Safety

Perseroan meningkatkan kinerja K3 dan keselamatan proses dengan menerapkan *Sustainability Pertamina Expectations for HSSE Management Excellence (SUPREME)*, yang berlaku untuk seluruh pekerja Pertamina Grup serta semua pihak yang terlibat dalam kegiatan operasional dan bisnis Pertamina Grup. SUPREME disusun berdasarkan standar nasional yakni Sistem Manajemen K3 (SMK3) sesuai Peraturan Pemerintah Nomor 50 Tahun 2012, dan Peraturan Polri Nomor 4 Tahun 2020 tentang Pengamanan Swakarsa. Adapun standar internasional yang diacu di antaranya ISO 45001, ISO 9001, ISO 26000, ISO 31000, dan ISO 39001. Secara berkala, Perseroan melakukan audit penerapan SUPREME, mencakup setiap entitas anak dan unit operasi/unit bisnisnya. Berdasarkan audit tahun 2024, diperoleh hasil 21 entitas yang memperoleh kategori *operate with manageable risk* dengan rincian 11 entitas berada pada kategori Kuning, 9 entitas berada pada kategori Hijau, dan 1 entitas berada pada kategori Hijau Tua. Hasil tersebut menunjukkan bahwa entitas yang diaudit telah melakukan kegiatan operasionalnya berdasarkan risiko yang telah dikelola dengan memadai. [SHS-1.C3][SHS-3.A4][EM-EP-320a.2]

The Company enhances OHS performance and process safety by implementing *Sustainability Pertamina Expectations for HSSE Management Excellence (SUPREME)*, which applies to all Pertamina Group employees, as well as all parties involved in Pertamina Group's operational and business activities. SUPREME is prepared based on national standards, OHS Management System (OHSMS) under Government Regulation No. 50 Year 2012, and National Police Regulation No. 4 Year 2020 on Private Security. The international standard references include ISO 45001, ISO 9001, ISO 26000, ISO 31000, and ISO 39001. The Company periodically audits the implementation of SUPREME, covering all subsidiaries and operating units/business units. Periodically, the Company conducts audits on the implementation of SUPREME, covering each subsidiary and its operating units/business units. Based on the 2024 audit, the results obtained were 21 entities that received the category of operating with manageable risks, with details of 11 entities in the Yellow category, 9 entities in the Green category, and 1 entity in the Dark Green category. These results indicate that the audited entities have carried out their operational activities based on risks that have been adequately managed. [SHS-1.C3][SHS-3.A4][EM-EP-320a.2]

Perseroan juga memiliki *Corporate Life Saving Rules (CLSR)* Pertamina, yang memuat 11 elemen untuk mendukung keselamatan dan kesehatan jiwa pekerja. Elemen-elemen tersebut adalah *Tools & Equipment, Safe Zone Position, Permit to Work, Isolation, Confined Space, Lifting Operation, Fit to Work, Working at Height, Personal Floatation Device, System Override, dan Asset Integrity*. Secara rutin Perseroan melakukan sosialisasi dan penyegaran CLSR kepada pekerja Pertamina Grup dan pekerja kontraktor/vendor/mitra kerja. [SHS-3.A3][EM-EP-320a.2]

The Company also implements Pertamina Corporate Life Saving Rules (CLSR), which contains 11 elements to support employees' safety and health. These elements are *Tools & Equipment, Safe Zone Position, Permit to Work, Isolation, Confined Space, Lifting Operation, Fit to Work, Working at Height, Personal Floatation Device, System Override, and Asset Integrity*. The Company regularly conducts dissemination and refreshment of CLSR to Pertamina Group employees and contractor/vendor/partner workers. [SHS-3.A3][EM-EP-320a.2]

Strategi Implementasi HSSE [SHS-6.A4][EM-EP-320a.2][EM-MD-540a.4][EM-RM-320a.2][EM-SV-320a.2]

HSSE Implementation Strategy

Strategi Perseroan menerapkan HSSE difokuskan pada budaya HSSE dengan mendorong setiap pekerja Pertamina Grup mampu menerapkan:

1. Budaya HSSE

Seluruh pekerja Pertamina Grup di mana pun ditugaskan harus mampu menempatkan budaya HSSE sebagai nilai dalam hidup sehingga akan selalu melekat dalam diri masing-masing;

a. HSSE Ethic and Compliance Culture

Seluruh pekerja Pertamina Grup harus menjunjung tinggi etika dalam berbisnis, *compliance*, dan *corporate governance* yang baik sehingga dapat terwujud budaya bersih, tanpa korupsi dan nepotisme; serta

b. HSSE Performance Culture

Seluruh pekerja Pertamina Grup memiliki kompetensi unggul di bidangnya masing-masing sehingga kompetitif dan memiliki mental juara dalam persaingan.

Penerapan HSSE dilaksanakan dengan mengedepankan pendekatan yang mengombinasikan antara *top-down* dan *bottom-up* dengan melibatkan seluruh personel, mulai dari *top manajemen, middle management, frontliner*, maupun kontraktor. Pendekatan *top-down* dan *bottom-up* yang terstruktur efektif untuk mengurangi risiko dan meningkatkan kinerja HSSE secara berkelanjutan.

The Company's strategy to implement HSSE is focused on HSSE culture by encouraging every Pertamina Group Officer to be capable of implementing:

1. HSSE Culture

All Pertamina Group workers, wherever assigned, must be able to incorporate HSSE culture as a value in life and will always be inherent in their respective roles;

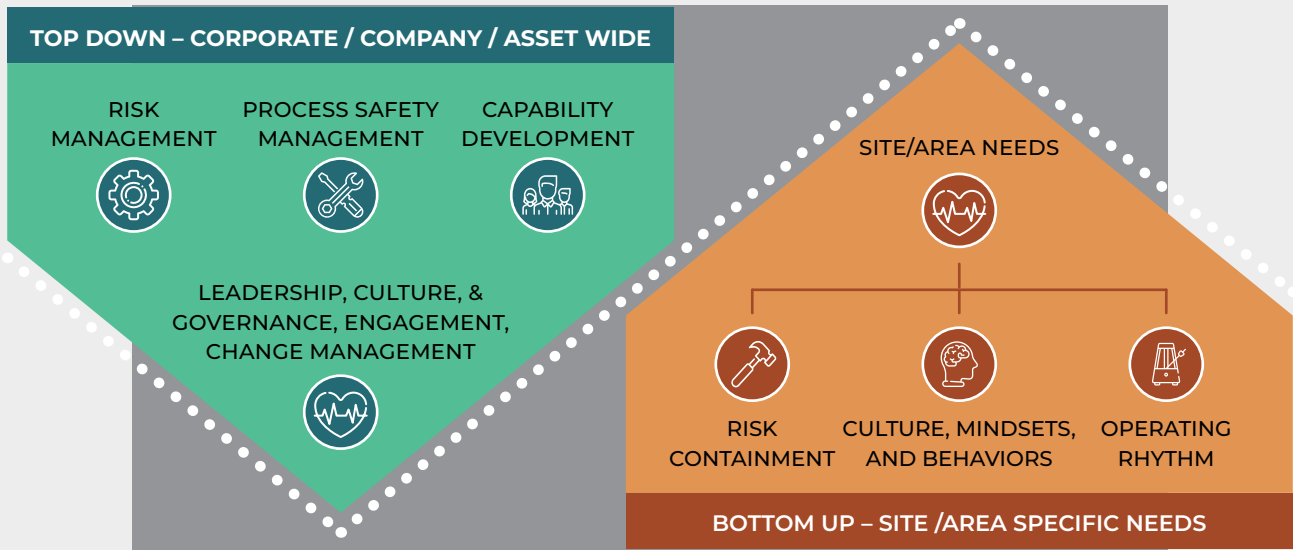
a. HSSE Ethic and Compliance Culture

All Pertamina Group workers must uphold ethics in business, compliance, and good corporate governance to ensure a clean culture, without corruption and nepotism; and

b. HSSE Performance Culture

All Pertamina Group workers excel in their respective fields to be competitive and have a winning mentality in competition.

The HSSE implementation prioritizes a combination of top-down and bottom-up approaches by involving all personnel, from top management, middle management, frontliners, and contractors. A structured top-down and bottom-up approach is effective in reducing risks and improving HSSE performance in a sustainable manner.



Inisiatif Peningkatan Kinerja HSSE [SHS-1.A1, 1.A2, 1.A3]

HSSE Performance Improvement Initiatives

Fungsi HSSE melanjutkan serangkaian inisiatif untuk meningkatkan kinerja keselamatan, guna mengatasi permasalahan aspek *people*, *process*, dan *plant* yang telah diidentifikasi. Penerapan inisiatif dilakukan berjenjang mulai dari holding, subholding, sampai anak perusahaan, disertai *surveillance* (pengawasan) berkesinambungan. Selain itu, dengan aktif tergabung dalam IOGP, IPA, dan asosiasi lainnya, Perseroan dapat mengikuti tren dan isu keberlanjutan untuk diadopsi dalam upaya mitigasi dan meningkatkan kinerja HSSE.

The HSSE function continues a series of initiatives to improve safety performance, to address identified people, process and plant issues. The initiatives are carried out in stages, starting from holding, subholding, to subsidiaries, with continuous surveillance. In addition, by actively joining IOGP, IPA, and other associations, the Company can keep up with trends and sustainability issues to be adopted in mitigation efforts and HSSE performance improvement.

Safety Leadership

Komitmen & Visibilitas Kepemimpinan terhadap Zero Accident

1. HSSE Performance dibahas secara rutin di BoD Meeting.
2. Monitoring tindak lanjut rekomendasi MWT.
3. Dokumentasi pelaksanaan oleh Leaders.
4. Dokumentasi conceding komitmen HSSE.

Leadership Commitment & Visibility towards Zero Accident

1. HSSE Performance is discussed regularly at BoD Meetings.
2. Monitoring the follow-up to MWT recommendations.
3. Documentation of implementation by Leaders.
4. Documentation of conceding OHS commitments.

Emergency & Crisis Management

Penguatan Pengelolaan Emergency & Crisis Management System

1. Program pengujian dan pemeliharaan fire equipment.
2. Laporan readiness fire equipment.
3. Pelaksanaan Major Emergency Drill.
4. Penyediaan personil dan peralatan emergency team yang siap 24 jam.

Strengthening Emergency Management & Crisis Management System

1. Fire equipment testing and maintenance program.
2. Fire equipment readiness report.
3. Implementation of Major Emergency Drill.
4. Providing emergency team personnel and equipment that is ready 24 hours.

Safety Culture

Budaya HSSE (*Occupational Safety & Process Safety*)

1. Tersedia program *Safety Leadership*.
2. Tersedia program HSSE *Role Modeling*.
3. Tersedia program kampanye HSSE rutin.
4. Pelaksanaan *medical check-up* (MCU) & *daily check-up* (DCU) bagi pekerja dan kontraktor.

HSSE (*Occupational Health & Process Safety*) Culture

1. *Safety Leadership* program available.
2. OHS *Role Modeling* program available.
3. Regular OHS campaign programs are available.
4. Implementation of MCU & DCU for workers and contractors.

Competence

Kompetensi dan Kapabilitas HSSE & Operasional

1. Tersedia program HSSE *Mandatory Training* dan sertifikasi keahlian/profesi yang efektif.
2. Program HSSE *Marshall*.
3. Tersedianya program pelatihan HSSE untuk Manajemen.
4. HSSE *Passport* diterbitkan bagi pekerja kontraktor.

OHS & Operational Competencies and Capabilities

1. Effective OHS *Mandatory Training* and skills/professional certification programs are available.
2. *Marshall* OHS Program.
3. Availability of OHS training programs for Management.
4. OHS *Passport* is issued to contractor workers.

Organization & Manpower

Organisasi & Kekosongan *Manpower* HSSE

1. Tersedianya *haul workload analysis* organisasi.
2. Hasil reviu efektivitas organisasi dalam pengelolaan PSAIMS.
3. Dokumen *job description* yang mempertimbangkan aspek HSSE.

OHS Organization & Manpower Vacancy

1. Availability of organizational *haul workload analysis*.
2. Results of a review of organizational effectiveness in managing PSAIMS.
3. *Job description* document that considers OHS aspects.

Life Saving Rules

Penguatan Implementasi *Corporate Life Saving Rules* (CLSR)

1. Tersedianya paket komunikasi CLSR untuk sosialisasi dan *training*.
2. *Safe Work Practice* dalam CLSR telah dikomunikasikan kepada pekerja dan kontraktor.
3. Tersedianya ahli HSSE untuk pekerjaan kritikal dan kompleks.

Strengthening the Implementation of *Corporate Life Saving Rules* (CLSR)

1. Availability of CLSR communication packages for socialization and *training*.
2. *Safe Work Practices* in CLSR have been communicated to workers and contractors.
3. Availability of OHS experts for critical and complex work.

Learning from Event

Sistem belajar dari kejadian secara *full cycle*

1. Pedoman LFE level holding dan subholding.
2. *Monitoring closed out* rekomendasi investigasi.
3. Materi LFE dari *recordable incident*.

Learning system from events in a full cycle

1. LFE Guidelines for holding and subholding levels.
2. *Monitoring closed out* investigation recommendations.
3. LFE material from *recordable incidents*.

Process Safety & Asset Integrity Management

Penguatan implementasi *Process Safety & Asset Integrity Management System* (PSAIMS)

1. Pedoman PSAIM level holding dan subholding.
2. Terdapat fungsi/tim task force yang ditunjuk sebagai *Assurance* PSAIM.

Strengthening the implementation of the *Process Safety & Asset Integrity Management System* (PSAIMS)

1. PSAIM Guidelines for holding and subholding levels.
2. There is a task force function/team designated as PSAIM *Assurance*.

Conduct of Operation

Pelaksanaan Operasi

1. Implementasi *task observation* dan *pre-use impaction*.
2. Tersedianya CCTV di ruang *control* dan lokasi kritikal terintegrasi dengan PICC.
3. Pelaksanaan audit HSSE MS untuk lokasi kritikal.
4. Pelaksanaan patrol secara berkala dengan detektor gas.

Implementation of Operations

1. Implementation of *task observation* and *pre-use impaction*.
2. Availability of CCTV in control rooms and critical locations integrated with PICC.
3. Implementation of OHS MS audits for critical locations.
4. Implementation of regular patrols with gas detectors.

Major Accident Risk Containment

1. Program *monitoring* risiko utama.
2. Daftar peralatan yang dikategorikan *Safety and Environmental Critical Element* (SECE).
3. Terdapat dokumen *performance standard* terhadap peralatan SECE.

1. Key risk monitoring program.
2. List of equipment categorized as SECE.
3. There is a performance standard document for SECE equipment.

<p>HSSE Management System</p> <p>Penguatan HSSE MS (SUPREME)</p> <ol style="list-style-type: none"> 1. Tersedianya program <i>training</i> SUPREME. 2. Terlaksananya pelatihan SUPREME. 3. Tersedianya dokumen pembentukan organisasi SUPREME. 4. Notulen pembahasan SUPREME dalam HSSE <i>Committee meeting</i>. <p>HSSE MS Strengthening (SUPREME)</p> <ol style="list-style-type: none"> 1. Availability of the SUPREME training program. 2. Implementation of SUPREME training. 3. Availability of documents for the formation of the SUPREME organization. 4. Minutes of SUPREME discussion at the OHS Committee meeting. 	<p>Community Emergency Response</p> <p>Hasil audit keselamatan dan evaluasi kecukupan <i>buffer zone</i>.</p> <ol style="list-style-type: none"> 1. Tersedianya <i>portable gas detector</i> di lokasi kritikal. 2. Kajian dan evaluasi pemasangan <i>early warning system</i> yang permanen. 3. Kerja sama penanggulangan keadaan darurat dengan pemangku kepentingan terkait. <p>Results of safety audits and evaluation of buffer zone adequacy.</p> <ol style="list-style-type: none"> 1. Availability of portable gas detectors in critical locations. 2. Study and evaluate the installation of a permanent early warning system. 3. Collaboration in handling emergencies with relevant stakeholders.
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Identifikasi Bahaya, Asesmen Risiko, dan Investigasi Insiden [GRI

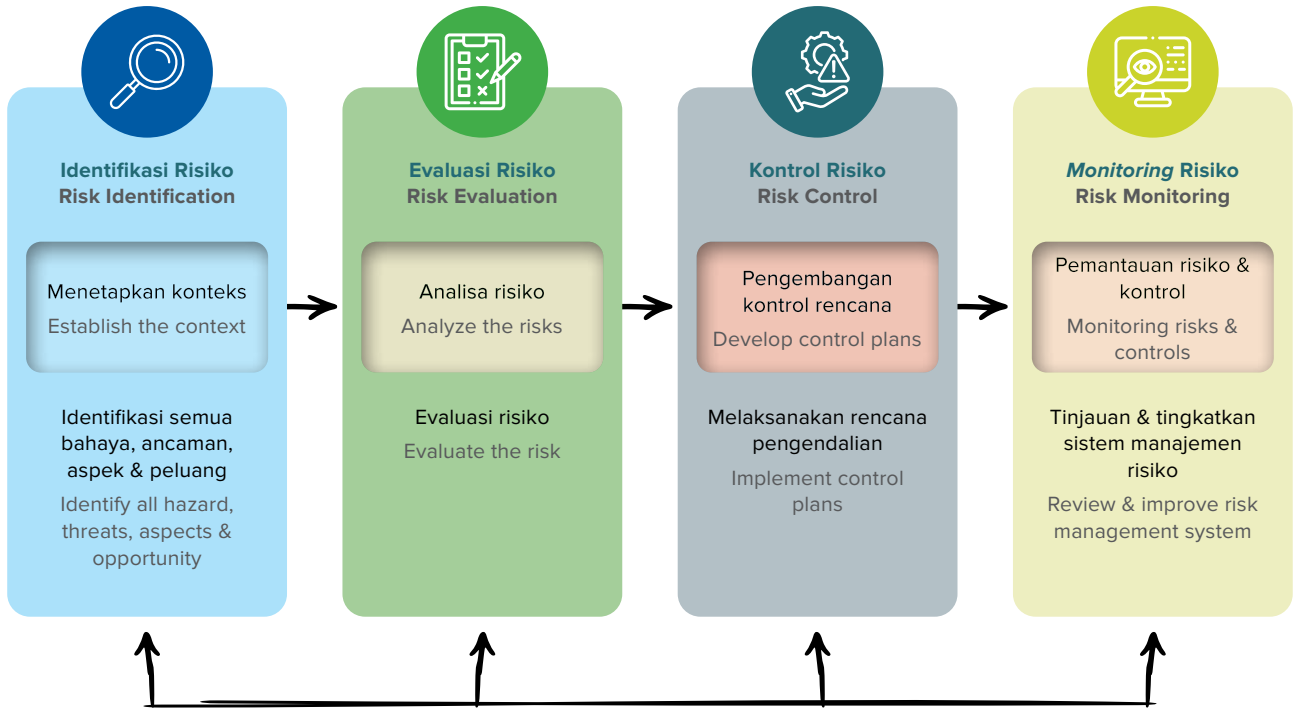
403-2][SHS-3.A4][SHS-6.C3][SHS-7.A2]

Hazard Identification, Risk Assessment and Incident Investigation

Identifikasi dan pengendalian risiko merupakan langkah penting pengelolaan K3 untuk mencegah kecelakaan dan penyakit akibat kerja (PAK). Pertamina Grup dan entitas anak perusahaan melakukan pendekatan yang disesuaikan dengan kondisi setiap perusahaan, yakni *Hazard Identification, Risk Assessment, and Determining Controls (HIRADC)* atau *Hazard Identification, Risk Assessment, and Risk Control (HIRARC)*. Perseroan berupaya menurunkan risiko ke tingkat yang dapat diterima atau *As Low as Possible Reasonably Practicable (ALARP)* dengan pengendalian risiko sesuai hierarki, yakni eliminasi, substitusi, *engineering control*, pengendalian administratif, serta alat pelindung diri (APD). Selain itu juga dibuat rencana pengendalian tambahan untuk menurunkan risiko sisa pada ALARP.

Risk identification and control are key elements of OHS management to prevent accidents and occupational diseases. Pertamina Group and its subsidiary apply the customized Hazard Identification, Risk Assessment, and Determining Controls (HIRADC) or Hazard Identification, Risk Assessment, and Risk Control (HIRARC) according to their condition. The Company attempts to reduce risks to an acceptable level or As Low as Possible Reasonably Practicable (ALARP) by controlling risks according to the hierarchy, namely elimination, substitution, engineering control, administrative control, and personal protective equipment (PPE). In addition, an additional control plan is also made to lower the residual risk of ALARP.

Pengelolaan Risiko K3 | OHS Risk Management



Manajemen Risiko Residual | Residual Risk Management

Catatan Risiko | Risk Records

Pelaksanaan investigasi diatur dalam sistem tata kelola penyelidikan insiden, dan dilakukan dalam sebuah tim dengan salah satu anggota memiliki kompetensi untuk menyelidiki insiden kecelakaan. Laporan hasil investigasi dilaporkan ke Direksi, pemegang saham dan pihak eksternal berwenang lainnya. Selama 2024, Perseroan telah melakukan investigasi terhadap seluruh insiden kecelakaan kerja yang terjadi, dan menerbitkan rekomendasi perbaikan sebagai upaya pencegahan. Perseroan memiliki mekanisme *stop work authority* yang memberi kewenangan kepada pekerja untuk menghentikan pekerjaan, apabila ada kondisi atau tindakan yang mengancam keselamatan mereka.

The implementation of investigations is regulated in the incident investigation governance system, and is conducted in a team with one member having the competence to investigate accident incidents. The results of the investigation are reported to the Board of Directors, shareholders and other authorized external parties. During 2024, the Company has investigated all incidents of work accidents that occurred, and issued recommendations for improvement as a preventive effort. The Company has a stop work authority mechanism that authorizes employees to stop work, if there are conditions or actions that threaten their safety.

Program Kesehatan Kerja [GRI 403-3, 403-8]

Occupational Health Program

Wilayah operasi Perseroan meliputi seluruh Indonesia serta mancanegara, dengan daya dukung sarana dan prasarana kesehatan yang beragam sehingga dapat mempengaruhi risiko terhadap kesehatan kerja dan pekerja pada entitas anak maupun unit operasi/unit bisnis Pertamina Grup di masing-masing lokasi. Selama 2024, terdapat beberapa upaya yang dilakukan Perseroan dan rumah sakit yang dikelola entitas anak: PT Pertamina Bina Medika IHC untuk mengurangi risiko tersebut. Kami juga bekerja sama dengan pihak berwenang di daerah maupun nasional, untuk pengendalian penyakit menular bersifat endemi maupun pandemi. Upaya yang dijalankan merujuk pada regulasi, di antaranya UU Nomor 17 Tahun 2023 tentang Kesehatan dan Peraturan Presiden No. 7 Tahun 2019 tentang Penyakit Akibat Kerja (PAK). [SHS-2.C1, 2.A3]

Beberapa upaya yang telah dijalankan Perseroan: [SHS-2.C2, 2.A4]

- Program *Health Risk Assessment* (HRA) atau Penilaian Risiko Kesehatan di lingkungan Pertamina Grup dilakukan untuk mengidentifikasi bahaya kesehatan di tempat kerja, mengkaji potensi risiko terhadap kesehatan pekerja, mempertimbangkan upaya pengendalian yang sudah ada, serta menentukan prioritas tindakan pengendalian lebih lanjut sesuai dengan tingkat risiko kesehatan atau kecelakaan. Program HRA yang dilaksanakan bertujuan untuk dapat menciptakan lingkungan kerja yang aman dan sehat ini didukung oleh aplikasi OHERA untuk mengidentifikasi faktor risiko utama.
- Program *Industrial Hygiene* yang merupakan tindak lanjut dari HRA juga telah dilaksanakan dengan mengukur potensi-potensi bahaya yang teridentifikasi, termasuk program *biological monitoring* berbasis risiko untuk memastikan kesehatan pekerja Pertamina Grup yang berisiko terpapar *hazard*.

All operating areas of the Company in Indonesia and foreign countries have diverse health facilities and infrastructure that can affect the risk of occupational health and employees in subsidiaries and operating units/business units of Pertamina Group in their respective sites. During 2024, the Company and hospitals managed by its subsidiary, PT Pertamina Bina Medika IHC, have made several efforts to reduce these risks. We also cooperate with regional and national authorities to control endemic and pandemic of communicable diseases. Our efforts comply with Law No. 17 of 2023 on Health and Presidential Regulation No. 7 of 2019 on Occupational Diseases. [SHS-2.C1, 2.A3]

The Company has made several efforts including: [SHS-2.C2, 2.A4]

- The Health Risk Assessment (HRA) program within Pertamina Group was conducted to identify health hazards in the workplace, assess potential risks to employee health, evaluate existing control measures, and determine priorities for further control measures based on the level of health or accident risk. The HRA program was implemented to create a safe and healthy work environment by using OHERA application to identify the key risk factors.
- The Industrial Hygiene Program which is a follow-up to the HRA has also been implemented by measuring the potential hazards identified, including a risk-based biological monitoring program to ensure the health of Pertamina Group employees who are at risk of exposure to hazards.

- Program *Fit to Work* untuk memastikan kebugaran setiap pekerja sehingga tetap produktif dan mencegah kecelakaan kerja, kecacatan, maupun kematian di tempat kerja. Pelaksanaan program meliputi pemeriksaan kesehatan (*medical check-up/MCU*) satu kali setiap tahun, pemeriksaan kesehatan harian (*daily check-up/DCU*) untuk pekerja dengan risiko tinggi, dan tindak lanjut hasil MCU. Pada 2024, seluruh pekerja Pertamina Grup telah melaksanakan MCU dan tindak lanjut MCU. [SHS-2.A2]
 - Melakukan pemantauan, evaluasi, serta keberhasilan program preventif yang dilakukan, melalui status derajat kesehatan (*health category*) untuk pekerja dan mitra kerja. Terdapat 7 kategori status derajat kesehatan, dengan ketentuan sebagai berikut:
 1. P1: Tidak ditemukan kelainan medis;
 2. P2: Ditemukan kelainan medis yang tidak serius;
 3. P3: Ditemukan kelainan medis, risiko kesehatan rendah;
 4. P4: Ditemukan kelainan medis bermakna yang dapat menjadi serius, risiko kesehatan sedang;
 5. P5: Ditemukan kelainan medis yang serius, risiko kesehatan tinggi;
 6. P6: Ditemukan kelainan medis yang menyebabkan keterbatasan fisik maupun psikis untuk melakukan pekerjaan sesuai jabatan/posisinya; dan
 7. P7: Tidak dapat bekerja untuk melakukan pekerjaan sesuai jabatan/posisinya dan/atau posisi apapun, dalam perawatan di rumah sakit, atau dalam status izin sakit.
 - Pertamina Grup melaksanakan audit program *Fit To Work* untuk memastikan dan memverifikasi bahwa proses dan implementasi program *Fit To Work* di Pertamina Grup telah sesuai dengan standar, peraturan perundangan, dan praktik terbaik yang berlaku.
 - Pertamina Grup juga menjalankan program *Ill-Health Management* yang bertujuan untuk melindungi kesehatan fisik dan mental pekerja; mencegah penyakit akibat kerja dan kondisi kesehatan yang diperburuk oleh pekerjaan; mendukung pekerja yang mengalami masalah kesehatan untuk pulih dan kembali bekerja dengan aman; meningkatkan produktivitas dan mengurangi absensi akibat sakit; serta menciptakan budaya kerja yang sehat.
- The *Fit to Work* program aims to maintain the fitness of every employee to remain productive and prevent workplace accidents, disabilities, and fatalities. The program implementation includes medical check-up (MCU) once every year, daily check-up (DCU) for employees with high risk, and follow-up of MCU results. In 2024, all Pertamina Group employees have undergone MCU and MCU follow-up. [SHS-2.A2]
 - Monitoring, evaluating, and the achievement of preventive programs through health category status for employees and partners. There are 7 categories of health status, as follows:
 1. P1: No medical disorders found;
 2. P2: Medical disorders that are not serious;
 3. P3: Medical disorders found, low health risk;
 4. P4: Significant medical abnormalities that could be serious, moderate health risk;
 5. P5: Serious medical disorder found, high health risk;
 6. P6: Medical disorder found that causes physical or psychological limitations to perform work according to his/her position; and
 7. P7: Unable to perform work according to his/her position and/or any position, under hospitalization, or under sick leave status.
 - Pertamina Group conducts *Fit To Work* program audits to ensure and verify that the process and implementation of the *Fit To Work* program at Pertamina Group complies with applicable standards, laws and regulations, and best practices.
 - Pertamina Group also carries out an *Ill-Health Management* program that aims to protect the physical and mental health of employees; prevent occupational diseases and health conditions that are aggravated by work; support employees who experience health problems to recover and return to work safely; increase productivity and reduce absenteeism due to illness; and create a healthy work culture.

- Pertamina Grup menyediakan akses layanan kesehatan kerja dengan menyediakan unit kesehatan kerja (UKK) di setiap lokasi kerja. Untuk juga menjamin kualitas layanan maka semua pekerja yang terlibat dalam proses kesehatan kerja telah mendapatkan pelatihan, kualifikasi, dan peralatan yang sesuai untuk menjalankan aktivitas kerja mereka.

- Pertamina Group provides access to occupational health services by establishing occupational health units (UKK) at each work site. In addition, to ensure the quality of services, all employees involved in the occupational health process have received training, qualifications, and adequate equipment to carry out their work activities.

Pertamina menyertakan seluruh pekerja pada program jaminan pemeliharaan kesehatan BPJS Kesehatan dan program kesehatan lain yang diselenggarakan oleh Yayasan Kesehatan Pertamina. Di 2024, jumlah iuran kepesertaan BPJS Kesehatan mencapai Rp10,09 miliar sedangkan dana untuk layanan kesehatan yang dikelola Yayasan Kesehatan Pertamina mencapai Rp169,58 miliar. Melalui kedua program tersebut, pekerja Pertamina Grup mendapatkan akses layanan kesehatan bukan PAK di fasilitas kesehatan yang telah disepakati. Kami juga mewajibkan kontraktor, pemasok, dan mitra kerja untuk mendaftarkan pekerja mereka pada kepesertaan BPJS Kesehatan.

Pertamina includes all employees in the BPJS Kesehatan health care insurance program and other health programs organized by the Pertamina Health Foundation. In 2024, the amount of BPJS Kesehatan membership dues reached Rp10.09 billion, while funds for health services managed by the Pertamina Health Foundation reached Rp169.58 billion. Through both programs, Pertamina Group employees have access to health services for non-occupational diseases at designated health facilities. We also require contractors, suppliers and partners to register their workers with BPJS Kesehatan membership.

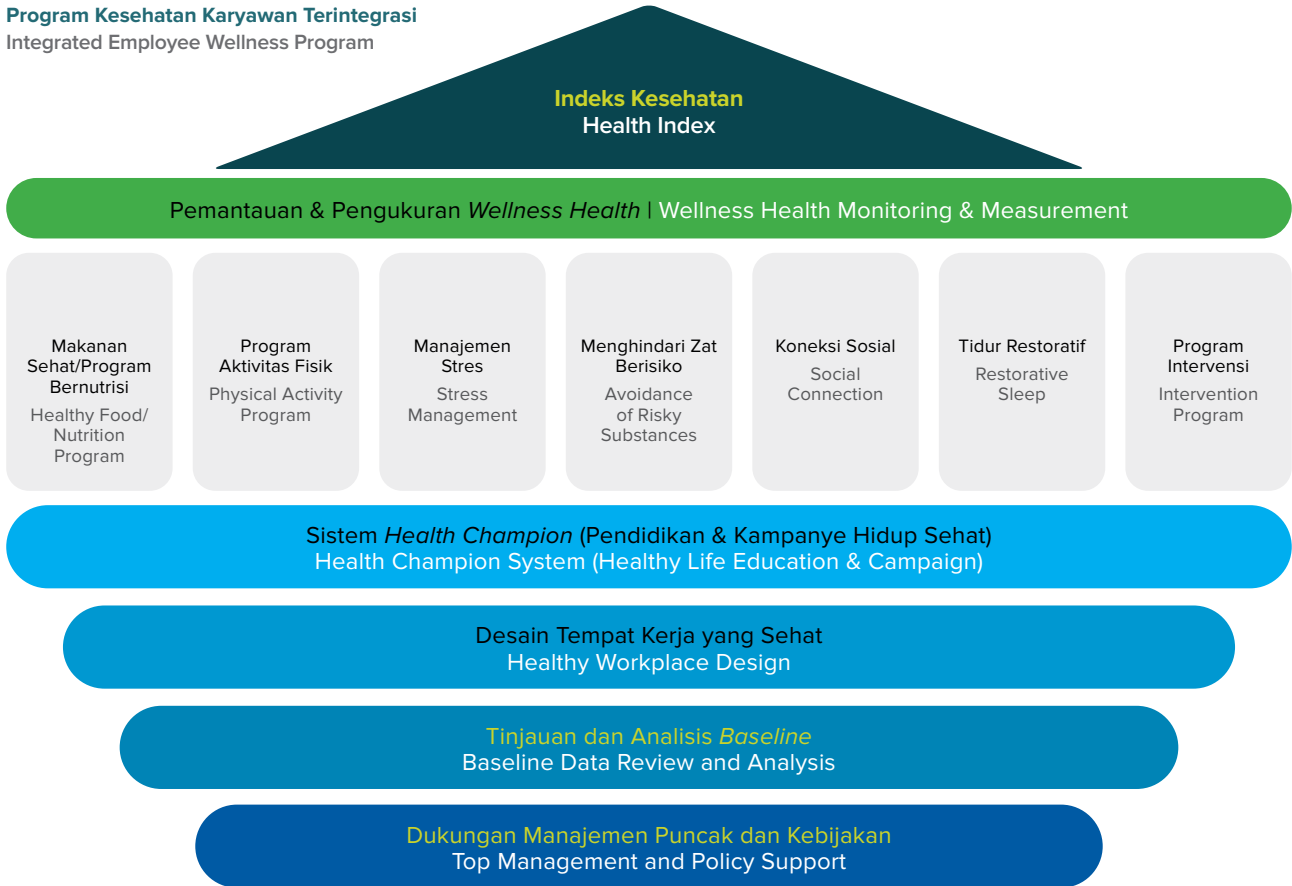
Program Promosi dan Manfaat Kesehatan Pekerja [GRI 403-6]

Employee Health Promotion and Benefits Program

Penerapan promosi kesehatan yang dilakukan Pertamina Grup mengikuti 7 pilar *integrated employee wellness program* berupa: 1) aktivitas fisik & Ergonomi; 2) Nutrisi; 3) Manajemen Stress 4) Pengendalian Merokok serta Narkotika, Alkohol, dan Zat Adiktif (NAPZA) Lainnya); 5) Koneksi Sosial; 6) Istirahat Cukup; serta 7) Program Intervensi Kesehatan dan Produktivitas yang berkelanjutan.

The implementation of health promotion by Pertamina Group adheres to the 7 pillars of the integrated employee wellness program, namely: 1) Physical Activity & Ergonomics; 2) Nutrition; 3) Stress Management 4) Control of Smoking and Other Narcotics, Alcohol, and Addictive Substances (NAPZA); 5) Social Connection; 6) Proper Rest; and 7) Sustainable Health and Productivity Intervention Program.

Program Kesehatan Karyawan Terintegrasi
Integrated Employee Wellness Program



- Pola hidup sehat diterapkan oleh pekerja guna menurunkan faktor risiko penyakit, meningkatkan kualitas hidup, dan optimalisasi produktivitas kerja. Pada 2024, Fungsi HSSE meluncurkan Program Sehat Bugar Senang Produktif (SeBuSePro). Program ini mencakup berbagai aspek kesehatan, mulai dari fisik hingga mental, dengan menyediakan fasilitas konsultasi dengan psikolog, dokter, ahli gizi, *financial planner*, dan program kebugaran. Kegiatan melibatkan seluruh pekerja dan manajemen, sehingga turut membangun kebersamaan serta keberagaman. [SHS-2.C3, 2.A4]
- Program/kegiatan yang disinergikan dengan program/kegiatan nasional dan global, di antaranya pencegahan dan pengendalian HIV di tempat kerja yang diinisiasi Organisasi Buruh Internasional (ILO) dan Kementerian Tenaga Kerja. Perseroan juga mendukung upaya meningkatkan kualitas kesehatan masyarakat lokal termasuk penyediaan air bersih dan sanitasi melalui program-program tanggung jawab sosial dan lingkungan yang disampaikan pada Laporan ini. [SHS-2.C1, 2.A1, 2.A5]
- Employees adopt a healthy lifestyle to reduce disease risk factors, improve quality of life, and optimize work productivity. In 2024, the HSSE Function launched the Sehat Bugar Senang Produktif (SeBuSePro) Program. This program covers various aspects of health, both physical and mental, by providing consultation services with psychologists, doctors, nutritionists, financial planners, and fitness programs. The activities involved all employees and management, which helped build a sense of togetherness and respect for diversity. [SHS-2.C3, 2.A4]
- Programs/activities that are synergized with national and global programs/activities, include HIV prevention and control in the workplace initiated by the International Labor Organization (ILO) and the Ministry of Manpower. The Company also supports efforts to improve the quality of local community health, including the supply of clean water and sanitation through corporate social responsibility programs presented in this Report. [SHS-2.C1, 2.A1, 2.A5]

- Kontraktor/pemasok/vendor diwajibkan menerapkan Sistem Manajemen Keselamatan dan Kesehatan Kerja (SMK3), sesuai peraturan perundang-undangan, standar internasional (ISO/OHSAS/ISRS), dan kebijakan/aturan Pertamina Grup. Seluruh persyaratan aspek SMK3 dievaluasi berdasarkan Pedoman *Contractor Safety Management System* (CSMS) Perseroan.
- Demi menjaga kesehatan dan keselamatan kerja serta keberlanjutan bisnis perusahaan, Pertamina Grup menyiapkan berbagai mitigasi terhadap risiko bahaya dalam proses bisnis perusahaan, di antaranya dengan menyediakan Unit Kesehatan Kerja di lokasi kerja dan mempersiapkan *Medical Emergency Response Plan* (MERP).
- Pertamina Grup juga menjamin dan memastikan layanan kesehatan pekerja meliputi rawat jalan, rawat inap, serta manfaat kesehatan tambahan, termasuk vaksinasi dapat diakses oleh pekerja dengan bekerja sama melalui *third party administration* (TPA) dengan sistem *managed care*. Selain itu, dukungan fasilitas ruang menyusui dan layanan *daycare* juga disediakan untuk memastikan terjaminnya kesejahteraan pekerja.
- Contractors/suppliers/vendors are required to implement the Occupational Health and Safety Management System (OHSMS), in compliance with laws and regulations, international standards (ISO/OHSAS/ISRS), and Pertamina Group policies/regulations. All OHSMS aspect requirements are evaluated based on the Company's Contractor Safety Management System (CSMS) Guidelines.
- In maintaining occupational health and safety as well as the sustainability of the Company's business, Pertamina Group prepares various mitigations against hazardous risks in the Company's business processes, including by providing Occupational Health Units at work sites and preparing a Medical Emergency Response Plan (MERP).
- Pertamina Group also guarantees and ensures that employees can access health services, including outpatient, inpatient, and additional health benefits, such as vaccinations, in cooperation with third party administration (TPA) with a managed care system. In addition, nursing room facilities and daycare services are also provided to ensure the well-being of employees.

Partisipasi, Konsultasi, dan Komunikasi Pekerja terkait K3 [GRI 403-4]

[SHS-1.C1][SOC-6.A2, 6.A3, 6.A4]

Employee Participation, Consultation, and Communication related to OHS

Pertamina Grup memiliki beberapa mekanisme maupun forum bagi pekerja untuk berpartisipasi, berkonsultasi, berkomunikasi terkait K3 yaitu melalui Bulan K3 Nasional. Selama pelaksanaan Bulan K3 Nasional, Perseroan mengadakan berbagai kegiatan untuk meningkatkan kesadaran pekerja Pertamina Grup terhadap aspek HSSE, di antaranya pelaksanaan *Management Walk Through* (MWT) serta rapat Komite HSSE yang tertuang dalam KPI *leader*. Pelaksanaan MWT diharapkan menjadi sarana diskusi antara *leader* dan *frontliner* terkait isu HSSE di lokasi kerja. Adapun pelaksanaan Komite HSSE diharapkan menjadi forum rutin manajemen untuk mendiskusikan, merespons dan memantau tindak lanjut penerapan HSSE di lokasi kerja.

Pertamina Group has several mechanisms and forums for employees to participate, consult, and communicate concerning OHS, through the National OHS Month. During the National OHS Month, the Company held various activities to raise Pertamina Group workers' awareness of HSSE aspects, including the Management Walk Through (MWT) and HSSE Committee meetings in the KPI leader. The MWT is expected to be a means of discussion between leaders and frontliners related to HSSE issues at the work site. The HSSE Committee is expected to be a regular forum for management to discuss, respond to and monitor the follow-up of HSSE implementation at the work site.

Pertamina Grup juga meluncurkan Program HSSE *Marshall–Voice Your HSSE Story*, yang mana ditujukan untuk Gen Z dan Milenial, yang mana jumlah mereka mencapai 60% dari total pekerja. HSSE *Marshall* memiliki tiga peran, yakni:

1. Memahami potensi risiko utama dan identifikasi HSSE *story* di operasional dan di luar operasi.
2. Menangkap potensi bahaya HSSE/*best practice* yang bermanfaat sebagai kampanye HSSE dengan cara membagikan HSSE *Story*.
3. Menjadi contoh atau *influencer* melalui keterlibatan program utama HSSE dengan berperan sebagai *advocate* HSSE.

Kegiatan K3 lainnya selama 2024 yang melibatkan pekerja secara aktif, di antaranya:

- Serikat Pekerja melakukan reviu perihal K3 di PKB;
- Pembentukan Tim Panitia Pembina Kesehatan Keselamatan Kerja (P2K3) yang juga berfungsi sebagai Komite HSSE di unit operasi/unit bisnis pada entitas anak;
- Pelaksanaan *safety induction*, *safety briefing/safety talk*, dan *safety patrol*.

Pertamina Group also launched the HSSE Marshall-Voice Your HSSE Story Program, which is aimed at Gen Z and Millennials, who account for 60% of the total workforce. HSSE Marshall has three roles, namely:

1. Understand key potential risks and identify HSSE stories in operations and non-operations.
2. Capturing potential HSSE hazards/best practices that are useful as HSSE campaigns by sharing HSSE stories.
3. Become an role model or influencer through involvement in key HSSE programs by acting as an HSSE advocate.

Other OHS activities during 2024 with employees' active involvement include:

- Labor Union reviewed the OHS clauses in the CBA;
- Establishment of the Occupational Health and Safety Committee (P2K3), which also serves as the HSSE Committee in the operating units/business units of subsidiaries;
- Implementation of safety induction, safety briefing/safety talk, and safety patrol.

Pelatihan K3 untuk Pekerja [GRI 403-5][SHS-1.C2, 1.A2][SOC-7.A2]

OHS Training for Employees

Selama 2024, Perseroan melaksanakan pelatihan K3 dengan realisasi 87 pelatihan dengan jumlah peserta 10.410 orang dan 2.928 jam. Kegiatan pelatihan mampu meningkatkan kepatuhan dan perubahan perilaku para pekerja dalam menerapkan K3 dalam pekerjaan mereka.

During 2024, the Company conducted OHS training with the realization of 87 trainings with 10,410 participants and 2,928 hours. The training activities managed to improve compliance and behavioral change of the employees in applying OHS in their work.

Jumlah Peserta Pelatihan Safety bagi Pekerja Pertamina Grup dan Pekerja Kontraktor/Vendor/Mitra Kerja
 Number of Safety Training Participants for Pertamina Group Employees and Contractor/Vendor/Partner Workers

Materi Pelatihan Training Material	2024	2023	2022
Basic HSSE Mandatory Training	633	253	325
Fire Fighting Training/Certification	334	503	831
Incident Command System	243	168	231
Incident Investigation Training	184	60	243
Gas Tester	482	1,173	854
HAZOPS	138	25	189
Contractor Safety Management System	121	125	89
Confined Space Entry	110	183	100
Process Safety Management	952	209	111
Working at Height	19	-	125
Pelatihan dan Sertifikasi Pengawas Utama K3 Migas Training and Certification of Oil and Gas OHS Lead Superintendent	35	27	44
Jumlah Total	3,251	2,726	3,142

Jumlah Peserta Pelatihan SUPREME bagi Pekerja Pertamina Grup dan Pekerja Kontraktor/Vendor/Mitra Kerja
 Number of SUPREME Training Participants for Pertamina Group Employees and Contractor/Vendor/Partner Workers

Materi Pelatihan Training Material	2024	2023	2022
<i>Training SUPREME (Peserta yang Diaudit)</i> SUPREME Training (Audited Participants)	1,228	2,950	4,033
<i>Training SUPREME (Auditor)</i> SUPREME Training (Auditors)	92	-	-
<i>Training HSE Demo Room</i> HSE Demo Room Training	105	86	-
<i>Pelatihan Daring (Webinar)</i> Online Training (Webinar)	2,906	2,080	-
<i>Training (Webinar) Process Safety & Asset Integrity Management System</i> Training (Webinar) on Process Safety & Asset Integrity Management System	-	209	111
<i>Training Pertolongan Pertama</i> First Aid Training	820	361	523
Jumlah Total	5,151	5,686	4,667

Pencegahan dan Mitigasi K3 terkait Relasi Bisnis [GRI 403-7]

OHS Prevention and Mitigation related to Business Relationship

Perseroan mendorong pihak-pihak yang melakukan relasi bisnis dengan Pertamina Grup untuk mengedepankan aspek keselamatan dalam semua kegiatan bisnis yang dijalankan. Langkah yang dijalankan adalah memastikan kontraktor, mitra, maupun pemasok mematuhi serta melaksanakan seluruh persyaratan HSE yang tertuang di dalam kontrak kerja tanpa pengecualian, di antaranya *Contractor Safety Management System* (CSMS) maupun *Contractor of Health and Environment Safety Management* (CHESM). Untuk membangun komitmen bersama pada penerapan CSMS/CHESM, Pertamina Grup menyelenggarakan 87 klinik pelatihan (*coaching clinic*) kepada 10.410 kontraktor, mitra, dan pemasok, sehingga mereka dapat mengetahui alur dan prosedur untuk penerbitan sertifikat CSMS/CHESM sebagai syarat mengikuti tender.

The Company encourages related parties with whom Pertamina Group conducts its business to prioritize safety aspects in all business activities. It aims to ensure that contractors, partners, and suppliers comply with and implement all HSE requirements stipulated in the work contract without exception, including the Contractor Safety Management System (CSMS) and Contractor of Health and Environment Safety Management (CHESM). To build a shared commitment to the implementation of CSMS/CHESM, Pertamina Group organized 87 coaching clinics for 10,410 contractors, partners and suppliers, which helped them understand the flow and procedures for the issuance of CSMS/CHESM certificates as a prerequisite for participating in tenders.

Kinerja Keselamatan Kerja [GRI 403-9][SHS-3.C1][EMEP-320a.1][EM-RM-320a.1][EM-SV-320a.1]

Occupational Safety Performance

Kinerja HSSE merupakan salah satu Indikator Kinerja Utama (KPI) Direksi/KPI Manajemen tahun 2024, termasuk *Total Recordable Injury Rate* (TRIR) dan pencegahan insiden skala besar (*zero major accident*). Penghitungan TRIR mengacu kepada International Association of Oil & Gas Procedures, yakni per 1.000.000 jam kerja untuk *Lost Time Injury Rate* (LTIR) dan TRIR, sedangkan untuk *Fatal Accident Rate* (FAR) per 100.000.000 jam kerja. [SHS-3.A4]

HSSE performance is one of the Board of Directors' Key Performance Indicators (KPIs)/Management KPIs for 2024, including Total Recordable Injury Rate (TRIR) and prevention of zero major accidents. TRIR calculation refers to the International Association of Oil & Gas Procedures, which is per 1,000,000 working hours for Lost Time Injury Rate (LTIR) and TRIR, while for Fatal Accident Rate (FAR) per 100,000,000 working hours. [SHS-3.A4]

Tingkat Kecelakaan pada Pekerja Tetap dan Kontraktor Accident Rates of Permanent Employees and Contractors

Keterangan Description	2024	2023	2022
Jumlah Jam Kerja Total Working Hours	794	730	710
FAR – per 100 Juta Jam Kerja FAR – per 100 Million Working Hours	0.13	0.54	0.42
TRIR – per 1 Juta Jam Kerja TRIR – per 1 Million Working Hours	0.05	0.10	0.09
LTIR – per 1 Juta Jam Kerja LTIR – per 1 Million Working Hours	0.02	0.02	0.02

Jumlah Insiden pada Pekerja Tetap dan Kontraktor

Number of Incidents Involving Permanent Employees and Contractors

Tahun Year	Kategori Category	Fatalitas Fatality	Lost Time	Restricted Work Day	Rawat Medis Medical Care	Jumlah Total
2024	Pekerja Pertamina Grup Pertamina Group Employees	1	0	0	0	1
	Pekerja Kontraktor Contractor Workers	0	12	9	23	44
2023	Pekerja Pertamina Grup Pertamina Group Employees	0	0	0	0	0
	Pekerja Kontraktor Contractor Workers	4	9	18	46	77
2022	Pekerja Pertamina Grup Pertamina Group Employees	0	2	1	2	5
	Pekerja Kontraktor Contractor Workers	3	6	11	37	57

Selama 2024, terdapat satu peristiwa kecelakaan kerja berakibat fatal terhadap pekerja Pertamina Grup. Untuk memitigasi kecelakaan kerja, kami terus mendorong peningkatan penerapan K3 melalui upaya antara lain: [SHS-3.C2, 3.C3, 3.C4]

- Mendorong kontraktor/vendor/mitra kerja melaksanakan 12 inisiatif peningkatan kinerja HSSE;
- Mengintegrasikan budaya HSSE dengan operasi perusahaan, melalui pelibatan keluarga pekerja, *Agent of Change* (AOC), kontraktor, serta pekerja garis depan di unit operasi; dan
- Meningkatkan *Integrity Asset* dan penguatan pengelolaan *Process Safety* dan *Asset Integrity Management*.

During 2024, there was one fatal work accident involving a Pertamina Group employee. To mitigate work accidents, we continue to improve the implementation of OHS through the following efforts: [SHS-3.C2, 3.C3, 3.C4]

- Encouraging contractors/vendors/partners to implement 12 HSSE performance improvement initiatives;
- Integrating HSSE culture with company operations, through the involvement of employees' families, Agent of Change (AOC), contractors, and frontline employees in operating units; and
- Improving Asset Integrity and strengthening the management of Process Safety and Asset Integrity Management.

Kinerja Pengelolaan Kesehatan Kerja [GRI 403-10]

Occupational Health Management Performance

Berdasarkan hasil MCU dan pemeriksaan kesehatan di Kantor Pusat Pertamina Grup selama 2024, diketahui tidak ada laporan penyakit akibat kerja (PAK). Namun demikian, kami memperkuat dengan pelatihan; prosedur untuk menegakkan diagnosis serta laporan PAK. Kinerja pengelolaan kesehatan kerja juga tercermin dari sejumlah *leading indicator*, meliputi realisasi MCU

The results of the MCU and health checks at Pertamina Group Head Office during 2024 showed that there were no reports of occupational diseases. However, we strengthened it with training; procedures to diagnose and report occupational diseases. The performance of occupational health management is also reflected in a number of leading indicators, including the realization

dengan pencapaian 100% serta program peningkatan kesehatan pekerja melalui program SeBuSePro (Sehat, Bugar, Senang, Produktif) yang mencakup hingga layanan kesehatan gratis dan dukungan profesional dengan tingkat partisipasi mencapai 6.540 pekerja. [SHS-3.A1]

of MCU with 100% achievement and the worker health improvement program through the SeBuSePro (Healthy, Fit, Happy, Productive) program which includes free health services and professional support with a participation rate of 6,540 workers. [SHS-3.A1]

Menjaga Integritas Aset

Maintaining Asset Integrity

Pertamina Grup menerapkan *Process Safety Asset Integrity Management System* (PSAIMS) sebagai panduan bagi holding, subholding, beserta unit operasi/unit bisnis di dalamnya, kontraktor, mitra kerja, maupun pemasok dalam mengelola risiko keselamatan proses. Pertamina Grup terus menguatkan penerapan PSAIMS yang terintegrasi dengan sistem keandalan operasi masing-masing entitas, di antaranya dengan:

- PT KPI - RU II Dumai meresmikan pengoperasian PSAIMS *Center* untuk membantu memastikan pencegahan yang terintegrasi terhadap risiko gangguan dengan peningkatan keandalan operasional.
- Realisasi pelaksanaan audit PSAIMS pada 3 subholding, yaitu Subholding Upstream, Subholding C&T, dan Subholding Refining & Petrochemical dengan total 13 lokasi yang diaudit.
- Pelaksanaan PSAIMS *Training & Communication Program* di Subholding Upstream dan Subholding Refining & Petrochemical di tingkat pekerja dan manajemen. Terdapat 1.277 orang yang telah menyelesaikan pelatihan *online Process Safety Awareness* (Modul PSM) dan 450 orang yang telah menyelesaikan pelatihan *online* PSAIMS.
- Telah dilakukan penyusunan *Process Safety Fundamentals* untuk mencegah terjadinya *Process Safety Events* (PSE) di fasilitas proses yang dilanjutkan dengan sosialisasi dalam bentuk *sharing session* dan *broadcast*, serta menjadi bagian dari konten yang disampaikan selama MWT.

Pertamina Group implements *Process Safety Asset Integrity Management System* (PSAIMS) as a guide for holding, subholding, along with their operating units/business units, contractors, partners, and suppliers in managing process safety risks. Pertamina Group continues to strengthen the implementation of PSAIMS which is integrated with the operating reliability system of each entity, including by:

- PT KPI - RU II Dumai inaugurated the operation of the PSAIMS *Center* to help ensure integrated prevention of disruption risks with improved operational reliability.
- Realization of PSAIMS audit implementation in 3 subholdings, namely Subholding Upstream, Subholding C&T, and Subholding Refining & Petrochemical with a total of 13 audited locations.
- Implementation of PSAIMS *Training & Communication Program* in Subholding Upstream and Subholding Refining & Petrochemical at employee and management level. A total of 1,277 people have completed online training *Process Safety Awareness* (PSM Module) and 450 people have completed online training PSAIMS.
- *Process Safety Fundamentals* have been developed to prevent *Process Safety Events* (PSE) in process facilities, followed by dissemination in sharing sessions and broadcasts, as well as being part of the content delivered during MWT.

Keselamatan Proses dan Pencegahan Insiden Berskala Besar [SHS-3.C2]

Process Safety and Large Scale Incident Prevention

Sistem Manajemen Keselamatan Proses [SHS-6.C3, 6.A2]

Pertamina Grup menerapkan Sistem Manajemen Keselamatan Proses (SMKP) diiringi audit berkala. Berdasarkan hasil audit di 2024, diketahui bahwa pengelolaan keselamatan proses berjalan dengan baik sehingga *process safety event* (PSE) mampu dikendalikan dan insiden berskala besar dapat dicegah. Selama 2024, ada 10 PSE *Tier 1* dan 24 PSE *Tier 2*. Adapun nilai *Process Safety Event Rate* (PSER) *Tier 1* sebesar 0,013 dan PSER *Tier 2* sebesar 0,030. PSER dihitung sebagai perbandingan jumlah PSE pada masing-masing *Tier 1* dan *Tier 2* terhadap satu juta jam kerja. Kategori PSE didasarkan pada standar American Petroleum Institute (API) Report 754 serta International Association of Oil & Gas Producer (IOGP) Report 456. [SHS-6.C1, 6-A1, 6.A5, 6.A6]

Process Safety Management System [SHS-6.C3, 6.A2]

Pertamina Group implements a Process Safety Management System (SMKP) with periodic audits. The audit results in 2024 showed that the process safety management has been running properly to control process safety events (PSEs) and prevent large-scale incidents. During 2024, there were 10 PSE *Tier 1* and 24 PSE *Tier 2*. The Process Safety Event Rate (PSER) *Tier 1* value was 0.013 and PSER *Tier 2* was 0.030. PSER is calculated as the ratio of the number of PSEs in each *Tier 1* and *Tier 2* to one million working hours. PSE categories are based on the American Petroleum Institute (API) Report 754 and International Association of Oil & Gas Producer (IOGP) Report 456. [SHS-6.C1, 6-A1, 6.A5, 6.A6]

Jumlah PSE yang Dipantau dan Dilaporkan

Number of PSEs Monitored and Reported

Kategori PSE PSE Category	Uraian Description	2024	2023	2022
Tier 1	PSE yang memiliki dampak negatif paling besar PSE with the largest negative impact	10	4	3
Tier 2	PSE yang memiliki dampak lebih rendah PSEs with lower impact	24	8	17

Nilai PSE Rate

PSE Rate Score

	Uraian Description	2024	2023	2022
PSE Rate Tier 1	Jumlah PSE per 1.000.000 Jam Kerja	0.013	0.041	0.056
PSE Rate Tier 2	Total PSEs per 1,000,000 Working Hours	0.030	0.023	0.011

Selain itu terdapat PSE *Tier 3* terkait permasalahan pada sistem instrumentasi keselamatan proses, namun tidak sampai menimbulkan PSE *Tier 1* dan *2*; serta PSE *Tier 4* terkait kinerja sistem manajemen untuk mencegah insiden keselamatan proses. Laporan ini tidak mengungkapkan informasi PSE *Tier 3* dan *Tier 4*. [SHS-6.A3][EM-RM-540a.2]

Dalam upaya pencegahan insiden berskala besar di fasilitas pengolahan dan terminal, di 2024, Pertamina Grup telah melakukan beberapa upaya: [SHS-3.C3, 3.A2, 6.C2]

- Perseroan terus memperkuat budaya K3 melalui berbagai kegiatan termasuk kepatuhan standar prosedur operasi/SOP, Sistem Tata Kerja (STK), serta Cara Kerja Aman sesuai 12 Aturan dalam *Corporate Life Saving Rules* (CLSR). [SHS-6.A4]
- Melakukan *Audit Process Safety Asset Integrity Management System* (PSAIMS).

Pengelolaan Keselamatan Transportasi Migas dan Rantai Pasok [SHS-4.C1][EM-MD-540a.3][EM-MD-540a.4]

Salah satu aspek keselamatan proses adalah transportasi migas yang menjadi bagian dari rantai pasok Perseroan. Ada beberapa metode pengangkutan migas yang dijalankan Pertamina Grup melalui entitas anak, antara lain:

1. Transportasi jalur pipa, baik di daratan maupun di dasar laut. Hingga 2024, jaringan pipa migas mencapai panjang lintasan ±1.661 km untuk pipa produk BBM dan ±12.692 km untuk pipa gas (pipa transmisi, distribusi, dan jaringan gas). Penerapan keselamatan transportasi jalur pipa dilakukan dengan:

- Pada jalur pipa di daratan, kami menerapkan Hak Lintas (*Right of Way/RoW*) dengan melarang kegiatan yang dapat menimbulkan api, menanam tanaman, mendirikan bangunan, serta melarang truk/kendaraan berat melintas dan tidak boleh melakukan penggalian di sekitar jalur pipa. Penerapan ROW disertai patroli dan pemeriksaan berkala dan sepanjang ROW terdapat *sign marker*. Untuk mengantisipasi kegagalan operasi maupun gangguan/kecelakaan yang mungkin terjadi, pipa Pertamina Grup dilengkapi oleh sistem pengatur dan isolasi aliran minyak dan gas. Selain itu, untuk pipa yang membutuhkan proteksi khusus, digunakan *outer casing*/pelindung untuk memastikan pipa terlindung dari gangguan eksternal.

In addition, Tier 3 PSEs are related to process safety instrumentation system issues, but not to the extent of causing Tier 1 and 2 PSEs; and Tier 4 PSEs are related to the performance of the management system to prevent process safety incidents. This report does not disclose information on Tier 3 and Tier 4 PSEs. [SHS-6.A3][EM-RM-540a.2]

In a bid to prevent large-scale incidents at refineries and terminals, Pertamina Group has made the following efforts in 2024: [SHS-3.C3, 3.A2, 6.C2]

- Continuous effort to strengthen the OHS culture through compliance with standard operating procedures (SOP), Work System (STK), and Safe Ways of Working following the 12 Rules in the Corporate Life Saving Rules (CLSR). [SHS-6.A4]
- Conduct Process Safety Asset Integrity Management System (PSAIMS) Audit.

Safety Management of Oil and Gas Transportation and Supply Chain [SHS-4.C1][EM-MD-540a.3][EM-MD-540a.4]

One of the process safety aspects is oil and gas transportation, which is part of the Company's supply chain. The following are methods of oil and gas transportation carried out by Pertamina Group through its subsidiaries:

1. Pipeline transportation, both onshore and subsea. By 2024, the oil and gas pipeline network reached a track length of +1,661 km for fuel product pipelines and +12,692 km for gas pipelines (transmission, distribution, and gas network pipelines). The pipeline transportation safety is implemented by:

- For onshore pipelines, we apply Right of Way (RoW) by prohibiting activities that can cause fires, planting plants, erecting buildings, as well as prohibiting trucks/heavy vehicles from passing, and no digging around the pipeline. We monitor the ROW implementation with periodic patrols and inspections, and install sign markers along the ROW area. To anticipate operating failures and disruptions/accidents that may occur, Pertamina Group pipelines are equipped with oil and gas flow control and isolation systems. In addition, for pipelines that require special protection, outer casing/protection is used to ensure the pipeline is protected from external disturbances.

- Untuk jalur pipa di bawah laut dilakukan dengan menerapkan Hak Lintas (*Right of Way/RoW*), menetapkan Daerah Terlarang Terbatas (DTT) pada jalur pipa. Selain itu dilakukan inspeksi dan memperbaiki jaringan pipa bawah laut secara berkala untuk menjaga keandalan fasilitas.

- For subsea pipelines, we apply the Right of Way (RoW) by designating restricted areas (DTT) on the pipeline tracks. In addition, we conduct periodic inspections and replenishment of the subsea pipelines to maintain the reliability of the facilities.

2. Transportasi laut menggunakan kapal tanker, tongkang, maupun kapal khusus lain. Sampai dengan akhir 2024, Pertamina Grup mengoperasikan 103 unit kapal pengangkut migas, termasuk dua unit *Very Large Gas Carrier* (VLGC), yakni VLGC Pertamina Gas Tulip dan VLGC Pertamina Gas Bergenia sebagai kapal tanker gas terbesar di dunia yang menggunakan teknologi ramah lingkungan. Pengelolaan keselamatan transportasi laut mengacu pada *International Safety Management Code* (ISM Code) dari International Maritime Organization (IMO), serta Konvensi Internasional untuk Pencegahan Pencemaran oleh Kapal/ *International Convention for the Prevention of Pollution from Ships* (MARPOL). [SHS-4.A6]

2. Sea transportation using tankers, barges, and other special vessels. Until the end of 2024, Pertamina Group operated 103 units of oil and gas vessels, including two Very Large Gas Carrier (VLGC) units: VLGC Pertamina Gas Tulip and VLGC Pertamina Gas Bergenia, as the world's largest gas tanker with environmentally friendly technology. Sea transportation safety management refers to the International Safety Management Code (ISM Code) of the International Maritime Organization (IMO), as well as the International Convention for the Prevention of Pollution from Ships (MARPOL). [SHS-4.A6].

3. Transportasi darat menggunakan kendaraan bermotor khusus/mobil tangki dan kereta api. Sampai dengan akhir 2024, Perseroan mengoperasikan 4.328 truk BBM, 1.663 truk LPG, 169 truk avtur, dan 352 truk BBM *Spot Charter* di seluruh Indonesia. Pengangkutan menggunakan kereta api dilaksanakan bekerjasama dengan PT Kereta Api Indonesia (Persero). Pengelolaan keselamatan transportasi darat dilakukan dengan memenuhi spesifikasi kendaraan, pelatihan dan lisensi pengemudi/masinis, penandaan dan pelabelan, pencegahan kebocoran dan tumpahan, inspeksi dan pemeliharaan rutin, larangan dan pembatasan, tanggapan darurat, pemantauan dan pelaporan, serta sanksi dan penegasan.

3. Land transportation using specialized motor vehicles/ tankers and trains. Until the end of 2024, the Company operated 4,328 fuel trucks, 1,663 LPG trucks, 169 aviation fuel trucks, and 352 Spot Charter fuel trucks across Indonesia. Meanwhile, train transportation is carried out in cooperation with PT Kereta Api Indonesia (Persero). Land transportation safety management is carried out by meeting vehicle specifications, driver/ machinist training and licensing, marking and labeling, leak and spill prevention, routine inspection and maintenance, prohibitions and restrictions, emergency response, monitoring and reporting, and sanctions and enforcement.

4. Transportasi udara. Pada 2024, pengangkutan migas menggunakan pesawat udara dilaksanakan PT Elnusa Petrofin bersama PT Pertamina Patra Niaga Region VIII, melalui Proyek Pengelolaan Pengangkutan BBM ke Lembaga Penyalur (LP) SPBU Non Reguler Multimoda Udara VIII di LP Puncak Jaya Mulia, Papua. Proyek ini menjadi bukti nyata sinergi One Pertamina mengembangkan akses dan distribusi BBM ke daerah

4. Air transportation. In 2024, PT Elnusa Petrofin and PT Pertamina Patra Niaga Region VIII carried out the transportation of oil and gas using airplanes, through the Fuel Transportation Management Project to the VIII Air Multimode Non-Regular Gas Station Distributor (LP) in LP Puncak Jaya Mulia, Papua. This project is a tangible proof of One Pertamina synergy to develop

Tertinggal, Terdepan, dan Terluar (3T) serta mendukung program BBM Satu Harga. Dalam proyek ini, distribusi BBM dilakukan menggunakan pesawat *Cessna 208 EX* yang mampu mengangkut BBM hingga 1,2 kiloliter untuk sekali perjalanan.

Selama 2024, ada dua peristiwa terkait keselamatan transportasi migas yang melibatkan mobil tangki yang menyebabkan fatalitas. Adapun untuk transportasi migas menggunakan pesawat udara tidak ada insiden keselamatan. Setiap insiden yang terjadi ditindaklanjuti Perseroan dengan beberapa upaya perbaikan: [SHS-4.C2, 4.C3][SHS-4.A1, 4.A2, 4.A3, 4.A4]

- Menerapkan indikator yang fokus pada pencegahan insiden keselamatan transportasi, di antaranya kecukupan sumber daya manusia yang kompeten dan *fit to work*, validitas integritas kendaraan yang dilakukan melalui pemeriksaan berkala, serta pemenuhan rencana manajemen perjalanan. [SHS-4.A5]
- Pemanfaatan teknologi untuk peningkatan keselamatan transportasi migas dengan mobil tangki, pesawat, dan kapal. Teknologi terbaru untuk keselamatan di mobil tangki adalah *Human Control Program* (pemantauan kinerja AMT, peningkatan kompetensi AMT, dan evaluasi kecukupan sumber daya AMT) dan *Vehicle Control Program* (implementasi *pre-trip inspection*, implementasi *daily inspection*, *New Maintenance Management System (MMS)* dan *recall*, serta peremajaan MT dengan *new interlock system design*), sementara di kapal yakni *Stern Tube Air Seal Type* untuk menghindari kebocoran bahan bakar kapal, *Oily Water Separator (OWS)* untuk memisahkan air dengan minyak dalam mencegah pencemaran, serta *Engine Power Limit (EPL)* dan *Eco Steaming* untuk mengoptimalkan penggunaan energi kapal, mengurangi emisi, dan meningkatkan efisiensi. [SHS-4.A7]
- Melakukan perawatan dan pemeriksaan rutin terhadap seluruh mobil tangki, kapal, maupun pesawat yang digunakan untuk pengangkutan migas. Perawatan dan pemeriksaan rutin mobil tangki dilakukan oleh Subholding Commercial & Trading, sementara untuk kapal dilaksanakan oleh Subholding Integrated Marine Logistics, dan untuk pesawat dilakukan oleh PT Pelita Air Services sebagai Anak Perusahaan Portfolio & Services. [SHS-4.A8]

access and distribution of fuel to the Disadvantaged, Frontier, and Outermost (3T) areas and support the One Price Fuel program. In this project, the fuel is transported by a *Cessna 208 EX* aircraft capable of carrying up to 1.2 kiloliters of fuel for one trip.

During 2024, there were two incidents related to oil and gas transportation safety involving tanker trucks that caused fatalities. As for oil and gas transportation using aircraft, there were no safety incidents. The Company followed up every incident that occurred with several corrective efforts, including: [SHS-4.C2, 4.C3][SHS-4.A1, 4.A2, 4.A3, 4.A4]

- Using indicators that focus on preventing transportation safety incidents, such as the adequacy of competent and fit to work human resources, the validity of vehicle integrity through periodic inspections, and the fulfillment of travel management plans. [SHS-4.A5]
- Utilization of technology to improve the safety of oil and gas transportation by tanker trucks, aircraft, and vessels. The latest technologies for safety in tanker trucks are *Human Control Program* (AMT performance monitoring, AMT competency improvement, and AMT resource adequacy evaluation) and *Vehicle Control Program* (pre-trip inspection implementation, daily inspection implementation, *New Maintenance Management System (MMS)* and recall, and MT rejuvenation with new interlock system design), while on the vessel are the *Stern Tube Air Seal Type* to avoid vessel fuel leakage, *Oily Water Separator (OWS)* to separate water from oil to prevent contamination, and *Engine Power Limit (EPL)* and *Eco Steaming* to optimize vessel energy use, reduce emissions, and increase efficiency. [SHS-4.A7]
- Conduct routine maintenance and inspection of all the tanker trucks, vessels, and aircraft used for oil and gas transportation. Regular maintenance and inspection of tanker trucks is carried out by Commercial & Trading Subholding, while for vessels by Integrated Marine Logistics Subholding, and for aircraft by PT Pelita Air Services as Portfolio & Services Subsidiary. [SHS-4.A8]

Pertamina Digital Hub

Pengelolaan keselamatan proses pada rantai pasok didukung Pertamina Digital Hub sehingga memungkinkan pemantauan aliran fluida dan gas mendekati waktu nyata (*near real-time*), mulai dari kilang produksi hingga Terminal Bahan Bakar Minyak (TBBM). Pertamina Digital Hub mendukung proses pemantauan serah terima migas melalui pemanfaatan platform data analitik *INtegrated Optimization based on VALuable Signal* (INOVASI) untuk menganalisa dan mendeteksi anomali, menguji keandalan data, serta menyusun laporan dan rekomendasi bagi pengambilan keputusan strategis. Contoh penerapan digitalisasi dan data analitik dalam meningkatkan keselamatan rantai pasok di sektor hilir meliputi:

1. Serah Terima BBM dari Sumber Domestik (*Refinery Unit*) dan Impor ke *Fuel Terminal/Integrated Terminal*

Proses serah terima BBM yang mencakup pengelolaan, pengukuran, pencatatan, dan pengiriman minyak kini didukung oleh INOVASI *On Supply Loss* (IOS), sebuah platform digital yang efektif. IOS ini mampu mendeteksi *discrepancy/losses* atau anomali (*exception*) pada transaksi serah terima migas (BBM) moda kapal yang melebihi batas toleransi. Sebagai contoh, platform memantau perbedaan signifikan antara volume saat proses *loading* dan *discharge*. Ketika anomali terdeteksi, pekerja Pertamina Grup menerima signal secara *near real-time* dan dapat segera mengambil tindakan korektif, seperti pengecekan ulang, investigasi, atau penyesuaian prosedur. Sejak implementasi pada 1 Maret 2024 hingga 31 Desember 2024, langkah ini telah berhasil mengurangi kerugian (*losses*) pada serah terima BBM di Subholding Commercial & Trading dengan efisiensi biaya sebesar USD35,3 juta atau sekitar Rp580 miliar. Dengan keberhasilan IOS di Subholding Commercial & Trading, juga direncanakan replikasi IOS di Subholding Refinery & Petrochemical untuk memantau serah terima migas (*crude*, *intermedia*, *BBM*) dari sumber domestik/impor ke *Refinery Unit* dan replikasi IOS di Subholding Upstream untuk memantau serah terima migas (*crude*) pada saat proses *loading* ke kapal.

Pertamina Digital Hub

Process safety management in the supply chain is supported by Pertamina Digital Hub to enable near real-time monitoring of fluid and gas flows, from production refineries to fuel oil terminals (TBBM). Pertamina Digital Hub supports the monitoring process of oil and gas handover through the utilization of the data analytics platform *INtegrated Optimization based on VALuable Signal* (INOVASI) to analyze and detect anomalies, test data reliability, and draft reports and recommendations for strategic decision making. Examples of the application of digitalization and data analytics in improving supply chain safety in the downstream sector include:

1. Fuel Handover from Domestic Sources (*Refinery Unit*) and Imports to *Fuel Terminal/Integrated Terminal*

The fuel handover process that includes managing, measuring, recording and delivering oil is currently supported by INOVASI *On Supply Loss* (IOS), an effective digital platform. IOS is capable of detecting exception *discrepancies/losses* or anomalies (*exceptions*) in handover transactions of oil and gas (fuel) via marine vessels that exceed tolerance limits. For example, the platform monitors significant differences between volumes during loading and discharge. When an anomaly is detected, Pertamina Group workers receive the signal in near real-time and can immediately take corrective actions, such as double-checking, investigation, or procedure adjustment. Since its implementation from March 1, 2024 to December 31, 2024, this initiative has successfully reduced losses in fuel custody transfers within the Subholding Commercial & Trading, achieving cost savings of USD 35.3 million or approximately Rp 580 billion. Following the success of IOS in Subholding Commercial & Trading, plans are in place to replicate IOS in the Subholding Refinery & Petrochemical to monitor custody transfers of oil and gas (*crude*, *intermediate*, *fuel*) from domestic/import sources to Refinery Units, and in the Subholding Upstream to monitor custody transfers of crude oil during loading to vessels.

2. Pengawasan Pembelian BBM Bersubsidi di SPBU

Melalui program penguatan sarana dan fasilitas digitalisasi, Pertamina Grup menggunakan INOVASI sebagai *alert system* yang mengirimkan *exception signals* untuk memantau transaksi BBM subsidi tidak wajar. Sistem ini dipantau langsung oleh Pertamina *Digital Hub* dan ditindaklanjuti di lapangan. Contoh anomali yang terdeteksi meliputi pengisian solar di atas 200 liter atau transaksi berulang di atas 200 liter untuk satu kendaraan dalam sehari atau tanpa memasukkan nomor polisi kendaraan. Sejak implementasi pada 1 Agustus 2022, program ini berhasil mengurangi risiko penyalahgunaan BBM bersubsidi dengan penghematan biaya (*cost avoidance*) sebesar USD300 juta atau sekitar Rp4,8 triliun.

2. Monitoring Subsidized Fuel Purchases at Gas Stations

Through the program of strengthening digitalization facilities, Pertamina Group uses INOVASI as an alert system that sends exception signals to monitor unusual transactions of subsidized fuel. This system is monitored directly by Pertamina Digital Hub and followed up in the field. Examples of anomalies detected include filling diesel fuel above 200 liters or repeated transactions above 200 liters for one vehicle in a day or without entering the vehicle's license number. Since its implementation on August 1, 2022, this program has successfully reduced the risk of misuse of subsidized fuel with cost avoidance of USD300 million or around Rp4.8 trillion.



Layanan Setara kepada Pelanggan [OJK F.17]

Equal Service to Customers

Perseroan berkomitmen memberikan pelayanan atas produk/jasa yang setara kepada pelanggan, dan menjamin pasokan energi ke seluruh negeri, dengan berpedoman pada regulasi yang berlaku. Khusus penyaluran subsidi energi, Pertamina Grup telah dapat menyalurkan kepada masyarakat yang berhak di seluruh pelosok negeri sesuai kuota yang ditetapkan Pemerintah.

Besaran kuota Jenis Bahan Bakar Minyak Tertentu (JBT) Minyak Solar dan Minyak Tanah didasarkan pada SK Kepala BPH Migas No. 89/P3JBT/BPH MIGAS/KOM/2023 beserta perubahannya, sedangkan kuota isi ulang *Liquefied Petroleum Gas* (LPG) Tabung 3 kg didasarkan pada Kepmen ESDM No. 446.K/MG.05/DJM/2023 beserta perubahannya. Pada 2024, Pertamina Grup menyalurkan subsidi energi, yakni:

1. JBT Minyak Tanah dengan kuota 0,5 juta KL dengan realisasi penyaluran 0,5 juta KL.
2. JBT Solar dengan kuota 17,8 juta KL dengan realisasi penyaluran 17,5 juta KL.
3. Isi ulang LPG Tabung 3 kg dengan kuota 8,29 juta MT dengan realisasi penyaluran 8,26 juta MT. Perseroan telah menerapkan program Subsidi Tepat LPG 3 kg melalui mekanisme pencatatan Nomor Identitas Kependudukan (NIK). Sampai dengan akhir 2024, lebih dari 248 ribu pangkalan di 411 kota/kabupaten sudah dikonversi untuk melayani program Subsidi Tepat LPG 3 kg.

Pertamina Grup juga mendapatkan penugasan penyaluran Jenis BBM Khusus Penugasan (JBKP) BPH Migas, yakni *Pertalite* (RON 90) dengan kuota 31,7 juta KL dan realisasi penyaluran 29,7 juta KL. Kami memastikan penyaluran JBKP tepat sasaran melalui mekanisme pendaftaran QR Code secara bertahap melalui <https://subsidiempat.mypertamina.id/>.

The Company is committed to providing services for products/services equally to customers, and ensuring energy supply across the country, by adhering to the prevailing regulations. Especially for the distribution of subsidized energy, Pertamina Group has been able to distribute to the rightful people in all parts of the country according to the quota set by the Government.

The quota of certain types of fuel (JBT) for diesel oil and kerosene is determined by Decree of the Head of BPH Migas No. 89/P3JBT/BPH MIGAS/KOM/2023 and its amendments, while the refill quota for 3 kg Liquefied Petroleum Gas (LPG) Cylinders is based on Decree of the Minister of Energy and Mineral Resources No. 446.K/MG.05/DJM/2023 and its amendments. In 2024, Pertamina Group distributed the following subsidized energy:

1. JBT Kerosene with a quota of 0.5 million KL with the distribution realization of 0.5 million KL.
2. JBT Solar with a quota of 17.8 million KL with the distribution realization of 17.5 million KL.
3. Refill of 3 kg LPG cylinders with a quota of 8.29 million MT with the distribution realization of 8.26 million MT. The Company has implemented the 3 kg LPG *Subsidi Tepat* program through the mechanism of recording the Population Identity Number (NIK). By the end of 2024, more than 248,000 bases in 411 cities/regencies have been converted to serve the 3 kg LPG *Subsidi Tepat* program.

Pertamina Group has also been assigned by the BPH Migas Public to distribute Public Service Obligation Special Fuel (JBKP) *Pertalite* (RON 90) with a quota of 31.7 million KL with the distribution realization of 29.7 million KL. We ensured the distribution of JBKP was right on target through a QR Code registration mechanism in stages through <https://subsidiempat.mypertamina.id/>.

SPBU Ramah Disabilitas dan Pelatihan Bahasa Isyarat

Pertamina Grup mengoperasikan SPBU Lempuyangan di Kota Yogyakarta sebagai SPBU yang menyediakan fasilitas untuk penyandang disabilitas. SPBU ini juga memiliki ruangan ruang kerja bagi disabilitas yang juga menjadi tempat bagi beragam karya maupun produk yang dihasilkan oleh disabilitas dipamerkan sekaligus dijual untuk umum. Selain itu, Pertamina Grup juga menyelenggarakan pelatihan bahasa isyarat Indonesia (Bisindo) untuk pekerja Bright Store dan Bright Café di beberapa area SPBU.

Disability Friendly Gas Stations and Sign Language Training

Pertamina Group operates the Lempuyangan Gas Station in Yogyakarta City which provides facilities for people with disabilities. This gas station also has a workspace for people with disabilities that also becomes a place for various works and products that they created to be displayed and sold to the public. In addition, Pertamina Group also organizes Indonesian Sign Language (Bisindo) training for Bright Store and Bright Café workers in the area of several gas stations.

Pertamina Grup Tambah 71 Titik Operasional BBM Satu Harga

Kami terus melayani ketersediaan energi di seluruh pelosok negeri hingga menjangkau 3T, melalui pembangunan Lembaga Penyalur BBM Satu Harga. Di 2024, Pertamina Grup menambah operasional BBM Satu Harga sebanyak 71 SPBU, meliputi Klaster Maluku – Papua sebanyak 33 SPBU, Klaster Sulawesi –Nusa Tenggara (18 SPBU), Klaster Kalimantan (11 SPBU), dan Klaster Sumatra (9 SPBU). Kami secara konsisten terus membangun BBM Satu Harga sejak 2017 dan hingga saat ini jumlahnya telah mencapai lebih dari 573 titik.

Pertamina Group Adds 71 Operational Points of One Price Fuel

We continue to fulfill the energy supply in all parts of the country and reach the 3T areas through the development of the One Price Fuel distribution centers. In 2024, Pertamina Group added 71 points of One Price Fuel operations, covering the Maluku-Papua Cluster with 33 gas stations, the Sulawesi - Southeast Nusa Tenggara Cluster (18 gas stations), the Kalimantan Cluster (11 gas stations), and the Sumatra Cluster (9 gas stations). We have consistently built One Price Fuel since 2017 and to date the number has reached more than 573 points.

Titik Baru BBM Satu Harga

New One Price Fuel Point

Sumatra

9 lokasi
location

Kalimantan

11 lokasi
location

Sulawesi & Nusa Tenggara

18 lokasi
location

Maluku & Papua

33 lokasi
location



Evaluasi Keamanan Produk terhadap Pelanggan dan Penarikan Produk

[OJK F.27, F.29][GRI 416-1, 416-2]

Product Safety Evaluation on Customers and Product Recall

Seluruh produk Pertamina Grup (100%) terutama yang digunakan langsung oleh masyarakat, seperti BBM, petrokimia, dan pelumas, telah menjalani pemeriksaan keamanan terhadap pelanggan. Dari hasil pemeriksaan di 2024, diketahui tidak ada produk yang membahayakan keamanan maupun keselamatan pelanggan, dan tidak ada penarikan produk atas permintaan pihak-pihak berwenang. [SHS-5.C1, 5.A2, 5.A4]

Kami melengkapi setiap produk dengan informasi terkait bahaya dan risiko produk, serta terus melakukan sosialisasi keamanan penggunaan produk kepada pelanggan. Perseroan juga memberikan akses kepada pelanggan untuk menyampaikan keluhan maupun pengaduan keamanan produk, melalui Pertamina *Call Center* (PCC) 135. Terdapat 1.862 pengaduan maupun permintaan informasi keamanan produk di 2024, yang seluruhnya telah ditindaklanjuti. Secara berkala, Pertamina Grup bertemu dengan kontraktor/vendor/mitra kerja, untuk membahas aspek keselamatan pelanggan dalam rantai pasok. [SHS-5.C2, 5-A3]

Selama 2024, Pertamina Grup melakukan beberapa upaya untuk meningkatkan keamanan produk dan fasilitas, dan keselamatan pelanggan maupun masyarakat, di antaranya: [SHS-5.C3]

- Membangun zona penyangga (*buffer zone*) di PT KPI - RU V Balongan melalui beberapa tahapan, yaitu pengalihan Jalan Raya Balongan yang dialihkan ke Jalan Sukaurip.
- Melalui PT Pertamina Lubricants, Perseroan memanfaatkan kembali kemasan bekas produk pelumas dalam proses daur ulang untuk dicampurkan dalam produksi kemasan baru.

All Pertamina Group products (100%), especially those used directly by the public, such as fuel, petrochemicals, and lubricants, have undergone safety checks on customers. The inspection results in 2024 showed that there were no products that endangered the customers' security or safety, and there were no product recalls by the authorities. [SHS-5.C1, 5.A2, 5.A4]

We equip each product with information related to product hazards and risks, and continue to socialize the safety of product use to customers. The Company also provides access to customers to submit complaints and product safety complaints through the Pertamina Call Center (PCC) 135. In 2024, as many as 1,862 complaints and requests for product safety information were received, all of which have been followed up. Periodically, Pertamina Group meets with contractors/vendors/partners to discuss customer safety aspects in the supply chain. [SHS-5.C2, 5-A3]

During 2024, Pertamina Group made several efforts to improve product and facility safety, and the safety of customers and the community, including: [SHS-5.C3]

- Building a buffer zone at the PT KPI - RU V Balongan through several stages such as diverting the main road of Balongan to Jalan Sukaurip.
- Through PT Pertamina Lubricants, the Company recycled used packaging of lubricant products to be mixed in the production of new packaging.

Perseroan melanjutkan berbagai inisiatif sebagai respons atas insiden-insiden terkait produk yang digunakan langsung masyarakat, di antaranya: [SHS-5.A1]

- Dalam penjualan BBM di SPBU, insiden yang pernah terjadi adalah kebakaran saat pengisian ke kendaraan. Sebagai upaya pencegahan, kami memasang rambu-rambu peringatan yang harus dipatuhi pelanggan dan petugas SPBU, melakukan pemeriksaan berkala peralatan dan instalasi di SPBU, serta memberikan pelatihan kepada petugas SPBU.
- Dalam hal penggunaan produk *Liquified Petroleum Gas* (LPG), insiden yang pernah terjadi adalah kebocoran gas. Langkah pencegahan dilakukan melalui edukasi dan sosialisasi mengenai tata laksana penggunaan tabung LPG. Secara berkala, Perseroan melakukan pengujian ulang di unit-unit *retester* untuk memastikan kondisi tabung dalam keadaan baik, melengkapi penanda warna merah pada tabung elpiji sebagai indikator mengandung berbahaya mudah terbakar, sesuai ketentuan American National Standards Institute (ANSI) atau National Fire Protection Association (NFPA).
- Dalam penggunaan pelumas, insiden yang pernah dilaporkan pelanggan adalah gangguan mesin kendaraan akibat penggunaan pelumas yang diduga palsu dan bermutu rendah. Respons yang kami lakukan adalah memastikan seluruh produk pelumas Pertamina Grup memiliki sertifikasi Standar Nasional Indonesia (SNI); serta melengkapi fitur khusus seperti QR Code di stiker label, hologram khusus pada bagian atas tutup botol pelumas, nomor *batch* pada tutup maupun leher botol, serta tampilan botol dengan teknologi tiga lapisan.

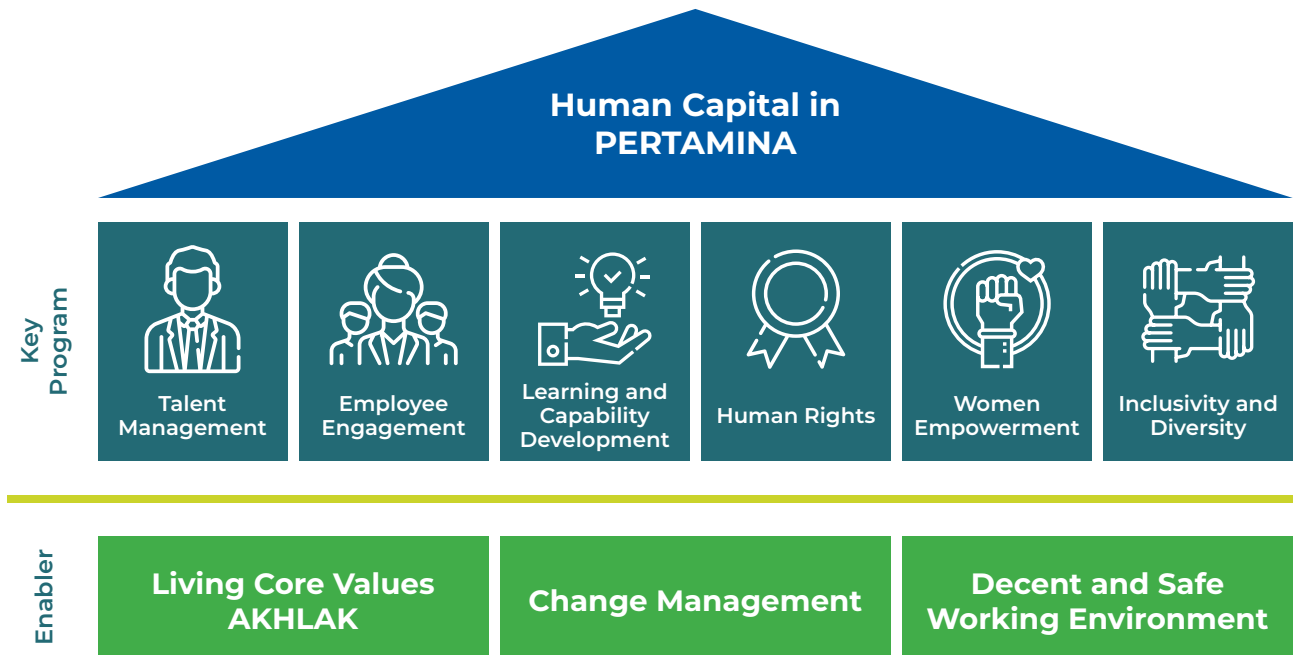
The Company continued various initiatives in response to incidents related to products used directly by the public, including: [SHS-5.A1]

- In the sale of fuel at gas stations, incidents that have ever occurred are fires while refueling vehicles. As a preventive measure, we have installed warning signs that must be complied with by customers and gas station attendants, conducted periodic inspections of equipment and installations at gas stations, and provided training to gas station attendants.
- In terms of LPG usage, incidents that have ever occurred are gas leaks. Preventive measures are carried out through education and dissemination of information on the proper use of LPG cylinders. The Company periodically conducts retesting in *retester* units to ensure that the cylinder is in good condition, adding a red color marker on LPG cylinders as an indicator that they contain flammable hazards, in accordance with the provisions of the American National Standards Institute (ANSI) or the National Fire Protection Association (NFPA).
- In the use of lubricants, incidents that have been reported by customers are vehicle engine problems due to the use of allegedly counterfeit and low-quality lubricants. Our response is to ensure that all Pertamina Group lubricant products are Indonesian National Standard (SNI) certified; as well as equipping special features such as QR Code on the label sticker, special hologram on the top of the lubricant bottle cap, batch number on the cap and bottle neck, and bottle appearance with three-layer technology.



Penguatan Pengelolaan Sumber Daya Manusia untuk Bisnis Berkelanjutan

Strengthening Human Capital Management for Sustainable Business



PT Pertamina (Persero) mendukung dan menjamin pengembangan serta peningkatan sumber daya manusia secara berkelanjutan, demi mencapai visi sebagai perusahaan energi nasional kelas dunia. Komitmen Perseroan dalam pengelolaan *human capital* (HC) dijabarkan dalam kerangka “*Human Capital* di Pertamina Grup”.

PT Pertamina (Persero) supports and ensures human capital development and continuous improvement to achieve its vision as a world-class national energy company. The Company's commitment to human capital (HC) management is outlined in the “*Human Capital* at Pertamina Group” framework.



Ketenagakerjaan, Pengelolaan Talenta, dan Keterikatan Pekerja

[SOC-5.A3]

Employment, Talent Management, and Employee Engagement

Pertamina Grup menyadari keberadaan sumber daya manusia (SDM) yang sangat beragam dan terdiri dari berbagai generasi, sehingga pengelolaan HC dilakukan dengan mengedepankan keberagaman, kesetaraan, dan inklusi.

Kesetaraan Kesempatan Bekerja [OJK F.18]

Kami memberikan kesempatan setara kepada setiap warga negara Indonesia (WNI) untuk bekerja di Pertamina Grup, tanpa melihat latar belakang individu yang dapat bersifat diskriminatif. Proses rekrutmen berlangsung terbuka, berkeadilan, dan dilakukan tersentral melalui situs web <https://recruitment.pertamina.com/> sehingga bisa diakses siapa saja.

Rekrutmen dan Perputaran Pekerja [GRI 401-1][OG 11.10.2][SOC-4.C1]

Di 2024, Pertamina Grup merekrut 1.603 pekerja baru, sehingga *recruitment rate* atau persentase perbandingan pekerja baru terhadap total pekerja sebesar 3,64%. Pekerja baru yang direkrut terdiri dari 1.068 (66,63%) laki-laki dan 535 (33,37%) perempuan. Mereka berasal dari seluruh Indonesia, termasuk pekerja lokal di masing-masing wilayah operasi Perseroan. Untuk wilayah operasi Pertamina Grup di mancanegara, rekrutmen pekerja tetap mengedepankan warga negara setempat dengan memperhatikan regulasi yang berlaku di masing-masing negara.

Kami melakukan beberapa program untuk merekrut pekerja lokal:

- *College Shopping*, melakukan proses sumber kandidat dengan melibatkan politeknik terdekat di sekitar area operasi.
- Program *Job Fair – Pertamina Goes to Campus* dan *company visit*, untuk memberikan wawasan dan informasi terkait lowongan serta wawasan dunia kerja kepada mahasiswa di daerah sekitar area operasi, termasuk sumber kandidat rekrutmen sesuai kebutuhan Perusahaan.

Pertamina Group recognizes the highly diverse HC that consists of different generations, making HC management is carried out by promoting diversity, equality, and inclusion.

Equal Employment Opportunity [OJK F.18]

We offer equal opportunities to every Indonesian citizen to work at Pertamina Group, irrespective of individual backgrounds that may be considered discriminatory. The recruitment process is transparent, fair, with a centralized process through the website <https://recruitment.pertamina.com/> that is accessible to anyone.

Employee Recruitment and Turnover [GRI 401-1][OG 11.10.2][SOC-4.C1]

In 2024, Pertamina Group recruited 1,603 new employees, bringing the recruitment rate or percentage ratio of new employees to total employees to 3.64%. The new hires consisted of 1,068 (66.63%) men and 535 (33.37%) women. They came from all over Indonesia, including local workforce in each of the Company's operating areas. For Pertamina Group's operating areas overseas, employee recruitment prioritizes local citizens with due regard to applicable regulations in the respective countries.

We conduct several programs to recruit local workers:

- *College Shopping*, a candidate sourcing process involving the nearest polytechnic around the area of operation.
- *Job Fair Program - Pertamina Goes to Campus* and *company visit*, to share knowledge and information regarding vacancies and insight into the world of work to students in the area around the operating area, including the source of recruitment for candidates according to the Company's needs.

- Program Rekrutmen Pertamina Grup, khususnya untuk calon tenaga kerja yang merupakan lulusan dari universitas/politeknik di sekitar area kerja/operasi Perseroan dengan tujuan menyasar lulusan setempat. Kandidat tersebut berasal dari masyarakat lokal dan masyarakat adat, termasuk masyarakat dari daerah 3T atau yang terafiliasi dengan etnis marginal tertentu.
- Kerja sama dengan sub-kontraktor lokal. Pertamina Grup bekerja sama dengan masyarakat lokal sebagai sub-kontraktor dan penyedia tenaga kerja.
- Pertamina Group Recruitment Program, especially for candidates who are graduates from universities/polytechnics around the Company's working/operating areas, to target local graduates. The candidates come from local communities and indigenous peoples, including communities from 3T areas or those affiliated with certain marginalized ethnicities.
- Cooperation with local subcontractors. Pertamina Group cooperates with local communities as subcontractors and manpower providers.

Rekrutmen Pekerja Baru Pertamina Grup Tahun 2024 Berdasarkan Penempatan dan Gender
 Recruitment of Pertamina Group New Employees Based on Placement and Gender in 2024

Holding, Subholding (SH), dan Anak Perusahaan (AP) Holding, Subholding (SH), and Subsidiaries	Laki-laki Male		Perempuan Female		Jumlah Total	
	Jumlah Total	%	Jumlah Total	%	Jumlah Total	%
Holding	-	-	-	-	-	-
SH Upstream	246	75.55	84	25.45	330	100.00
SH Refining & Petrochemical	201	87.01	30	12.99	231	100.00
SH Commercial & Trading	312	79.60	80	20.40	392	100.00
SH Power & NRE	3	50.00	3	50.00	6	100.00
SH Gas	9	60.00	6	40.00	15	100.00
SH Integrated Marine Logistics	54	73.97	19	26.03	73	100.00
AP Services & Portofolio Services & Portfolio Subsidiaries	243	43.71	313	56.29	556	100.00
Jumlah Rekrutmen Reguler Total Regular Recruitment	1,068	66.63	535	33.37	1,603	100.00



Rekrutmen Pekerja Baru Pertamina Grup

New Employee Recruitment of Pertamina Group

Holding, Subholding (SH), dan Anak Perusahaan (AP) Holding, Subholding (SH), and Subsidiaries	2024	2023	2022
Holding	-	-	18
SH Upstream	330	486	493
SH Refining & Petrochemical	231	426	338
SH Commercial & Trading	392	257	716
SH Power & NRE	6	34	44
SH Gas	15	94	72
SH Integrated Marine Logistics	73	46	2,794
AP Services & Portofolio Services & Portfolio Subsidiaries	556	1,199	2,768
Jumlah Rekrutmen Reguler Total Regular Recruitment	1,603	2,542	7,243

Di 2024, terdapat 870 pekerja yang meninggalkan Pertamina Grup, sehingga persentase terhadap total pekerja atau tingkat perputaran (*turnover rate*) sebesar 1,98%. Pekerja yang meninggalkan Pertamina Grup terdiri dari 706 laki-laki (81,15%) dan 164 perempuan (18,85%).

[SOC-6.A1]

In 2024, there were 870 employees left Pertamina Group, bringing the turnover rate to 1.98%. Employees who left Pertamina Group consisted of 706 men (81.15%) and 164 women (18.85%). [SOC-6.A1]

Jumlah Pekerja yang Meninggalkan Pertamina Grup Berdasarkan Penempatan

Number of Employees Leaving Pertamina Group Based on Placement

Penempatan Placement	2024			2023	2022
	Laki-laki Male	Perempuan Female	Jumlah Total		
Holding	294	42	336	70	349
SH & AP	412	122	534	834	913
Jumlah Total	706	164	870	904	1,262

Keterangan | Notes:

SH & AP: Subholding dan Anak Perusahaan | Subholding and Subsidiaries

Informasi Mengenai Pekerja [GRI 2-7, 405-1][OG 11.11.4][SOC-5.C2,5.C3]

Information on Employees

Pekerja Pertamina Grup terdiri dari Pekerja Waktu Tidak Tertentu (PWTT)/Pekerja Tetap dan Pekerja Waktu Tertentu (PWT)/Pekerja Kontrak. Pada 2024, pekerja Perseroan berjumlah 43.998 orang, bertambah 3.583 orang atau 8,87% dari 2023 yaitu sebanyak 40.415 orang. Berdasarkan kelompok usia, pekerja Pertamina Grup saat ini didominasi generasi milenial, yakni mereka yang lahir pada rentang waktu 1981-1996.

Pertamina Group employees consist of Permanent Employees (PWTT) and Non-permanent Employees (PWT). In 2024, the Company's total employees amounted to 43,998 people, an increase of 3,583 people or 8.87% from 40,415 people in 2023. Based on age groups, Pertamina Group employees are currently predominantly millennials, those who were born in 1981 to 1996.

Komposisi Pekerja Berdasarkan Gender dan Penempatan

Employee Composition by Gender and Placement

Tahun Year	Laki-laki Male			Perempuan Female			Jumlah Total		
	Holding	SH&AP	Jumlah Total	Holding	SH&AP	Jumlah Total	Holding	SH&AP	Jumlah Total
2024	10,948	24,908	35,046	1,647	7,305	8,952	12,595	32,213	43,998
2023	10,701	22,002	32,703	1,470	6,242	7,712	12,171	28,244	40,415
2022	11,383	24,501	35,884	1,538	6,244	7,782	12,921	29,745	43,666

Komposisi Pekerja Berdasarkan Status Kepegawaian dan Penempatan

Employee Composition by Employment Status and Placement

Tahun Year	PWTT			PWT			Jumlah Total		
	Holding	SH&AP	Jumlah Total	Holding	SH&AP	Jumlah Total	Holding	SH&AP	Jumlah Total
2024	12,595	23,911	36,506	42	7,450	7,492	12,637	31,361	43,998
2023	12,134	21,318	33,452	37	6,926	6,963	12,171	28,244	40,415
2022	12,885	22,915	35,800	36	7,830	7,866	12,921	30,745	43,666

Keterangan | Notes

PWTT: Pekerja Waktu Tidak Tertentu (Pekerja Tetap) | Indefinite Time Worker (Permanent Employee)

PWT: Pekerja Waktu Tertentu (Pekerja Tidak Tetap) | Definite Time Worker (Non-permanent Employee)

Komposisi Pekerja Tetap (PWTT) Berdasarkan Kelompok Usia dan Penempatan
Employee Composition by Age Group and Placement

Kelompok Usia (Tahun) Age Group (Years)	2024			2023			2022		
	Holding	SH&AP	Jumlah Total	Holding	SH&AP	Jumlah Total	Holding	SH&AP	Jumlah Total
<26	379	829	1,208	511	686	1,197	748	525	1,273
26-35	4,811	5,595	10,406	4,989	4,930	9,919	5,583	5,985	11,568
36-45	5,338	9,873	15,211	4,686	8,768	13,454	4,448	9,459	13,907
46-55	1,973	7,163	9,136	1,907	6,152	8,059	2,078	6,426	8,504
>55	94	451	545	41	782	823	28	520	548
Jumlah Total	12,595	23,911	36,506	12,134	21,318	33,452	12,885	22,915	35,800

Komposisi Pekerja Tetap (PWTT) Berdasarkan Tingkat Pendidikan dan Penempatan
Employee Composition by Education Level and Placement

Tingkat Pendidikan Education Level	2024			2023			2022		
	Holding	SH&AP	Jumlah Total	Holding	SH&AP	Jumlah Total	Holding	SH&AP	Jumlah Total
SMP/Sederajat Junior High School/ Equivalent	32	42	74	35	39	74	0	45	45
SLTA/Sederajat High School/Equivalent	2,275	3,399	5,674	2,378	4,016	6,394	2,532	4,363	6,895
Diploma & Sarjana Diploma & Bachelor	8,967	16,876	25,843	8,527	14,083	22,610	9,155	15,368	24,523
Pascasarjana Postgraduate	1,319	3,596	4,915	1,194	3,181	4,374	1,198	3,139	4,337
Jumlah Total	12,593	23,913	36,506	12,134	21,318	33,452	12,885	22,915	35,800

Komposisi Pekerja Non-Pegawai [GRI 2-8][SOC-5.C2, 5.C3]

Pekerja non-pegawai terdiri dari pekerja magang dan tenaga kerja jasa penunjang (TKJP). Pekerja magang adalah mahasiswa tingkat akhir peserta program magang bersertifikat di Pertamina Grup. Di 2024, terdapat 1.473 orang pemagang, terdiri dari 617 (41,89%) laki-laki dan 856 (58,11%) perempuan. Sementara itu, jumlah TKJP sebanyak 69.444 orang dengan penempatan terbanyak pada Subholding Upstream yaitu 29.461 orang atau 42,42% dari total TKJP.

Composition of Non-Employee Workers [GRI 2-8][SOC-5.C2, 5.C3]

Non-employee workers consist of interns and outsourced workers (TKJP). Interns are final-year students participating in a certified internship program at Pertamina Group. In 2024, there were 1,473 interns, consisting of 617 (41.89%) men and 856 (58.11%) women. Meanwhile, the number of outsourced workers was 69,444 people, mostly placed in Subholding Upstream with 29,461 people or 42.42% of the total outsourced workers.

Komposisi Pekerja Magang Berdasarkan Penempatan dan Gender

Intern Composition by Placement and Gender

Tahun Year	Laki-laki Male			Perempuan Female			Jumlah Total		
	Holding	SH&AP	Jumlah Total	Holding	SH&AP	Jumlah Total	Holding	SH&AP	Jumlah Total
2024	199	418	617	325	531	856	524	949	1,473
2023	185	134	319	291	188	479	476	322	798
2022	226	279	505	331	104	435	557	383	940

Komposisi Pekerja TKJP Berdasarkan Penempatan

TKJP Worker Composition by Placement

Penempatan Placement	2024	2023	2022
Holding	1,393	1,330	1,373
SH Upstream	29,461	21,346	11,418
SH Refining & Petrochemical	6,473	5,735	4,180
SH Commercial & Trading	18,682	12,033	8,404
SH Power & NRE	1,287	1,142	1,077
SH Integrated Marine Logistics	3,415	3,451	3,283
SH Gas	5,605	5,107	5,779
AP Services & Portofolio	3,127	2,831	-
Jumlah Total	69,444	52,975	35,514

Keterangan | Notes:

- SH: Subholding
- AP: Anak Perusahaan | Subsidiaries
- Khusus data TKJP AP Services & Portofolio, konsolidasi baru dilakukan di 2023. | Specifically for TKJP AP Services & Portfolio data, the consolidation will only be carried out in 2023.

Retensi dan Kesejahteraan Pekerja

Pertamina Grup berupaya mempertahankan talenta-talenta terbaik dengan memenuhi kesejahteraan, di antaranya memberikan imbal jasa pekerjaan/remunerasi yang disesuaikan dengan status kepegawaian. Beberapa komponen dalam imbal jasa pekerjaan yang tidak diberikan kepada pekerja tidak tetap/PWT adalah komponen terkait Penghargaan Atas Pengabdian (PAP) yang meliputi pesangon, Uang Penghargaan Masa Kerja (UPMK), dan Uang Penggantian Hak (UPH). [\[GRI 401-2\]\[OG 11.10.3\]](#)

Employee Retention and Welfare

Pertamina Group endeavors to retain the best talents by fulfilling their welfare, including providing remuneration based on their employment status. Some components in the remuneration that are not given to non-permanent employees are components related to Service Pay (PAP), which includes severance pay, Long Service Pay (UPMK), and Compensation Pay (UPH). [\[GRI 401-2\]\[OG 11.10.3\]](#)

Setiap tahun, kami mengukur tingkat keterikatan pekerja terhadap Perseroan (*employee engagement*) untuk meningkatkan produktivitas pekerja yang berujung pada peningkatan kinerja finansial dan operasional. Pengukuran melibatkan 16.436 pekerja tetap melalui pendekatan *employee value proposition* (EVP) yang meliputi enam dimensi pengukuran, yakni reputasi organisasi, kepemimpinan, karier dan pengembangan diri, pekerjaan, kebutuhan dasar, serta hubungan sosial. Skor Survei Keterikatan Pekerja di 2024 mencapai 80,83 (skala 100), yang secara umum berada dalam kategori Baik. [SOC-6.C1]

We measure the level of employee engagement annually to improve employee productivity, which in turn leads to better financial and operational performance. The measurement involved 16,436 permanent employees through the employee value proposition (EVP) approach, which includes six measurement dimensions, namely organizational reputation, leadership, career and self-development, work, basic needs, and social relationships. The Employee Engagement Survey score in 2024 reached 80.83 on a scale of 100, which was in the Good category. [SOC-6.C1]

Hasil Survei Keterikatan Pekerja (Skala 100)

Employee Engagement Survey Results (Scale of 100)

2024	2023	2022
80.83	87.60	83.23

Secara bertahap, Perseroan berupaya meningkatkan keterikatan pekerja dengan melakukan beberapa langkah untuk mengelola isu dan perhatian pekerja terhadap pekerjaan, antara lain: [SOC-4.C2, 6.C2]

- Menyelenggarakan Program *Psychological Counseling Assistance for Employees* (PsyCARE) dengan realisasi di 2024 sebanyak 2 *batch* dengan jumlah pendaftar 284 pekerja;
- Pertamina Grup melakukan pemeriksaan berkala untuk memastikan fasilitas kerja termasuk akomodasi penunjang di tempat kerja telah memenuhi standar yang berlaku. Pada 2024, diketahui seluruh fasilitas di tempat kerja dinyatakan telah memenuhi standar yang berlaku.

The Company has been gradually increasing employee engagement by taking several actions to manage employee issues and attention towards work, including: [SOC-4.C2, 6.C2]

- Organizing the Psychological Counseling Assistance for Employees (PsyCARE) Program, and realizing 2 batches with a total of 284 employees registering in 2024;
- Conducting periodic inspections to ensure work facilities, including support accommodation in the workplace, have met applicable standards. In 2024, all facilities in the workplace were found to have met the applicable standards.

Cuti Melahirkan [GRI 401-3][OG 11.10.4, 11.11.3]

Ketentuan cuti melahirkan diatur dalam Perjanjian Kerja Bersama (PKB) 2022-2024, dan diberikan kepada pekerja tetap/PWTT maupun pekerja tidak tetap/PWT dengan gender perempuan. Hak cuti berlaku selama 90 hari kalender, disertai jaminan bekerja kembali pada jabatan semula. Sementara itu, hak cuti tiga hari berlaku untuk pekerja laki-laki untuk mendampingi persalinan istri mereka. Selama 2024, terdapat 21 pekerja holding perempuan yang mengambil cuti melahirkan, dan seluruhnya (100%) telah kembali bekerja setelah cuti melahirkan.

Maternity Leave [GRI 401-3][OG 11.10.4, 11.11.3]

Provisions for maternity leave are stipulated in the Collective Bargaining Agreement (CBA) 2022-2024. The permanent and non-permanent female employees are entitled to maternity leave for 90 calendar days, with a guarantee to return to their original position. Meanwhile, male employees are entitled to a 3-day leave to accompany their wives during childbirth. In 2024, a total of 21 female employees holding took maternity leave, and all of them (100%) have returned to work after their maternity leave ended.

Pemberitahuan Perubahan Operasi [GRI 402-1][OG 11.10.5]

Sesuai PKB 2022-2024, Perseroan berkewajiban menyampaikan pemberitahuan kepada pekerja terkait perubahan operasi:

- Pemberitahuan mutasi/rotasi penugasan minimal 30 hari kalender sebelum pelaksanaan;
- Pemberitahuan penghentian operasi/pemutusan kontrak kerja/pemutusan hubungan kerja (PHK) minimal 30 hari kalender sebelum pelaksanaan. Selama 2024, tidak ada penghentian operasi yang diikuti dengan PHK terhadap pekerja Pertamina Grup.

Notification of Changes in Operations [GRI 402-1][OG 11.10.5]

In accordance with the CBA 2022-2024, the Company is obliged to notify employees of changes in operations, including:

- Notification of assignment transfer/rotation at least 30 calendar days prior to implementation;
- Notification of termination of operations/termination of work contracts/layoffs at least 30 calendar days prior to implementation. During 2024, there was no termination of operations followed by layoffs of Pertamina Group employees.

Pelatihan dan Pengembangan Kapabilitas Pekerja [OJK F.22][SOC-7.C1]

Employee Training and Capability Development

Peningkatan kompetensi di Perseroan menjadi tanggung jawab Fungsi HC, didukung Pertamina Corporate University (PCU) serta PT Pertamina Training & Consulting (PTC), dan diukur melalui target KPI. Selama 2024, kami melanjutkan kegiatan pelatihan yang mengedepankan metode pembelajaran berbasis pemanfaatan teknologi, dan transfer pengetahuan yang melibatkan pimpinan melalui kepelatihan (*coaching*) maupun pendampingan (*mentoring*). Hal ini diselaraskan dengan pekerja Pertamina Grup yang saat ini didominasi oleh Generasi Milenial dan Generasi Z.

Competency development in the Company is the responsibility of the HC Function, supported by Pertamina Corporate University (PCU) and PT Pertamina Training & Consulting (PTC), which is measured through KPI targets. During 2024, we continued training activities that prioritize technology-based learning methods and knowledge transfer involving leaders through coaching and mentoring. This is aligned with Pertamina Group employees who are currently predominantly Millennials Generation and Z Generation.

Realisasi Program Pendidikan dan Pelatihan Realization of Education and Training Program

Jenis Pelatihan dan Pendidikan Types of Training and Education	2024		2023		2022	
	Jumlah Program	Jumlah Peserta	Jumlah Program	Jumlah Peserta	Jumlah Program	Jumlah Peserta
	Total Programs	Total Participants	Total Programs	Total Participants	Total Programs	Total Participants
Pre-employee Program	4	971	2	420	4	560
Program Pendidikan Lanjutan (Tugas Belajar) Advanced Education Program (Tugas Belajar)	7	200	2	9	2	4
Program Pelatihan Jangka Panjang dan Pendek Long- and Short-Term Training Program	1,058	39,673	868	38,014	763	28,934
Program E-Learning/Mobile Learning	623	59,758	63	48,384	53	35,024

Realisasi Program Transfer Pengetahuan
Realization of Knowledge Transfer Program

Jenis Program Type of Program	2024		2023		2022	
	Jumlah Program Total Programs	Jumlah Peserta Total Participants	Jumlah Program Total Programs	Jumlah Peserta Total Participants	Jumlah Program Total Programs	Jumlah Peserta Total Participants
Program Fungsional Functional Program	1,627	84,408	914	75,781	803	49,652
Manajerial/Program Kepemimpinan Managerial/Leadership Program	34	3,551	13	2,445	10	2,021
Program Nilai-nilai Perusahaan Corporate Values Program	18	10,668	2	6,815	2	11,665
Program Penguatan Komitmen Nasional Strengthening National Commitment Program	2	804	3	1,357	1	620

Salah satu materi pengembangan kompetensi adalah program CCS/CCUS. Pada pertengahan Juli 2024, Perseroan menyelenggarakan seminar dengan materi ini dan diikuti seluruh manager Pertamina Grup. Melalui kegiatan ini, Pertamina Grup mempersiapkan SDM untuk mendukung realisasi peta jalan pengembangan CCS/CCUS hingga tahun 2060. [SOC-7A1]

One of the competency development materials is the CCS/CCUS program. In mid-July 2024, the Company held a seminar with this material and was attended by all managers of Pertamina Group. Pertamina Group, through this program, prepares human resources to support the realization of the CCS/CCUS development roadmap up to 2060. [SOC-7A1]

Secara umum, program pelatihan dan pengembangan kapabilitas pekerja Pertamina Grup, terdiri dari tiga kategori program:

In general, Pertamina Group's employee training and capability development program consists of three program categories:

- **Mandatory Program**

Program pengembangan yang sifatnya wajib bagi para pekerja, yakni:

- **Mandatory Program**

Development programs that are mandatory for employees, namely:

1. **Program Leadership dan Program terkait HSSE**

Leadership Program dilakukan secara berjenjang di seluruh tingkat jabatan, yakni *Senior Management Development Program* sebanyak 83 peserta, *Catalyser Program Cohort 3* sebanyak 124 peserta, *Catalyser Mastery Program* sebanyak 30 peserta, dan *Trailblazer Program* sebanyak 77 peserta, serta *Woman & Millennial Leadership Program (Women LEAP)* sebanyak 38 peserta.

1. **Leadership Program and HSSE-related Program**

The Leadership Program is carried out in stages at all levels of positions, including the Senior Management Development Program with 83 participants, Catalyser Program Cohort 3 with 124 participants, Catalyser Mastery Program with 30 participants, and Trailblazer Program with 77 participants, as well as Woman & Millennial Leadership Program (Women LEAP) with 38 participants.

2. Program HSSE yang berstandar global, komprehensif, inovatif, dan terintegrasi. Program menyoar kepada lima kompetensi, yakni SUPREME (HSSE Management System), Sustainability, Safe Practice & Life Saving Rules, Management of HSSE Operational Hazards and Risks, serta Emergency Response Preparedness.

- **Program Pengembangan Orientasi Bisnis**

Program pengembangan yang dirancang untuk membekali peserta dengan pengetahuan, keterampilan, dan kompetensi yang relevan dengan kebutuhan bisnis Pertamina Grup saat ini ataupun di masa depan. Program yang dilaksanakan antara lain program Pertamina Sustainability Academy, New and Renewable Energy (NRE) Academy, Pertamina Investment Excellence School, Shared Services School, Digital School, Investor Relations Development Program. Program dijalankan dengan metode 70:20:10 yakni berbentuk *project assignment, coaching/mentoring, training* dan *self-learning program*.

- **Program Pengembangan Orientasi Individual**

Berupa program pengembangan pekerja yang berfokus dalam memenuhi kompetensi teknis jabatan dan tercatat dalam Rencana Pengembangan Individu (*Individual Development Plan*) masing-masing pekerja, yang berbentuk *assignment, coaching, sertifikasi, classroom training, online learning* melalui berbagai *online platform*, dan *self-learning*.

Di luar kategori program tersebut, Pertamina Grup juga mengembangkan program-program lain di antaranya:

- *Specific Development Program* dikembangkan melalui Mini Magister Hukum, Program Insinyur, Program Magister Teknik, dan *Finance for Non-Finance*;
- *Scholarship Program*
Program disesuaikan dengan kebutuhan bisnis serta bersinergi bersama Lembaga Pengelola Dana Pendidikan (LPDP), dan terdapat 150 pekerja menjadi peserta tugas belajar;
- *Digital Learning* dikembangkan melalui TRACO dan *E-Learning* Pertamina serta bekerja sama dengan *Learning Partner* seperti: LinkedIn Learning, Udacity, dan ELSA;

2. The HSSE program has global standards, comprehensive, innovative, and integrated. The program targets five competencies, namely SUPREME (HSSE Management System), Sustainability, Safe Work Practice & Life Saving Rules, Management of the HSSE Operational Hazards and Risks, and Emergency Response Preparedness.

- **Business-Orientation Development Program**

A development program designed to equip participants with knowledge, skills, and competencies relevant to Pertamina Group's current or future business needs. The programs implementation include Pertamina Sustainability Academy, New and Renewable Energy (NRE) Academy, Pertamina Investment Excellence School, Shared Services School, Digital School, Investor Relations Development Program. The program is run using the 70:20:10 method in the form of project assignments, coaching/mentoring, training and self-learning programs.

- **Individual Orientation Development Program**

An employee development program that focuses on meeting the technical competencies of the position and is recorded in each employee's Individual Development Plan, which takes the form of assignments, coaching, certification, classroom training, online learning through various online platforms, and self-learning.

Aside from these program categories, Pertamina Group has also developed other programs including:

- *Specific Development Program* developed through Mini Master of Law, Engineer Program, Master of Engineering Program, and *Finance for Non-Finance*;
- *Scholarship Program*
The program is tailored to business needs and synergizes with the Indonesia Endowment Fund for Education Agency (LPDP), and 150 employees participated in the study assignment program;
- *Digital Learning* is developed through TRACO and Pertamina *E-Learning* in collaboration with *Learning Partners* such as: LinkedIn Learning, Udacity, and ELSA;

- *Partnership* dikembangkan dengan Japan Cooperation Center for Petroleum & Sustainability Energy (JCCP), BUMN *School of Excellence* (BSE), dan Forum Human Capital Indonesia (FHCI);
 - Program sertifikasi dikelola secara internal oleh Lembaga Sertifikasi Profesi (LSP) Pertamina, berlisensi Badan Nasional Sertifikasi dan Profesi (BNSP). LSP Pertamina memiliki 47 Skema, 373 Asesor, serta 60 Tempat Uji Kompetensi (TUK). Selama 2024, terdapat 202 program sertifikasi yang diselenggarakan dengan jumlah peserta 3.881 pekerja;
 - Maritime Training Center (MTC) merupakan pusat pendidikan dan pelatihan maritim, yang berlokasi di Jakarta dan Batam. MTC memiliki 35 Program *Mandatory Standard of Training Certification and Watchkeeping* (STCW) Khusus Pelaut, serta lebih dari 50 Program *Non-Mandatory* STCW. Di 2024, MTC menyelenggarakan berbagai program, di antaranya: Sertifikasi *Mandatory* STCW dari Direktorat Jenderal Perhubungan Laut, dengan peserta 4.068 orang untuk 28 judul program; Sertifikasi BNSP bersama LSP Pertamina diikuti 580 peserta untuk lima judul program; Sertifikasi dari Kesatuan Penjagaan Laut dan Pantai (KPLP) – Direktorat Jenderal Perhubungan Laut dengan peserta 267 peserta untuk tiga judul program; Sertifikasi dari *Recognized Security Organization* (RSO) sebanyak 23 peserta untuk satu judul program; Pelatihan *Non-Mandatory* STCW dengan peserta 1.235 orang untuk 22 judul program; serta lebih dari 1.600 peserta untuk Revalidasi dan *Replacement* Sertifikasi *Mandatory* STCW.
 - Pertamina HSE TC (HSE TC) merupakan pusat pelatihan Pertamina Grup, bergerak dalam bidang *Health, Safety, Security, and Environment* (HSSE) yang terletak di Sungai Gerong, Sumatra Selatan. Pertamina membangun HSE TC sebagai institusi pelatihan HSSE terkemuka di bawah Fungsi Pertamina Corporate University dan Direktorat Sumber Daya Manusia. Sarana fasilitas penunjang pelatihan di Pertamina HSE TC di antaranya 22 Modul *Fire Ground, Fire Station, Simulator Emergency Response, Smoke Chamber, Helicopter Underwater Escape Training* (HUET), *Ship Model, Confined Space*, serta *Fire Truck and Clinic*. Terdapat 92 judul pelatihan di HSE TC dan yang
- Partnership is developed with Japan Cooperation Center for Petroleum & Sustainability Energy (JCCP), SOE School of Excellence (BSE), and Forum Human Capital Indonesia (FHCI);
 - The certification program is managed internally by Pertamina Professional Certification Agency (LSP), licensed by the National Agency for Certification and Profession (BNSP). LSP Pertamina has 47 Schemes, 373 Assessors, and 60 Competency Test Sites (TUK). During 2024, there were 202 certification programs held with 3,881 participants;
 - Maritime Training Center (MTC) is a maritime education and training center, located in Jakarta and Batam. MTC has 35 Standard of Training Certification and Watchkeeping (STCW) Mandatory Programs specifically for Seafarers, as well as more than 50 STCW Non-Mandatory Programs. In 2024, MTC organized various programs, including: Mandatory STCW Certification from the Directorate General of Sea Transportation, with 4,068 participants for 28 program titles; BNSP Certification with LSP Pertamina attended by 580 participants for five program titles; Certification from the Sea and Coast Guard Unit (KPLP) - Directorate General of Sea Transportation with 267 participants for three program titles; Certification from Recognized Security Organization (RSO) with 23 participants for one program title; Non-Mandatory STCW Training with 1,235 participants for 22 program titles; and more than 1,600 participants for Revalidation and Replacement of Mandatory STCW Certification.
 - Pertamina HSE TC (HSE TC) is a training center for Pertamina Group, focused on Health, Safety, Security, and Environment (HSSE) aspects, located in Sungai Gerong, South Sumatra. Pertamina built HSE TC as a leading HSSE training institution under Pertamina Corporate University, Human Resources Directorate. Training facilities at Pertamina HSE TC include 22 modules of Fire Ground, Fire Station, Emergency Response Simulator, Smoke Chamber, Helicopter Underwater Escape Training (HUET), Ship Model, Confined Space, as well as Fire Truck and Clinic. There are 92 modules at HSE TC, and the most favorite training for participants include Confined

menjadi pilihan utama para peserta, di antaranya *Confined Space, Incident Investigation, Advanced Fire Fighting, Working At Height (WAH)*, Manajemen Krisis dan Simulasi Penanggulangan Keadaan Darurat, *First Aider Level 2*, serta *Fireman Level 1 dan 2*. Pada 2024, Pertamina HSE TC berhasil menyelenggarakan pelatihan HSSE, diikuti oleh 10.654 peserta dari Pertamina Grup dan perusahaan eksternal yang terdiri dari 3.989 peserta *Mandatory Program*, 2.498 peserta *Non-Mandatory Program*, serta 4.167 peserta sertifikasi.

Space, Incident Investigation, Advanced Fire Fighting, Working At Height (WAH), Crisis Management and Emergency Response Simulation, First Aider Level 2, and Fireman Level 1 and 2. In 2024, Pertamina HSE TC successfully held HSSE training, attended by 10,654 participants from Pertamina Group and external companies consisting of 3,989 Mandatory Program participants, 2,498 Non-Mandatory participants, and 4,167 certification participants.

Rerata Jam Pelatihan per Total Pekerja [GRI 404-1][OG 11.10.6, 11.11.7][SOC-7.C2, 7.A2]

Total jumlah jam pelatihan di 2024 mencapai 3.120.541 jam dan jumlah peserta sebanyak 26.677 orang. Rerata jam pelatihan per total karyawan untuk masing-masing entitas anak disampaikan dalam tabulasi berikut.

Average Training Hours per Total Employees [GRI 404-1][OG 11.10.6, 11.11.7][SOC-7.C2, 7.A2]

The total number of training hours in 2024 reached 3,120,541 hours with 26,677 participants. The average training hours per total employee for each subsidiary is presented in the following table.

Rerata Jam Pelatihan per Total Karyawan
Average Hours of Training per Total Employees

Entitas Subsidiaries	2024			Rerata Average	
	Jam Pelatihan Training Hours	Jumlah Pekerja Number of Employees	Rerata (Jam/Orang) Average (Hours/ Person)	2023	2022
Holding	101,885	1,600	63.68	40.44	15.63
SH Upstream	395,818	11,482	34.47	13.07	19.72
SH Refining & Petrochemical	299,924	5,444	55.09	17.05	15.29
SH Commercial & Trading	383,406	4,923	77.88	14.42	11.79
SH Power & NRE	18,670	545	34.26	12.73	10.56
SH Integrated Marine Logistics	80,018	1,549	51.66	14.67	15.97
SH Gas	69,311	1,669	41.53	27.39	14.08
AP Services & Portofolio	28,040	1,870	14.99	60.53	29.71

Leadership Development Program

Perseroan memiliki program akselerasi yakni *Leadership Development Program* (LDP), yang ditujukan untuk kader *leader* yang siap menjawab tantangan dan keberlanjutan bisnis perusahaan. Program LDP dilaksanakan berjenjang di seluruh level pekerja dan didesain dengan mengacu pada kompetensi kepemimpinan sesuai struktur karier di Pertamina Grup, terdiri dari:

- **Leadership Mandatory Program**

Merupakan program kepemimpinan yang wajib diikuti pekerja pada level Teknisi/Operator/administrasi, *Entry and Team Leader* untuk menyiapkan pekerja pada level tersebut terutama pada keahlian kepemimpinan sesuai kebutuhan tingkat jabatan dan berperan optimal. *Leadership Mandatory Program* mencakup *Effective Working Attitude* (EWA), *Junior Mandatory Development Program* (JMDP), *Senior Mandatory Development Program* (SMDP), dan *Leadership Acceleration Program*;

- **Program Akselerasi**

Merupakan program kepemimpinan untuk menyiapkan suksesi jabatan tingkat manajer ke atas di lingkungan Pertamina Grup. Pada program ini, pekerja diberikan program pengembangan pada level di atas level pekerja saat ini dengan kriteria peserta yang merupakan kategori *Talent Pool*, program-program antara lain *Trailblazer Program*, program akselerasi untuk level Assistant Manager/Setara untuk menjadi suksesor pada level Jabatan Manager, diikuti oleh 61 pekerja; *Catalyser Program*, program akselerasi untuk menyiapkan pekerja sebagai suksesor pada level Vice President (VP) serta pelaksanaan program *cohort* tiga sebanyak 124 peserta di 2024;

- **Catalyser Mastery Program**

Merupakan program *development* untuk level VP dan setara untuk dapat berperan optimal sebagai *leaders* pada jenjang jabatannya saat ini dan juga menyiapkan pekerja untuk *ready* menduduki level yang lebih tinggi/akselerasi. Di 2024, telah dijalankan satu *cohort* sebanyak 30 peserta;

Leadership Development Program

The Company has an acceleration program called Leadership Development Program (LDP), which is intended for leader candidates ready to answer the challenges and sustainability of the Company's business. The LDP program is implemented in stages at all levels of employees and is designed with reference to leadership competencies according to the career structure in Pertamina Group, consisting of:

- **Leadership Mandatory Program**

A leadership program that must be attended by employees at the levels of Technician/Operator/Administration, Entry and Team Leader to prepare them to perform optimally according to the requirements of the position, especially in leadership skills. Leadership Mandatory Program includes Effective Working Attitude (EWA), Junior Mandatory Development Program (JMDP), Senior Mandatory Development Program (SMDP), and Leadership Acceleration Program;

- **Acceleration Program**

A leadership program to prepare succession of managerial level positions and above within Pertamina Group. In this program, employees are provided with a development program at one level above their current position with the criteria of participants who are in the Talent Pool category, programs include Trailblazer Program, an acceleration program for Assistant Manager/Equivalent level to become a successor at the Managerial level, attended by 61 employees; Catalyser Program, an acceleration program to prepare employees as successors at the Vice President (VP) level and the implementation of the third cohort program with 124 participants in 2024;

- **Catalyser Mastery Program**

A development program for VP and equivalent levels to be able to play an optimal role as leaders at their current position, and also to prepare employees to be ready to occupy higher/accelerated levels. In 2024, one cohort of 30 participants has been implemented;

- **Woman Leadership Acceleration Program (Woman LEAP)**

Merupakan program pengayaan aspek kepemimpinan pada pemimpin-pemimpin perempuan di Pertamina Grup, dengan memberikan program kepemimpinan yang bertujuan untuk *women empowerment*. Program Woman LEAP dilaksanakan untuk level Assistant Manager/Setara di lingkungan Pertamina Grup yang diikuti 40 peserta.

Pelatihan untuk Persiapan Masa Pensiun [GRI 404-2][OG 11.10.7][SOC-7.A1]

Sesuai PKB 2022-2024, usia pensiun pekerja Pertamina Grup adalah 56 tahun. Perseroan memfasilitasi pembekalan persiapan masa pensiun bagi para calon purna karya. Adapun topik pembelajaran yang diberikan yaitu: aspek psikologi persiapan pensiun, pengelolaan kesehatan pensiun, perencanaan keuangan, perencanaan dan pengelolaan bisnis, *sharing* pengalaman purna karya, serta kunjungan pelaku usaha UMKM. Pada 2024, program Masa Persiapan Purna Karya (MPPK) yang telah berjalan adalah 32 *batch*, dan jumlah peserta yang telah mengikuti adalah 401 peserta yang merupakan pekerja Pertamina Grup.

Penilaian Kinerja dan Pengembangan Karier [GRI 404-3][SOC-5.A1, 5.A4]

Kami memberikan kesempatan setara kepada setiap pekerja untuk membangun karier di Pertamina Grup. Kebijakan terkait karier pekerja dan promosi jabatan di Perseroan dijalankan oleh Direktorat SDM dan dilaksanakan dengan mempertimbangkan kebutuhan organisasi serta hasil penilaian kinerja atas seluruh (100%) pekerja. Perseroan juga memiliki mekanisme lelang jabatan bagi pekerja untuk menjadi pemimpin. Kebijakan tersebut mendorong keberagaman komposisi pejabat Perseroan, di antaranya berdasarkan gender dan kelompok usia. Secara keseluruhan, di 2024, terdapat 3.381 pekerja yang mendapatkan promosi jabatan atau 7,68% dari total pekerja, dan terdiri dari 2.957 laki-laki (87,46%) serta 424 perempuan (12,54%).

- **Woman Leadership Acceleration Program (Woman LEAP)**

An enrichment program for the leadership aspects of female leaders in Pertamina Group, by providing leadership programs aimed at women empowerment. The Woman LEAP program was implemented for Assistant Manager/equivalent level within Pertamina Group which was attended by 40 participants.

Pre-retirement Training [GRI 404-2][OG 11.10.7][SOC-7.A1]

Referring to CBA 2022-2024, the retirement age of Pertamina Group employees is 56 years old. The Company facilitates the pre-retirement training of retiring employees. The learning topics include: psychological aspects of retirement preparation, retiree health management, financial planning, business planning and management, retiree experience sharing, and visits to MSME businesses. In 2024, a total of 32 batches of the Retirement Preparation Period (MPPK) program have been running, and the number of participants was 401 employees of Pertamina Group.

Performance Appraisal and Career Development [GRI 404-3][SOC-5.A1, 5.A4]

We provide equal opportunities to every employee to build their career in the Pertamina Group. Policies on employee careers and promotions in the Company are carried out by the HC Directorate and implemented based on the organization's needs and the results of performance appraisals of all employees (100%). The Company also has an open bidding mechanism for employees to become leaders. The policy encourages diversity in the composition of the Company's workers, including by gender and age group. In 2024, a total of 3,381 employees were promoted, or 7.68% of total employees, consisting of 2,957 male (87.46%) and 424 female (12.54%).

Jumlah Pekerja yang Mendapat Promosi Jabatan Berdasarkan Gender
Total Employees Promoted Based on Gender

Tahun Year	Laki-laki Male		Perempuan Female		Jumlah Total	
	Jumlah Total	%	Jumlah Total	%	Jumlah Total	%
2024	2,957	87	424	13	3,381	100
2023	4,487	85	785	15	5,272	100
2022	6,927	86	1,091	14	8,018	100

HAM, Kepemimpinan Perempuan, Keberagaman, dan Inklusivitas

[SOC-5.C1]

Human Rights, Women's Leadership, Diversity, and Inclusiveness

Kebijakan HAM dan Uji Tuntas HAM pada Rantai Pasok

[SOC-1.C1][EM-EP-210a.3][SOC-5.C1]

Perseroan memiliki Kebijakan HAM sebagai dasar bagi Pertamina Grup dan rantai pasok dalam menerapkan HAM. Kebijakan HAM disusun merujuk pada UU Nomor 39 Tahun 1999 tentang Hak Asasi Manusia, UU Nomor 13 Tahun 2003 tentang Ketenagakerjaan beserta perubahannya dalam Undang-Undang No. 11 Tahun 2020 tentang Cipta Kerja, Deklarasi Universal Hak Asasi Manusia dari Perserikatan Bangsa-Bangsa, dan Prinsip-prinsip Hak-hak Mendasar di Tempat Kerja berdasarkan 8 Konvensi Inti International Labour Organization (ILO) yang juga telah diratifikasi Pemerintah Indonesia. [SOC-1.A1]

Human Rights Policy and Due Diligence in Supply Chain

[SOC-1.C1][EM-EP-210a.3][SOC-5.C1]

The Company has a Human Rights Policy as the basis for Pertamina Group and supply chain in implementing human rights. The Human Rights Policy is prepared in reference to Law No. 39 of 1999 concerning Human Rights, Law No. 13 of 2003 concerning Manpower and its amendments in Law No. 11 of 2020 concerning Job Creation, the Universal Declaration of Human Rights of the United Nations, and the Principles of Fundamental Rights at Work based on 8 Core Conventions of the International Labor Organization (ILO) which have also been ratified by the Government of Indonesia. [SOC-1.A1]



Kesungguhan penerapan HAM dikuatkan hasil Uji Tuntas HAM sesuai standar Penilaian Risiko Bisnis dan HAM (PRISMA) Kementerian Hukum dan HAM, dengan kategori “Sesuai”. Uji tuntas ini dilakukan dengan *self-assessment*. Berdasarkan standar tersebut ada 12 indikator penilaian yakni kebijakan HAM, mekanisme pengaduan, tenaga kerja, pengaruh HAM pada perusahaan, rantai pasok, kondisi kerja, serikat pekerja, privasi, agraria dan masyarakat adat, diskriminasi, lingkungan, serta tanggung jawab sosial perusahaan. Secara bertahap, kami mendorong kontraktor/mitra/vendor untuk melakukan Uji Tuntas HAM (PRISMA).

Melalui penerapan PRISMA, Perseroan melalui Direksi dengan pengawasan Dewan Komisaris, memastikan setiap investasi dan kontrak kerja dengan berbagai pihak, telah menyertakan konsideran HAM sejak dari awal proses. Evaluasi dari pelaksanaan setiap investasi dan kontrak kerja dilakukan melalui pelaporan berkala kepada Direksi untuk memastikan konsideran HAM dijalankan dengan benar, di antaranya terkait jaminan kepemilikan masyarakat atas tanah/lahan yang menjadi lokasi kegiatan migas, serta menjamin keberlanjutan kelestarian lingkungan hidup. [SOC-1.C3, 1.C5]

Pertamina Grup mengedepankan penyelesaian bermartabat atas setiap permasalahan yang dihadapi dengan berbagai pihak, guna menghindari tindak pelanggaran HAM dan mengurangi dampak yang ditimbulkan. Selama 2024, tidak ada kegiatan operasi maupun pelaksanaan proyek yang ditinjau pihak-pihak berwenang karena dugaan terjadi tindak pelanggaran HAM. Namun demikian, terdapat kondisi dinamis yang terus ditindaklanjuti, salah satunya adalah komunikasi dengan masyarakat Ujung Tanah, Kota Makassar, terkait pembangunan zona penyangga (*buffer zone*) di Integrated Terminal Makassar. Langkah tersebut dilakukan agar proses yang berlangsung secara bertahap dapat diterima masyarakat Ujung Tanah yang menempati lahan di sekitar Terminal BBM, mengingat pentingnya zona penyangga untuk keamanan dan keselamatan bersama. [SOC-1.C2]

The consistent implementation of human rights is corroborated by the results of the Human Rights Due Diligence in accordance with the Ministry of Law and Human Rights' Business and Human Rights Risk Assessment (PRISMA) standards, with the category “Compliant”. This due diligence is conducted through self-assessment. Based on the standard, there are 12 assessment indicators: human rights policy, grievance mechanism, employment, human rights influence on the company, supply chain, working conditions, labor unions, privacy, agrarian and indigenous peoples, discrimination, environment, and corporate social responsibility. Gradually, we encourage contractors/partners/vendors to conduct Human Rights Due Diligence (PRISMA).

By implementing PRISMA, the Company, through the Board of Directors under the supervision of the Board of Commissioners, ensures that every investment and work contract with various parties includes human rights considerations from the beginning of the process. The implementation of each investment and work contract is evaluated through periodic reporting to the Board of Directors to ensure that human rights considerations are properly implemented, including those related to the guarantee of community ownership of land/site where oil and gas activities are located, as well as ensuring the sustainability of environmental preservation. [SOC-1.C3, 1.C5]

Pertamina Group prioritizes dignified resolution for every problem faced by the Company with various parties, to avoid human rights violations and reduce the impact. During 2024, there were no operations or project implementation activities that were evaluated by the authorities due to allegations of human rights violations. However, there are dynamic conditions that continue to be followed up, one of which involves communication with the Ujung Tanah community, Makassar City, regarding the construction of a buffer zone at the Makassar City Integrated Fuel Terminal. This measure was taken to ensure that the gradual process can be accepted by the community of Ujung Tanah who occupy the land around the fuel terminal, considering the importance of the buffer zone for our shared security and safety. [SOC-1.C2]

Pelatihan HAM dan Audit PIPL [SOC-1.C4][EM-EP-210a.3]

Realisasi pelatihan HAM di 2024 tercatat 10 jam per pelatihan dengan keikutsertaan sejumlah 24.993 (56,80%) pekerja Pertamina Grup. Pencapaian ini sudah melebihi target 2024 yaitu 20.000 pekerja. Tema pelatihan HAM yang diselenggarakan di 2024, antara lain *Respectful Workplace Policy* dan *Employee Well-being Policy Awareness*. Dukungan pada penegakan dan penghormatan HAM juga dilakukan Perseroan dengan melaksanakan audit Pertamina *Industrial Peace Level* (PIPL) setiap dua tahun sekali. Audit terakhir dilaksanakan 2024 dengan penilaian akhir di *Level Advanced* (tertinggi).

[SOC-1.A3]

Perseroan memiliki Kebijakan *Respectful Workplace* yang wajib ditaati seluruh pekerja, maupun pihak-pihak yang berinteraksi dengan Pertamina Grup termasuk kontraktor/mitra/vendor. Untuk mendukung penerapan kebijakan tersebut, kami melakukan sosialisasi dan pelatihan termasuk terhadap kontraktor/mitra/vendor melalui *banner* dan video yang ditayangkan di lingkungan PT Pertamina (Persero) dan dapat diakses oleh seluruh tenaga alih daya (TAD) yang bekerja di lingkungan PT Pertamina (Persero). [GRI 406-1][SOC-1.A1][SOC-2.C1]

Setiap pekerja wajib melaporkan tindakan diskriminasi, kekerasan, dan pelecehan yang terjadi di lingkungan kerja dan/atau terhadap pekerja, melalui respect@pertamina.com. Perseroan menjamin kerahasiaan identitas pelapor dan memberikan perlindungan dari tindakan pembalasan maupun diskriminasi. Ketentuan tersebut berlaku bagi seluruh pekerja dan segala jenis pekerjaan termasuk pekerjaan singkat/semesta. Selama 2024, setidaknya ada 21 laporan yang diterima Perseroan terkait dugaan perbuatan diskriminasi, kekerasan, dan pelecehan dalam bekerja maupun terhadap pekerja. Setiap laporan telah ditindaklanjuti dan diberikan sanksi yang sesuai dengan keterlibatan masing-masing pekerja, seperti pemberian teguran, surat peringatan, demosi, hingga pemutusan hubungan kerja, sehingga akan mendatangkan efek jera dan menumbuhkan kepercayaan pekerja untuk berani melapor. Khusus kepada korban tindakan pelecehan seksual, kami memberikan pendampingan psikologis dan juga oleh tim HC. [SOC-8.C1][SOC-8.A1, 8.A2, 8.A3, 8.A4]

Human Rights Training and PIPL Audit [SOC-1.C4][EM-EP-210a.3]

The realization of human rights training in 2024 was recorded at 10 hours per training with the participation of 24,993 (56.80%) Pertamina Group employees. This achievement has exceeded the 2024 target of 20,000 employees. Human rights training themes in 2024, among others *Respectful Workplace Policy* and *Employee Well-being Policy Awareness*. Support for the enforcement and respect of human rights is also carried out by the Company by conducting Pertamina *Industrial Peace Level* (PIPL) audits every two years. The last audit was conducted in 2024 with the final assessment at the *Advanced Level* (highest). [SOC-1.A3]

The Company has a *Respectful Workplace Policy* that must be adhered to by all employees, as well as parties who interact with Pertamina Group including contractors/partners/vendors. To support the implementation of the policy, we conduct dissemination and training including to contractors/partners/vendors through banners and videos displayed in the environment of PT Pertamina (Persero) and can be accessed by all outsourced workers (TADs) working within PT Pertamina (Persero). [GRI 406-1][SOC-1.A1][SOC-2.C1]

Every employee is required to report acts of discrimination, violence, and harassment that occur in the work environment and/or against employees, through respect@pertamina.com. The Company guarantees the confidentiality of the whistleblower's identity and protects from retaliation and discrimination. This provision applies to all employees and all types of work, including short-term/temporary work. During 2024, there were at least 21 reports received by the Company related to alleged acts of discrimination, violence, and harassment at work or against employees. Each report has been followed up and given sanctions according to the involvement of each employee, such as giving a reprimand, warning letter, demotion, to termination of employment give a deterrent effect and foster employee confidence to have the courage to report. Especially for victims of sexual harassment, we provide psychological assistance, and also by the HC team. [SOC-8.C1][SOC-8.A1, 8.A2, 8.A3, 8.A4]

Budaya Inklusivitas dan Meningkatkan Peran Perempuan [SOC-5.C1]

Pertamina Grup mendukung aspirasi tercapainya 25% kepemimpinan perempuan di 2030. Komitmen ini diwujudkan melalui berbagai inisiatif yang dijalankan oleh Direktorat Sumber Daya Manusia dan komunitas Perempuan Pertamina Tangguh Inspiratif Wibawa dan Integritas (PERTIWI), di antaranya *PERTIWI Goes to Campus*, *Women Leadership Accelerator Program* (Women LEAP), *PERTIWI Coaching Program*, *Employee Well-being Policy* (EWP), *PERTIWI Energizing Forum*, serta *PERTIWI Menginspirasi*.

PERTIWI Goes to Campus merupakan inisiatif untuk meningkatkan minat mahasiswa dan lulusan perempuan berkarier di industri energi yang menarik minat 480 peserta. *Women LEAP* adalah program untuk mempercepat kesiapan perempuan menjadi pemimpin, yang membina 38 peserta. Sementara itu, *PERTIWI Coaching Program* adalah program mentoring untuk mendukung pengembangan karier pekerja perempuan, dengan 402 pekerja mengikuti program ini.

Dalam menciptakan lingkungan kerja yang inklusif dan aman, Pertamina Grup telah menjadi pionir penerapan Kebijakan Tempat Kerja yang Saling Menghormati di lingkungan BUMN dan terus memperkuat kebijakan melalui sosialisasi, pelatihan, serta jalur pelaporan. Selain itu, *Employee Well-being Policy* (EWP) diterapkan untuk kesejahteraan pekerja secara fisik, mental, sosial, lingkungan, dan finansial.

Komitmen ini juga diwujudkan melalui berbagai forum diskusi, seperti *PERTIWI Energizing Forum* yang membahas kepemimpinan dan inovasi, serta *PERTIWI Menginspirasi* untuk memperingati Hari Kartini. Sebagai langkah strategis, Pertamina Grup telah menyusun *Roadmap* dan *Strategi Kesetaraan Gender* guna memastikan keberlanjutan inisiatif ini.

Culture of Inclusiveness and Promoting the Role of Women [SOC-5.C1]

Pertamina Group supports the aspiration to achieve 25% women leadership by 2030. This commitment is realized through various initiatives run by the Directorate of Human Capital and the community of Pertamina Tangguh Inspiratif Wibawa dan Integritas (PERTIWI), including *PERTIWI Goes to Campus*, *Women Leadership Accelerator Program* (Women LEAP), *PERTIWI Coaching Program*, *Employee Wellbeing Policy* (EWP), *PERTIWI Energizing Forum*, and *PERTIWI Menginspirasi*.

PERTIWI Goes to Campus is an initiative to raise the interest of female students and graduates to pursue a career in the energy industry, which attracted 480 participants. *Women LEAP* is a program to accelerate women's readiness to become leaders, which fostered 38 participants. Meanwhile, the *PERTIWI Coaching Program* is a mentoring program to support the career development of female employees, with 402 employees joining the program.

In creating an inclusive and safe working environment, Pertamina Group has pioneered the implementation of *Respectful Workplace Policy* (RWP) in SOEs and continues to strengthen the policy through dissemination, training, and reporting channels. In addition, the *Employee Well-being Policy* (EWP) is implemented for the employees well-being physically, mentally, socially, environmentally, and financially.

This commitment is also manifested through various discussion forums, such as *PERTIWI Energizing Forum* which discusses leadership and innovation, and *PERTIWI Menginspirasi* to commemorate Kartini Day. As a strategic step, Pertamina Group has developed a *Gender Equality Roadmap* and *Strategy* to ensure the sustainability of this initiative.

Sebagai perusahaan inklusif, Pertamina Grup juga:

- Mendukung komunitas PERTIWI dalam mengintegrasikan kesetaraan gender di bisnis dan kepemimpinan, bekerja sama dengan UNGC, UN Women, IBCWE, USAID, Microsoft Indonesia, dan WeEmpowerAsia. Program utama meliputi Gender Equality Accelerator Program dan *Respectful Workplace Initiative*.
- Meningkatkan *engagement* pekerja melalui komunitas berbasis olahraga, seni, keagamaan, dan pengembangan diri yang selaras dengan prinsip LST.
- Memastikan aksesibilitas bagi Tenaga Kerja Penyandang Disabilitas (TKPD) melalui audit rutin, penyediaan juru bahasa isyarat, keterlibatan dalam acara perusahaan, serta pelatihan dan FGD untuk memahami kebutuhan mereka.

Kesempatan Setara kepada Penyandang Disabilitas

Melalui program afirmasi rekrutmen penyandang disabilitas/difabel, Perseroan memberi kesempatan bagi difabel untuk bekerja di Pertamina Grup. Sampai dengan akhir 2024, jumlah Perwira Sobot Disabilitas di Pertamina Grup ada 83 orang atau 1,8% dari total pekerja Pertamina Grup, melebihi target sebesar 72 orang atau 1,6% dibandingkan total pekerja Pertamina Grup. Jumlah tersebut belum memenuhi ketentuan dalam UU Nomor 8 Tahun 2016 tentang Penyandang Disabilitas, yang menyebutkan BUMN wajib mempekerjakan paling sedikit 2% difabel dari jumlah pekerja. Secara bertahap, kami meningkatkan jumlah difabel sebagai pekerja Pertamina Grup, dan mendukung keberadaan Perwira Sobot Disabilitas Pertamina. Kami juga mendorong mereka untuk mengembangkan kompetensi dengan memberikan fasilitas, pendidikan, *training*, maupun *coaching* sebaik-baiknya dan perlakuan tanpa membedakan antara pekerja; serta terbuka kesempatan untuk membangun karier.

As an inclusive company, Pertamina Group also conduct the following:

- Supporting the PERTIWI community in integrating gender equality in business and leadership, in collaboration with UNGC, UN Women, IBCWE, USAID, Microsoft Indonesia, and WeEmpowerAsia. Key programs include the Gender Equality Accelerator Program and Respectful Workplace Initiative.
- Increasing employee engagement through sports, arts, religious, and self-development communities that are aligned with ESG principles.
- Ensuring accessibility for Workers with Disabilities (TKPD) through regular audits, provision of sign language interpreters, involvement in company events, and training and FGDs to understand their needs.

Equal Opportunities for People with Disabilities

Through the recruitment affirmation program for people with disabilities, the Company provides opportunities for people with disabilities to work at Pertamina Group. Until the end of 2024, there were 83 Disabled Officers (Perwira Sobot Disabilitas) in Pertamina Group or 1.8% of the total employees of Pertamina Group, exceeding the target of 72 people or 1.6% of total Pertamina Group. This number has not met the provisions in Law Number 8 of 2016 concerning People with Disabilities, which stipulates that SOEs must employ at least 2% of people with disabilities from the total number of employees. We will gradually increase the number of people with disabilities as Pertamina Group employees, and support the Perwira Sobot Disabilitas. We also encourage them to develop their competence by providing the best facilities, education, training, coaching, and non-discriminatory treatment between workers; as well as open opportunities to build their careers.

Persentase Pekerja Penyandang Disabilitas

Percentage of Workers with Disabilities

Tahun Year	Jumlah Pekerja Penyandang Disabilitas Total Employees with Disabilities	Jumlah Pekerja Pertamina Grup Total Employee of Pertamina Group	Persentase (%) Percentage (%)
2024	83	43,998	0.19
2023	57	40,415	0.14
2022	49	43,666	0.11

Komposisi Pekerja Penyandang Disabilitas

Composition of Workers with Disabilities

Tahun Year	Fisik Physical		Intelektual Intellectual		Sensorik Sensory		Mental		Jumlah Total	
	Jumlah Total	%	Jumlah Total	%	Jumlah Total	%	Jumlah Total	%	Jumlah Total	%
2024	39	46.99	1	1.20	40	48.19	3	3.61	83	100.00
2023	30	52.63	0	0.00	27	47.37	0	0.00	57	100.00
2022	21	42.86	0	0.00	28	57.14	0	0.00	49	100.00

Kesempatan Setara kepada Masyarakat Lokal di Papua

Perseroan juga memiliki kebijakan penyediaan kesempatan kerja bagi masyarakat lokal dan masyarakat adat di wilayah operasi, di antaranya Papua. Hal ini selaras dengan kebijakan afirmasi Pemerintah dan Kementerian BUMN, untuk menyediakan kesempatan bekerja yang setara kepada masyarakat lokal dan masyarakat adat.

Equal Opportunities for Local Communities in Papua

The Company also has a policy of providing job opportunities for local communities and indigenous peoples in its operating areas, including Papua. This aligns with the affirmative policy of the Government and the Ministry of SOEs, to provide equal employment opportunities to local communities and indigenous peoples.

Akumulasi Jumlah Pekerja Pertamina Grup dari Putra Daerah Papua Berdasarkan Gender

Accumulated Number of Pertamina Group Workers from Papuan Locals Based on Gender

Gender	2024		2023		2022	
	Jumlah Total	%	Jumlah Total	%	Jumlah Total	%
Laki-laki Male	19	63	19	63	18	64
Perempuan Female	11	37	11	37	10	36
Jumlah Total	30	100	30	100	28	100

Keberagaman di Level Pemimpin, Pemimpin Perempuan, dan Talent Pipeline [SOC-5.C2, C3]

Perseroan menerapkan kesetaraan gender dengan melaksanakan prinsip-prinsip dalam Women's Empowerment Principles (WEPs) UNGC dan mendorong kepemimpinan perempuan di Pertamina Grup. Hal ini diwujudkan dengan pengukuran target KPI persentase *Women as a Leader*, sebagai bagian dari tindakan afirmasi meningkatkan peluang pekerja perempuan sebagai pemimpin di Perseroan. Kami menargetkan hingga 20% pemimpin perempuan dalam lingkup bisnis Pertamina Grup, meningkat dari saat ini yang mencapai 18%.

Diversity at Leader Level, Women Leaders, and Talent Pipeline [SOC-5.C2, C3]

The Company promotes gender equality by implementing the principles in UNGC's Women's Empowerment Principles (WEPs) and encouraging women's leadership in Pertamina Group. This is realized by measuring the KPI target of the percentage of Women with leadership roles, as part of affirmative action to increase opportunities for female employees as leaders in the Company. We are targeting up to 20% of female leaders in the business scope of Pertamina Group, increasing from the current 18%.

Komposisi Kepemimpinan Pertamina Grup Berdasarkan Gender Pertamina Group Leadership Composition Based on Gender

Tingkat Jabatan Position Level	Gender	2024			
		Holding	Subholding	Total	%
L1 (SVP Setara) L1 (SVP Equivalent)	Laki-laki Male	16	5	21	0.06
	Perempuan Female	2	0	2	0.01
	Jumlah Total	18	5	23	0.06
L2 (VP Setara) L2 (VP Equivalent)	Laki-laki Male	181	113	294	0.81
	Perempuan Female	48	18	66	0.18
	Jumlah Total	229	131	360	0.99
L3 (Manajer Setara) L3 (Manager Equivalent)	Laki-laki Male	855	1,052	1,907	5.22
	Perempuan Female	225	208	433	1.19
	Jumlah Total	1,080	1,260	2,340	6.41
Jumlah Total L1-L3		1,327	1,396	2,723	7.46
% Kepemimpinan Perempuan % Female Leadership		18.40			
L4 dan Lainnya L4 and Others	Laki-laki Male	9,891	17,499	27,390	75.03
	Perempuan Female	1,377	5,016	6,393	17.51
	Jumlah Total	11,268	22,515	33,783	92.54
Jumlah Total L1-L4		12,595	23,911	36,506	100.00

Komposisi Kepemimpinan Pertamina Grup Berdasarkan Gender
 Pertamina Group Leadership Composition Based on Gender

Tingkat Jabatan Position Level	Gender	2023				2022			
		Holding	Subholding	Total	%	Holding	Subholding	Total	%
L1 (SVP Setara) L1 (SVP Equivalent)	Laki-laki Male	18	7	25	1.08	13	8	21	1.39
	Perempuan Female	1	1	2	0.09	1	2	3	0.20
	Jumlah Total	19	8	27	1.16	14	10	24	1.59
L2 (VP Setara) L2 (VP Equivalent)	Laki-laki Male	196	114	310	13.36	136	66	202	13.35
	Perempuan Female	40	41	81	3.49	27	22	49	3.24
	Jumlah Total	236	155	391	16.85	163	88	251	16.59
L3 (Manajer Setara) L3 (Manager Equivalent)	Laki-laki Male	886	713	1,599	68.89	505	511	1,016	67.15
	Perempuan Female	169	135	304	13.10	121	101	222	14.67
	Jumlah Total	1,055	848	1,903	81.99	626	612	1,238	81.82
Jumlah Total L1-L3		1,310	1,011	2,321	100.00	803	710	1,513	100.00
% Kepemimpinan Perempuan % Female Leadership		16.67				18.11			
L4 dan Lainnya L4 and Others	Laki-laki Male	9,585	15,763	25,348	81.41	10,709	17,458	28,167	82.15
	Perempuan Female	1,244	4,544	5,788	18.59	1,373	4,747	6,120	17.85
	Jumlah Total	10,829	20,307	31,136	100.00	12,082	22,205	34,287	100.00
Jumlah Total L1-L4		12,139	21,318	33,452	100.00	12,885	22,915	35,800	100.00

Kesetaraan dan Keseimbangan Remunerasi dan Upah Minimum Regional [OJK F.20]

Tingkat remunerasi pekerja Pertamina Grup, mengacu pada kemampuan perusahaan dan *competitiveness* posisi upah sesuai pasar, serta tidak membedakan gender. Namun Perseroan juga mempertimbangkan beberapa faktor dalam penetapan besaran remunerasi seperti masa kerja, penilaian kinerja, dan lokasi penempatan. Hasil kalkulasi rasio upah dan remunerasi tahun 2024, memperlihatkan pada jabatan tertentu ada pekerja perempuan yang menerima imbal jasa pekerjaan lebih besar dari pekerja laki-laki. Secara keseluruhan, besaran imbal jasa pekerjaan terendah pekerja Pertamina Grup, masih lebih besar dari upah minimum yang ditetapkan pemerintah daerah di setiap wilayah operasi. [GRI 202-1][GRI 405-2][OG 11.11.5][SOC-5.A2]

Equal and Balanced Remuneration and Regional Minimum Wage [OJK F.20]

The remuneration of Pertamina Group employees relies on the Company's ability and competitiveness of the wage position according to the market, regardless of gender. However, the Company also considers some other factors in determining the amount of remuneration, such as length of service, performance appraisal, and placement location. The results of the calculation of the ratio of wages and remuneration in 2024 showed that female employees in certain positions received higher pay than male employees. Overall, the amount of the lowest Pertamina Group employee's remuneration is still greater than the minimum wage set by the local government in each operating area. [GRI 202-1][GRI 405-2][OG 11.11.5][SOC-5.A2]

Rasio Gaji Pokok dan Remunerasi Pekerja Perempuan Dibanding Pekerja Laki-laki Ratio of Male's Wages to Female's Wages

Tingkat Jabatan Position Level	2024		2023	2022	
	Laki-laki Male	Perempuan Female	Rasio Ratio	Rasio Ratio	
L1 (SVP Setara) L1 (SVP Equivalent)	1.25	1	0.80	0.91	0.79
L2 (VP Setara) L2 (VP Equivalent)	1	1	1	0.89	0.97
L3 (Manager Setara) L3 (Manager Equivalent)	1.06	1	0.95	1.00	1.01
L4 dan Lainnya L4 and Others	0.98	1	1.02	1.02	0.99

Rasio Gaji Pokok dan Remunerasi Pekerja Perempuan Dibanding Pekerja Laki-laki Tahun 2024 Berdasarkan Lini Bisnis Signifikan
Basic Salary and Remuneration Ratio of Female Compared to Male Based on Significant Business Line in 2024

Tingkat Jabatan Position Level	SH Upstream			SH Refining & Petrochemical			SH Commercial & Trading		
	Laki-laki Male	Perempuan Female	Rasio Ratio	Laki-laki Male	Perempuan Female	Rasio Ratio	Laki-laki Male	Perempuan Female	Rasio Ratio
L1 (SVP Setara) L1 (SVP Equivalent)	-	-	-	-	-	-	-	-	-
L2 (VP Setara) L2 (VP Equivalent)	1.08	1	0.93	1.20	1	0.83	0.87	1	1.15
L3 (Manager Setara) L3 (Manager Equivalent)	0.97	1	1.03	1.07	1	0.93	0.98	1	1.02
L4 dan Lainnya L4 and others	1.06	1	0.94	0.90	1	1.11	0.91	1	1.10

Keterangan | Note:

Terkait dengan informasi L1 (SVP Setara) atau setara dengan Direksi pada subholding tidak dapat disajikan dalam tabel ini dikarenakan memiliki ketentuan yang berbeda.

Regarding information on L1 (SVP Equivalent) or equivalent to the Directors in subholdings, it cannot be presented in this table because it has different provisions.

Rasio Gaji Pokok dan Remunerasi Pekerja Perempuan Dibanding Pekerja Laki-laki Tahun 2024 Berdasarkan Lini Bisnis Signifikan
Basic Salary and Remuneration Ratio of Female Compared to Male Based on Significant Business Line in 2024

Tingkat Jabatan Position Level	SH Power & NRE			SH Integrated Marine Logistics			SH Gas		
	Laki-laki Male	Perempuan Female	Rasio Ratio	Laki-laki Male	Perempuan Female	Rasio Ratio	Laki-laki Male	Perempuan Female	Rasio Ratio
L1 (SVP Setara) L1 (SVP Equivalent)	-	-	-	-	-	-	-	-	-
L2 (VP Setara) L2 (VP Equivalent)	0.92	1	1.09	0.93	1	1.08	1	1	1
L3 (Manager Setara) L3 (Manager Equivalent)	0.99	1	1.01	0.90	1	1.11	0.96	1	1.04
L4 dan Lainnya L4 and others	1.17	1	0.85	1.22	1	0.82	1.08	1	0.93

Keterangan | Note:

Terkait dengan informasi L1 (SVP Setara) atau setara dengan Direksi pada subholding tidak dapat disajikan dalam tabel ini dikarenakan memiliki ketentuan yang berbeda.

Regarding information on L1 (SVP Equivalent) or equivalent to the Directors in subholdings, it cannot be presented in this table because it has different provisions.

Kebebasan Berserikat dan Perjanjian Kerja Bersama (PKB) [GRI 2-30, 407-1][OG 11.13.2]

Pertamina Grup tidak pernah melakukan hal-hal untuk menghalangi kebebasan pekerja dalam berserikat. Saat ini, ada tiga federasi serikat pekerja di Pertamina Grup, yaitu Federasi Serikat Pekerja Pertamina Bersatu (FSPPB), Federasi Serikat Pekerja Pertamina Hulu (FSPPH), dan Federasi Serikat Pekerja Pertamina Hilir Indonesia (FSPPHI). Pertamina Grup bersama perwakilan pekerja telah menyusun PKB Periode 2022-2024. PKB diperbaharui setiap dua tahun dan melindungi seluruh pekerja (100%), baik anggota Serikat Pekerja maupun yang bukan.

Tenaga Kerja Anak dan Tenaga Kerja Paksa [OJK F.19][GRI 408-1, 409-1][OG 11.12.2]

Perseroan tidak mempekerjakan pekerja anak (<18 tahun) dan tidak ada praktik kerja paksa di seluruh kegiatan operasi. Praktik ini telah sesuai Kebijakan HAM yang merujuk pada konvensi ILO Nomor C-29, C-105, C-138, dan C-182, serta Undang-Undang No.13 Tahun 2003 tentang Ketenagakerjaan. Ketentuan tersebut juga berlaku bagi kontraktor/mitra/vendor dalam rantai pasok Pertamina Grup.

Praktik Keamanan [GRI 410-1][OG 11.18.2][SOC-3.C1, 3.C2]

Petugas keamanan di lingkungan kerja Pertamina Grup disediakan PT Pertamina Training & Consulting (PTC), berdasarkan izin operasional Badan Usaha Jasa Pengamanan (BUJP) dari Kepolisian Republik Indonesia (Polri). Seluruh petugas keamanan telah memiliki pengetahuan mendasar tentang HAM, melalui pendidikan dan sertifikasi satuan pengamanan (satpam) sesuai Peraturan Kapolri No.Pol.18 Tahun 2006. Selain itu, di 2024 ada 71 petugas keamanan yang mendapatkan pelatihan keamanan dan HAM *Voluntary Principles on Security and Human Rights* Pertamina. Untuk praktik pengamanan di wilayah operasi mancanegara, Pertamina Grup menyesuaikan dengan ketentuan yang berlaku di setiap negara.

Freedom of Association and Collective Bargaining Agreement (CBA) [GRI 2-30, 407-1][OG 11.13.2]

Pertamina Group has never done anything to hinder employees' freedom of association. Currently, there are three federations of labor unions in Pertamina Group, namely the United Federation of Pertamina Labor Unions (FSPPB), the Federation of Upstream Pertamina Labor Unions (FSPPH), and the Federation of Indonesian Downstream Pertamina Labor Unions (FSPPHI). Pertamina Group together with employee representatives prepared the CBA for the period 2022-2024. The CBA is renewed every two years and protects all (100%) workers, both Trade Union members and non-members.

Child Labor and Forced Labor [OJK F.19][GRI 408-1, 409-1][OG 11.12.2]

The Company does not employ child labor (<18 years old) and there are no forced labor practices in all operations. This practice complies with the Human Rights Policy which refers to ILO conventions No. C-29, C-105, C-138, and C-182, as well as Law No. 13 Year 2003 on Employment. These provisions also apply to contractors/partners/vendors in the Pertamina Group supply chain.

Security Practices [GRI 410-1][OG 11.18.2][SOC-3.C1, 3.C2]

Security personnel in Pertamina Group's work environment are provided by PT Pertamina Training & Consulting (PTC), based on the operational license of Security Services Business Entity (BUJP) from the Indonesian National Police (Polri). All security personnel have basic knowledge of human rights, through education and certification of security units in compliance with National Police Regulation No.Pol.18 of 2006. In 2024, there were 71 security personnel who received security and human rights training on Pertamina *Voluntary Principles on Security and Human Rights*. For security practices in overseas operation areas, Pertamina Group adjusts to the applicable provisions in each country.

Pertamina Grup selalu melakukan koordinasi dengan Polri di tingkat pusat maupun kepolisian daerah/kepolisian resor, termasuk dalam pembinaan serta pelatihan anggota satpam untuk peningkatan sertifikasi meliputi Gada Pratama, Gada Madya, dan Gada Utama. Pengungkapan kegiatan pelatihan anggota satpam untuk subholding dan anak perusahaan disampaikan dalam Laporan Keberlanjutan masing-masing entitas. Kami juga memastikan personel tenaga pengamanan dari kontraktor/vendor/mitra kerja memiliki sertifikasi satpam dari Polri, guna memastikan telah mendapatkan pengetahuan dasar HAM. Secara berkala, Pertamina Grup melakukan evaluasi atas kinerja personel tenaga pengamanan. Selama 2024, tidak ada keluhan, pengaduan maupun pelaporan terkait tindakan pengamanan yang dinilai sebagai pelanggaran HAM. [SOC-3.C3, 3.A1, 3.A2, 3.A3, 3.A4]

Pertamina Group always coordinates with the National Police at the central level and regional police/resort police, including in the development and training of security personnel to improve certification including Gada Pratama, Gada Madya, and Gada Utama. Disclosure of security personnel training activities for subholding and subsidiaries is presented in each entity's Sustainability Report. We also ensure that security personnel from contractors/vendors/partners have security guard certification from the National Police, to ensure that they have received basic human rights knowledge. Periodically, Pertamina Group evaluates the performance of security personnel. During 2024, there were no complaints, grievances or reports related to security measures that were considered human rights violations. [SOC-3.C3, 3.A1, 3.A2, 3.A3, 3.A4]

Memperkuat Pembangunan Masyarakat Berdaya di Wilayah Operasi

Strengthening the Development of Empowered Communities in the Operating Area

Salah satu bentuk komitmen PT Pertamina (Persero) dalam menjaga keberlangsungan bisnisnya adalah dengan berkontribusi pada kemandirian masyarakat melalui pemenuhan tanggung jawab sosial dan lingkungan (TJSL). Selain itu, melalui TJSL, kami berkontribusi nyata pada pencapaian target TPB di Indonesia.

One of PT Pertamina (Persero)'s commitments in maintaining its business sustainability is to contribute to the community's independence through the fulfillment of corporate social responsibilities (CSR). In addition, through CSR, we contribute significantly to the achievement of SDGs targets in Indonesia.

Dampak Operasi terhadap Masyarakat [OJK F.23, F.25][OG 11.15.2]

Operation Impact on Community

Ketika memulai kegiatan di suatu wilayah, Pertamina Grup senantiasa melakukan identifikasi serta pemetaan dampak terhadap masyarakat setempat dan menjadi bagian dari dokumen Analisis Mengenai Dampak Lingkungan (AMDAL), sebagai kelengkapan perizinan. Berdasarkan identifikasi dan pemetaan tersebut, Perseroan menyusun, melaksanakan dan mengevaluasi program-program TJSL di sekitar wilayah operasi. Program dan kegiatan TJSL disusun mengacu ISO 26000 Guidance Standard on Social Responsibility. Pemenuhan TJSL mencakup empat pilar dan didukung alokasi dana TJSL yang ditetapkan berdasarkan Rencana Kerja dan Anggaran Program Tanggung Jawab Sosial dan Lingkungan Tahun 2024 yang disahkan oleh Kementerian BUMN Nomor RIS-36/DSI.MBU.B/12/2023. [SOC-13.C1, 13.A3]

Sebagai wujud komitmen Perseroan terhadap keberlanjutan dan pengelolaan dampak lingkungan, Perseroan telah mengintegrasikan pemetaan dampak lingkungan berdasarkan kerangka kerja Task Force on Climate-related Financial Disclosures (TCFD). Pendekatan ini memungkinkan perusahaan untuk lebih terstruktur dalam mengidentifikasi, menilai, dan mengelola risiko dan peluang terkait dengan keanekaragaman hayati serta dampak lingkungan lainnya yang dapat mempengaruhi operasional dan nilai Perseroan. [OJK F.28]

Realisasi dana TJSL pada 2024 mencapai Rp441.998 juta, atau 91,93% dari RKAP sebesar Rp480.776 juta. Realisasi terbesar untuk program/kegiatan TJSL pilar sosial sebesar Rp174.492 juta atau 105,50% dari total anggaran sebesar Rp165.400 juta. Adapun untuk laporan TJSL PT Perusahaan Gas Negara Tbk disajikan terpisah dari laporan ini dan dapat dilihat pada situs web entitas tersebut. Lebih lanjut, evaluasi kegiatan dan realisasi pembiayaan dilaksanakan melalui penilaian pencapaian Indeks Kinerja Utama (KPI) Fungsi Corporate Secretary sebagai penanggung jawab, dan dilaporkan kepada Direksi. Pengungkapan informasi pelaksanaan program/kegiatan dan pengaruhnya terhadap Perseroan, disampaikan pada pembahasan masing-masing pilar TJSL. [GRI 413-1][SOC-13.C2][SOC-13.A1, 13.A2, 13.A4, 13.A5]

When starting activities in an area, Pertamina Group always conducts identification and mapping of impacts on local communities and becomes part of the Environmental Impact Analysis (AMDAL) document, as a completeness of licensing. Based on the identification and mapping, the Company prepares, implements and evaluates CSR programs around the operating area. The CSR programs and activities are developed with reference to the ISO 26000 Guidance Standard on Social Responsibility. The fulfillment of CSR consists of four pillars and is supported by the allocation of CSR funds determined based on the Work Plan and Budget for the Corporate Social Responsibility Program for 2024 approved by the Ministry of SOEs Number RIS-36/DSI.MBU.B/12/2023. [SOC-13.C1, 13.A3]

As part of the Company's commitment to sustainability and environmental impact management, the Company has integrated environmental impact mapping based on the Task Force on Climate-related Financial Disclosures (TCFD) framework. This approach allows the company to be more structured in identifying, assessing, and managing risks and opportunities related to biodiversity and other environmental impacts that may affect the Company's operations and value. [OJK F.28]

The realization of CSR funds in 2024 reached Rp441,998 million, or 91.93% of the RKAP Rp480,776 million. The largest realization for CSR programs/activities by social pillar Rp174,492 million, or 105.50% of the total budget Rp165,400 million. As for the CSR report of PT Perusahaan Gas Negara Tbk, it is presented separately from this report and can be viewed on the entity's website. Evaluation of activities and realization of funding is carried out through an assessment of the achievement of the Key Performance Index (KPI) of the Corporate Secretary Function as the person in charge, and reported to the Board of Directors. Disclosure of information on the implementation of programs/activities and their impact on the Company is presented in the discussion of each pillar of CSR. [GRI 413-1][SOC-13.C2][SOC-13.A1, 13.A2, 13.A4, 13.A5]

RKA dan Realisasi Pembiayaan Pilar TJSL (Rp Juta)

RKA and Realization of CSR Pillar Financing (Rp Million)

Pilar Pillar	2024			2023	2022
	Target	Realisasi Realization	%		
Pilar Ekonomi Economic Pillar	180,356	145,148	80.48	295,794	322,109
Pilar Sosial Social Pillar	165,400	174,492	105.50	165,147	192,083
Pilar Lingkungan Environmental Pillar	130,600	120,032	91.91	88,522	121,233
Pilar Hukum & Tata Kelola Legal & Governance Pillar	4,420	2,325	52.60	2,280	2,169
Jumlah Total	480,776	441,998	91.93	551,700	637,586

Realisasi Penyaluran Dana TJSL Berdasarkan TPB Tahun 2024 (Rp Juta)

Realization of CSR Fund Disbursement Based on SDGs in 2024 (Rp Million)

A	Pilar Sosial Social Pillar	2024	2023	2022
1	TPB 1: Tanpa Kemiskinan SDG 1: No Poverty	48,750	41,596	87,287
2	TPB 2: Tanpa Kelaparan SDG 2: Zero Hunger	5,497	3,281	2,954
3	TPB 3: Kesehatan yang Baik dan Kesejahteraan SDG 3: Good Health and Well-being	27,793	37,682	24,799
4	TPB 4: Pendidikan Berkualitas SDG 4: Quality Education	89,961	81,207	75,039
5	TPB 5: Kesenjangan Gender SDG 5: Gender Equality	2,488	1,379	32,022
Jumlah Total		174,492	165,147	192,083
B	Pilar Ekonomi Economic Pillar	2024	2023	2022
6	TPB 7: Energi Bersih dan Terjangkau SDG 7: Affordable and Clean Energy	23,432	12,236	6,035
7	TPB 8: Pekerjaan Layak dan Pertumbuhan Ekonomi SDG 8: Decent Work & Economic Growth	64,330	232,212	315,758
8	TPB 9: Industri, Inovasi, Infrastruktur SDG 9: Industry, Innovation, Infrastructure	9,406	4,397	100
9	TPB 10: Berkurangnya Kesenjangan SDG 10: Reduced Inequalities	45,767	42,640	215
10	TPB 17: Kemitraan untuk Mencapai Tujuan SDG 17: Partnerships for the Goals	2,212	4,262	-
Jumlah Total		145,148	295,749	322,109
C	Pilar Lingkungan Environmental Pillar	2024	2023	2022
11	TPB 6: Air Bersih dan Sanitasi Layak SDG 6: Clean Water and Sanitation	6,473	8,807	2,066
12	TPB 11: Kota dan Permukiman Berkelanjutan SDG 11: Sustainable Cities and Communities	46,487	35,505	55,859
13	TPB 12: Konsumsi & Produksi Bertanggung Jawab SDG 12: Responsible Consumption & Production	3,400	3,652	5,234

C Pilar Lingkungan Environmental Pillar		2024	2023	2022
14	TPB 13: Perubahan Iklim SDG 13: Climate Change	6,770	4,287	6,963
15	TPB 14: Ekosistem Lautan SDG 14: Life Below Water	19,109	26,230	22,974
16	TPB 15: Ekosistem Daratan SDG 15: Life on Land	37,790	9,949	28,125
Jumlah Total		120,032	88,522	121,223
D Pilar Hukum dan Tata Kelola Legal and Governance Pillar		2024	2023	2022
17	TPB 16: Perdamaian, Keadilan dan Kelembagaan Tangguh SDG 16: Peace, Justice and Strong Institutions	2,325	2,280	2,169
E Jumlah Total		2024	2023	2022
Jumlah Total		441,998	551,700	637,586

Pilar Ekonomi [SOC-9.C1, 9.C2][SOC-13.A5]

Economic Pillar

Prioritas Pilar Ekonomi dalam pemenuhan TJSJ adalah pemberdayaan ekonomi masyarakat, baik melalui pembinaan perusahaan rintisan (*startup*) maupun pemberdayaan usaha mikro kecil dan menengah (UMKM), termasuk kelompok rentan yakni perempuan dan penyandang disabilitas. Kami juga melanjutkan program kemandirian energi di masyarakat.

Pemberdayaan Ekonomi Masyarakat

Pemberdayaan ekonomi ke masyarakat, baik melalui *startup* maupun pemberdayaan UMKM dilakukan melalui pembinaan UMKM dengan empat program utama yakni Rumah BUMN, Pertamina SMEXPO, *Enduro Entrepreneurship Program* (EEP), dan UMK Academy. Pada 2024, Pertamina Grup merealisasikan dana pembinaan UMK mencapai Rp37,96 miliar.

The priority of the Economic Pillar in fulfilling CSR is community economic empowerment, both through fostering startup companies and empowering micro, small and medium enterprises (MSMEs), including vulnerable groups, namely women and people with disabilities. We also continue the energy independence program in the community.

Community Economic Empowerment

Economic empowerment to the community, both through startups and empowerment of MSMEs is carried out through fostering MSMEs with four main programs namely Rumah BUMN, Pertamina SMEXPO, *Enduro Entrepreneurship Program* (EEP), and UMK Academy. In 2024, Pertamina Group realized SME development funds reaching Rp37.96 billion.



Estimasi hampir 70% penerima manfaat PUMK adalah pengusaha wanita.

An estimated 70% of PUMK beneficiaries are women entrepreneurs.

1. Enduro Entrepreneurship Program (EEP)

EEP bertujuan mencetak wirausahawan muda di Indonesia melalui pembekalan peserta dengan pelatihan *softskill* dan *hardskill*, serta dukungan pendanaan dan pembinaan pengembangan usaha masyarakat di bidang otomotif perbengkelan. EEP juga memberikan *value creation* berupa penjualan produk pelumas Pertamina Grup, dengan pencapaian 2024 sebanyak lebih dari 24.000 botol pelumas dengan realisasi *value creation* sebesar Rp1.055.890.847, meningkat dari 2023 sebanyak 25.760 botol dengan total pendapatan sekitar Rp3,3 miliar. Total penerima manfaat dari program ini adalah sebanyak 82.723 orang.

1. Enduro Entrepreneurship Program (EEP)

EEP aims to create young entrepreneurs in Indonesia by equipping participants with soft skill and hard skill training, as well as funding support and fostering community business development in the automotive repair sector. EEP also provides value creation in the form of sales of Pertamina Group lubricant products, with an achievement in 2024 of more than 24,000 bottles of lubricants with a realized value creation of Rp1,055,890,847, an increase from 2023 of 25,760 bottles with total revenue of around Rp3.3 billion. The total beneficiaries of this program were 82,723 people.

2. Rumah BUMN

Dana Fund	Target	Rp20.000 juta Rp20,000 million
	Realisasi Realization	Rp20.718 juta Rp20,718 million

Pertamina Grup memiliki 30 Rumah BUMN di seluruh Indonesia dan menaungi lebih dari 14.000 pelaku UMKM, termasuk di antaranya penyandang disabilitas. Rumah BUMN berfungsi sebagai sarana berkumpul, berdiskusi, dan belajar para pelaku UMKM di seluruh Indonesia untuk dapat mengembangkan kompetensi maupun bisnisnya agar dapat naik kelas. Selama 2024, Pertamina Grup melalui Rumah BUMN melaksanakan kegiatan 1.015 klinik bisnis untuk 21.344 UMKM, 373 pameran UMKM level lokal dan regional yang melibatkan 2.079 UMKM dan berhasil membantu para UMKM mendapatkan peningkatan omzet dengan total nilai Rp7,77 miliar. Selain itu, Rumah BUMN Pertamina Grup juga aktif untuk memberikan pendampingan kepada para UMKM yang telah terdaftar sebagai binaannya untuk mengurus beberapa sertifikasi dan perizinan usaha seperti NIB, P-IRT, Halal *Self Declare*, NPWP, BPOM, dan lain sebagainya.

Kesungguhan Pertamina Grup mengelola Rumah BUMN, membuahkan penghargaan *Recognized Institution with The Category as The Best SME & Community Development Indonesia 2024*, untuk Rumah BUMN Pekanbaru, Riau. Penghargaan diberikan oleh Global Business Magazine, perusahaan publikasi asal Timur Tengah, karena dinilai telah mengimplementasikan program-program unggulannya kepada komunitas, melalui pendekatan terhadap LST. Selain itu, Rumah BUMN juga berhasil mendapatkan penghargaan lainnya yaitu:

- 1. Business Matching Jabodetabek (Jakarta, 7 Februari-4 Maret 2024)**
 - Peringkat 1 Nilai Belanja Terbesar *Seller* Rekomendasi
 - Peringkat 2 Nilai Belanja Terbesar BUMN
- 2. Business Matching Jabodetabek & Banten (25 Maret-30 Mei 2024)**
 - Peringkat 1 Nilai Transaksi Terbesar *All Vendor* Nasional
 - Peringkat 1 Nilai Transaksi Terbesar *Seller* Rekomendasi
- 3. Business Matching Jatimbalinus (Denpasar, 1-21 Juni 2024)**
 - Peringkat 1 Nilai Transaksi Terbesar *All Vendor* Nasional
 - Peringkat 1 Nilai Transaksi Terbesar *Seller* Rekomendasi

Pertamina Group has 30 Rumah BUMN centers across Indonesia and housing more than 14,000 MSMEs, including people with disabilities. Rumah BUMN serves as a means of gathering, discussing, and learning for MSMEs throughout Indonesia to be able to develop their competence and business to upgrade. During 2024, Pertamina Group, through the Rumah BUMN, held 1,015 business clinics for 21,344 MSMEs, 373 local and regional level MSME exhibitions involving 2,079 MSMEs, and succeeded in helping MSMEs to increase turnover with a total value of Rp7.77 billion. In addition, Pertamina Group Rumah BUMN is also active in providing assistance to MSMEs that have been registered as its fostered partners to take care of several business certifications and licenses such as NIB, P-IRT, Halal Self Declare, NPWP, BPOM, and so on.

Pertamina Group's dedication to managing Rumah BUMN has earned a Recognized Institution award with the Category as The Best SME & Community Development Indonesia 2024, for Rumah BUMN Pekanbaru, Riau. The award was given by Global Business Magazine, a publication company from the Middle East, because it was considered to have implemented its flagship programs to the community, through an ESG approach. In addition, Rumah BUMN also managed to get other awards, namely:

- 1. Business Matching Greater Jakarta (Jakarta, February 7-March 4, 2024)**
 - Ranked 1st for the Largest Spending Value of Recommended Sellers
 - Ranked 2nd for the Largest Spending Value of SOEs
- 2. Business Matching Greater Jakarta & Banten (March 25-May 30, 2024)**
 - Ranked 1st for the Largest Transaction Value of All National Vendors
 - Ranked 1st for the Largest Transaction Value of Recommended Sellers
- 3. Business Matching Jatimbalinus (Denpasar, June 1-21, 2024)**
 - Ranked 1st for Largest Transaction Value of All National Vendors
 - Ranked 1st for Largest Transaction Value of Recommended Sellers

4. PaDi EXPO 2024 (Jakarta, 11 Juli-10 Agustus 2024)

- Peringkat 2 Volume Transaksi Tertinggi
- Peringkat 1 BUMN dengan Transaksi kepada *Seller* Terbanyak

5. PaDi Business Forum & Showcase 2024 (Jakarta, 1 November-16 Desember 2024)

- Peringkat 1 Top 5 Volume Belanja BUMN
- Peringkat 2 Top 5 Volume Frekuensi BUMN
- Mitra *Support* PaDi UMKM PT Pertamina (Persero) dari Kementerian BUMN

4. PaDi EXPO 2024 (Jakarta, July 11-August 10, 2024)

- Ranked 2nd for Highest Transaction Volume
- Ranked 1st Place SOE with the Most Transactions to Sellers

5. PaDi Business Forum & Showcase 2024 (Jakarta, November 1-December 16, 2024)

- Ranked 1st Top 5 SOE Expenditure Volume
- Ranked 2nd Top 5 SOE Frequency Volume
- PaDi UMKM Support Partner PT Pertamina (Persero) from the Ministry of SOEs

3. Pertamina UMK Academy

Dana Fund	Target	Rp6.000 juta Rp6,000 million
	Realisasi Realization	Rp5.812 juta Rp5,812 million

UMK Academy adalah program akselerasi UMK Mitra Binaan Pertamina Grup melalui pelatihan, pendampingan, dan gamifikasi untuk meningkatkan kapasitas usaha. Kurikulum mencakup peningkatan kualitas produk/jasa, perhitungan harga pokok penjualan, strategi promosi dan pemasaran, serta penerapan bisnis ramah lingkungan.

Sejak didirikan pada 2020, UMK Academy terus berlanjut untuk mendorong UMKM naik kelas dengan konsep *Go Modern, Go Digital, Go Online*, dan *Go Global*. Pada 2024, program berlangsung selama 9 bulan dengan dua tahap:

- Tingkat Regional (4 bulan): 1.686 UMK mengikuti pelatihan dasar, pameran lokal, dan publikasi.
- Tingkat Nasional (5 bulan): 525 UMK melanjutkan pembinaan lanjutan, pameran nasional, dan persiapan ekspor.

Sebagai upaya mewujudkan usaha yang ramah lingkungan dan berkelanjutan, kurikulum *go green* diperkenalkan, dengan fokus pada bahan baku ramah lingkungan, proses produksi rendah emisi, dan pengelolaan limbah. Sebanyak 519 UMK berhasil menerapkannya. Melalui program UMK Academy 2024, 92% peserta naik kelas, dengan rincian: 64 UMK *Go Modern*, 220 UMK *Go Digital*, 149 UMK *Go Online*, dan 114 UMK *Go Global*, termasuk 69 UMK yang mendapat akses pasar luar negeri.

UMK Academy is an acceleration program for Pertamina Group assisted SMEs through training, mentoring, and gamification to increase business capacity. The curriculum includes improving product/service quality, calculating cost of goods sold, promotion and marketing strategies, and implementing environmentally friendly businesses.

Since its establishment in 2020, UMK Academy has continued to encourage MSMEs to upgrade with the concept of *Go Modern, Go Digital, Go Online*, and *Go Global*. In 2024, the program lasted for 9 months with two stages:

- Regional level (4 months): 1,686 SMEs participated in basic training, local exhibitions, and publications.
- National Level (5 months): 525 SMEs continued advanced coaching, national exhibition, and export preparation.

To realize environmentally friendly and sustainable businesses, a *go green* curriculum was introduced, focusing on environmentally friendly raw materials, low-emission production processes, and waste management. A total of 519 SMEs successfully implemented it. Through the UMK Academy 2024 program, 92% of participants upgraded, with details: 64 SMEs *Go Modern*, 220 SMEs *Go Digital*, 149 SMEs *Go Online*, and 114 SMEs *Go Global*, including 69 SMEs that gained access to foreign markets.

4. Pertamina SMEXPO

Dana Fund	Target	Rp10.000 juta Rp10,000 million
	Realisasi Realization	Rp11.431 juta Rp11,431 million

Pertamina Small Medium Enterprise Expo (SMEXPO) merupakan salah satu inovasi program TJSL Pertamina Grup yang rutin diadakan setiap tahun sejak 2020. Pertamina Grup SMEXPO hadir sebagai tempat berlatih UMKM memasarkan produk unggulannya secara digital melalui *Virtual Expo* yang kemudian berkembang menjadi *fully utilized digital marketplace*. Pertamina SMEXPO menjadi sebuah media pembinaan lanjutan khususnya bagi UMK kelas *go digital* dan *go online* yang mengakselerasi pengembangan pasar dan omzet UMK melalui media penjualan *online (digital marketplace)* yang diakses di portal <https://smexpo.pertamina.com>, *knowledge sharing* (dari pemerintah, asosiasi pengusaha maupun pelaku bisnis nasional maupun global), publikasi dan promosi bagi UMKM Binaan Pertamina, pameran *offline* (tingkat lokal, regional dan nasional) dan Forum Temu Bisnis yang dilakukan secara komprehensif.

Pertamina Small Medium Enterprise Expo (SMEXPO) is one of the innovations of Pertamina Group's CSR program, which has been held annually since 2020. Pertamina SMEXPO aims to be a place for MSMEs to practice marketing their featured products digitally through a Virtual Expo, which then develops into a fully utilized digital marketplace. Pertamina SMEXPO is an advanced coaching media, especially for SMEs in the go digital and go online class, which accelerates market development and SME turnover through online sales media (digital marketplace) accessed on the <https://smexpo.pertamina.com> portal, knowledge sharing (from the government, business associations and national and global business actors), publications and promotions for Pertamina-assisted MSMEs, offline exhibitions (local, regional and national levels) and a comprehensive Business Meeting Forum.

Jumlah UMKM Peserta dan Nilai Transaksi Kegiatan Pertamina SMEXPO Tahun 2024 Number of MSME Participants and Transaction Value of Pertamina SMEXPO Activities in 2024

Kegiatan Activities	Jumlah UMKM Total MSMEs	Omzet Penjualan Ritel Retail Sales Revenue	Order B2B	Total Omzet Total Sales Revenue
SMEXPO Tematik (Ramadhan, Kartini & Tjerita Keboen Nusantara) Thematic SMEXPO (Ramadhan, Kartini & Tjerita Keboen Nusantara)	44	648,255,800	-	594,098,800
SMEXPO Regional Regional SMEXPO	101	770,231,132	2,000,000,000	2,770,231,132
SMEXPO Nasional (Forum Temu Bisnis & Pameran Retail Nasional) National SMEXPO (Business Meeting Forum & National Retail Exhibition)	79	5,446,855,095	12,000,000,000	1,540,712,895
Marketplace Pertamina SMEXPO	1,270	2,510,357,500	1,768,381,194	4,278,738,694
Total Pertamina SMEXPO 2024	1,494	11,144,080,721	15,768,381,194	25,144,080,721

Penyaluran PUMK - Sinergi Pertamina Grup dan BRI

Selain melalui berbagai program pembinaan UMK, Pertamina Grup juga tetap melakukan program pengembangan UMK melalui penyaluran pinjaman modal usaha Pendanaan Usaha Mikro Kecil (PUMK). Sejak 2022, sesuai dengan arahan Menteri BUMN RI dalam surat No. S-721/MBU/11/2022, Pertamina melakukan penyaluran dana program PUMK melalui kerja sama dengan Bank Rakyat Indonesia (BRI). Pada 2024, BRI telah melakukan penyaluran Dana PUMK Pertamina Grup ke 4.344 UMK yang tersebar di 28 provinsi di Indonesia dengan total nilai penyaluran dana Rp145 miliar. Dengan demikian, total penyaluran dana PUMK oleh BRI sejak 2023 adalah Rp286,97 miliar dengan total kumulatif penerima sebanyak 9.460 UMK. Nilai penyaluran ini sebesar 91,69% dari total Dana PUMK yang sudah disetorkan oleh Pertamina Grup kepada BRI yaitu Rp313 miliar.

PUMK Disbursement - Synergy between Pertamina Group and BRI

In addition to various MSE development programs, Pertamina Group also continues to carry out MSE development programs by disbursing venture capital loans for Micro Small Business Funding (PUMK). Since 2022, following the direction of the Minister of SOEs in letter No. S-721/MBU/11/2022, Pertamina Group has been channeling PUMK program funds in cooperation with Bank Rakyat Indonesia (BRI). In 2024, BRI distributed Pertamina Group PUMK funds to 4,344 MSEs spread across 28 provinces in Indonesia with a total distribution value of Rp145 billion. Thus, the cumulative total disbursement of PUMK funds by BRI since 2023 was Rp286.97 billion to a total of 9,460 MSEs. This distribution value accounted for 91.69% of the total PUMK Fund of Rp313 billion that has been deposited by Pertamina Group to BRI.

Prioritas Dukungan terhadap Tujuan Pembangunan Berkelanjutan (TPB) 8: Pekerjaan Layak dan Pertumbuhan Ekonomi Priority Support to Sustainable Development Goal (SDG) 8: Decent Work and Economic Growth

Metadata TPB Kementerian PPN/Bappenas SDGs Metadata of the Ministry of National Development Planning/Bappenas		Dukungan Pertamina Grup Pertamina Group Support	
Target	Indikator Indicator	Realisasi 2024 2024 Realization	Target 2025 2025 Target
<p>8.3</p> <p>Mempromosikan kebijakan pembangunan yang mendukung kegiatan produktif, penciptaan lapangan kerja yang layak, kewirausahaan, kreativitas inovasi, dan mendorong formalisasi dan pertumbuhan usaha mikro, kecil dan menengah, termasuk melalui akses pada layanan keuangan.</p> <p>Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage formalization and growth of micro-small and medium-sized enterprises including through access to financial services.</p>	<p>8.3.1(a)</p> <p>Persentase akses UMKM (Usaha Mikro, Kecil dan Menengah) ke layanan keuangan.</p> <p>Percentage of MSMEs (Micro, Small and Medium Enterprises) access to financial services.</p>	<p>Realisasi program PUMK tahun 2024 sebesar Rp149 miliar yang disalurkan kepada 4.344 UMK melalui BRI selaku BUMN penyalur.</p> <p>The realized MSE Funding in 2024 amounted to Rp149 billion, which were disbursed to 4,344 MSEs through BRI as the channeling SOE.</p>	<p>Target penyaluran dana PUMK ke BRI tahun 2025 sebesar Rp30 miliar.</p> <p>The target disbursement of MSE Funding to BRI in 2025: Rp30 billion.</p>

Desa Energi Berdikari

Program Desa Energi Berdikari (DEB) telah dimulai pada 2019 dengan tujuan mendukung akses energi bersih bagi masyarakat dan mendorong kemandirian dalam energi dan ekonomi. Target lokasi program DEB pada 2024 adalah 67 lokasi. Sampai dengan akhir 2024, ada 155 lokasi (mencapai target yang ditetapkan). Program DEB di berbagai wilayah di Indonesia sesuai potensi sumber energi yang dimiliki, yakni pembangkit listrik tenaga surya/PLTS (128 lokasi), gas metana dan biogas (16 lokasi), mikrohidro (8 lokasi), biodiesel (2 lokasi), serta energi *hybrid* dari tenaga surya dan angin (1 lokasi). Perseroan menerapkan evaluasi untuk mengetahui tingkat keberhasilan program dengan memberikan peringkat: Program DEB Hijau, Program DEB Biru, dan Program Desa Energi Pertamina.

Program DEB juga berkontribusi pada penurunan emisi GRK sebesar 729.662 ton CO₂e/tahun, dan memberikan dampak ekonomi bagi 35.746 kepala keluarga penerima manfaat serta pertumbuhan ekonomi Rp3,6 miliar, meningkat dari Rp2,5 miliar di 2023 sehingga mendorong kemandirian ekonomi masyarakat desa. Sementara melalui PLTS, mikrohidro, serta *hybrid* dari tenaga surya dan angin menghasilkan energi sebesar 733.559 watt peak dan 846.180 metrik ton biogas dan metana. Selain itu, terdapat 40 orang yang mendapatkan sertifikasi Operator Junior Pengoperasian PLTS dari Kementerian Energi dan Sumber Daya Mineral (ESDM), sehingga mereka dapat mengoperasikan dan memelihara panel surya.

Desa Energi Berdikari

The energy independent village, dubbed as Desa Energi Berdikari (DEB) program, was initiated in 2019 with the aim of supporting access to clean energy for the community and encouraging self-sufficiency in energy and the economy. The target location of the DEB program in 2024 was 67 locations. By the end of 2024, there were a total of 155 locations, which met the set target. DEB programs in various regions in Indonesia based on their potential energy sources, i.e. solar power plants (128 locations), methane gas and biogas (16 locations), micro hydro (8 locations), biodiesel (2 locations), and hybrid energy from solar and wind (1 location). The Company conducts an evaluation to determine the success rate of the program by ratings: Green DEB, Blue DEB, and Desa Energi Pertamina Program.

The DEB program also contributes to reducing GHG emissions by 729,662 tons of CO₂e/year, and has an economic impact on 35,746 beneficiary households and economic growth of Rp3.6 billion, up from Rp2.5 billion in 2023, thus driving the economic independence of village communities. Meanwhile, the solar, micro hydro, and hybrid solar and wind power plants produced 733,559 peak watts of energy and 846,180 metric tons of biogas and methane. In addition, 40 people were certified as Junior Operators of Solar Power Plant Operations by the Ministry of Energy and Mineral Resources, enabling them to operate and maintain solar panels.

Realisasi Program Desa Energi Berdikari Berdasarkan Sumber Energi Tahun 2024
Realization of the Independent Energy Village Program Based on Energy Sources in 2024

Uraian Description	Sumber Energi Energy Source			Jumlah Total
	PLTS	Mikro Hidro Micro Hydro	Gas Metana dan Biogas Methane Gas and Biogas	
Jumlah Program Total Program	69	2	4	75
Kapasitas Capacity	392.94 kWp 20,652 GJ	15,000 Watt 3,311 GJ	4,800 m ³ /tahun 1,037 GJ	25,000 GJ
Reduksi Emisi GRK GHG Emission Reduction	493.4 ton CO ₂ eq/tahun tons CO ₂ eq/year	79.1 ton CO ₂ eq/tahun tons CO ₂ eq/year	24.8 ton CO ₂ eq/tahun tons CO ₂ eq/year	597.3 ton CO ₂ eq/tahun tons CO ₂ eq/year

Peringkat Program Desa Energi Berdikari
Desa Energi Berdikari Program Ranking

Peringkat Program Program Ranking	Kriteria Criteria	Jumlah Total	
		2024	2023
Program DEB Biru DEB Blue Program	a. Produksi energi listrik > 4 kWh eq/hari b. Penghematan setara biaya listrik > Rp1.000.000/tahun c. Pengurangan emisi GRK > 330 kg CO ₂ e/tahun a. Electricity production > 4 kWh eq/day b. Electricity cost savings equivalent to > Rp1,000,000/year c. GHG emission reduction > 330 kg CO ₂ e/year	21	60
Program DEB Hijau DEB Green Program	a. Produksi energi listrik > 12 kWh eq/hari b. Penghematan setara biaya listrik > Rp3.000.000/tahun c. Pengurangan emisi GRK > 990 kg CO ₂ e/tahun a. Electricity production > 12 kWh eq/day b. Electricity cost savings equivalent to > Rp3,000,000/year c. GHG emission reduction > 990 kg CO ₂ e/year	118	21
Program Desa Energi Pertamina Grup Desa Energi Pertamina Group Program	a. Produksi energi listrik > 20 kWh eq/hari b. Penghematan setara biaya listrik > Rp11.000.000/tahun c. Pengurangan emisi GRK > 6.278 kg CO ₂ e/tahun a. Electricity production > 20 kWh eq/day b. Electricity cost savings equivalent to > Rp11,000,000/year c. GHG emission reduction > 6,278 kg CO ₂ e/year	14	4
Program DEB Exit DEB Exit Program	a. Produksi energi listrik > 28 kWh eq/hari b. Penghematan setara biaya listrik > Rp18.500.000/tahun c. Pengurangan emisi GRK > 10.547 kg CO ₂ e/tahun a. Electricity production > 28 kWh eq/day b. Savings equivalent to electricity costs > Rp18,500,000/year c. Reduction of GHG emissions > 10,547 kg CO ₂ e/year	2	0
Jumlah Total		155	85

Prioritas Dukungan terhadap Tujuan Pembangunan Berkelanjutan (TPB) 7: Energi Bersih dan Terjangkau
Priority Support to Sustainable Development Goal (SDG) 7: Clean and Affordable Energy

Metadata TPB Kementerian PPN/Bappenas SDGs Metadata of the Ministry of National Development Planning/ Bappenas		Dukungan Pertamina Grup Pertamina Group Support	
Target	Indikator Indicator	Realisasi 2024 2024 Realization	Target 2025 2025 Target
7.2 Pada 2030, meningkatkan secara substansial pangsa energi terbarukan dalam bauran energi global. Increase substantially the share of renewable energy in the global energy mix by 2030.	7.2.1 Bauran energi terbarukan. Renewable energy mix.	Total kapasitas produksi energi DEB mencapai 25.000 GJ. DEB's total energy production capacity of 25,000 GJ.	Total target kapasitas produksi energi DEB mencapai 28.000 GJ. Total target energy production capacity of DEB reaches 28,000 GJ.

Pilar Sosial [SOC-9.C1, 9.C2][SOC-13.A5]

Social Pillar

Prioritas Pilar Sosial dalam pemenuhan TJSL adalah peningkatan pendidikan dan kesehatan masyarakat, terutama anak-anak, penyandang disabilitas, perempuan dan ibu hamil, serta lansia yang termasuk kelompok rentan.

The priority of the Social Pillar in the CSR fulfillment is to improve the community's education and health, especially children, people with disabilities, women and pregnant women, as well as the elderly who belong to vulnerable groups.

Bantuan Beasiswa, Sarana, dan Prasarana Pendidikan

Total realisasi bantuan beasiswa, sarana, dan prasarana pendidikan tahun 2024 mencapai Rp42,2 miliar atau 91% dari RKA sebesar Rp46 miliar, dan berkurang dari realisasi tahun 2023 sebesar Rp286,51 miliar. Bantuan yang diberikan meliputi antara lain Program Kolaborasi Bantuan Pendidikan, Beasiswa, dan Program Inovasi Pelajar (kerja sama dengan Pertamina Foundation), serta Sekolah Adiwiyata.

Scholarships Educational Facilities and Infrastructure

The total realization of scholarships, educational facilities, and infrastructure in 2024 reached Rp42.2 billion or 91% of the Work Plan & Budget (WP&B) of Rp46 billion, and decreased from the realization in 2023 of Rp286.51 billion. The assistance includes the Education Assistance Collaboration Program, Scholarship, and Student Innovation Program (in collaboration with Pertamina Foundation), and Adiwiyata Schools.

Target dan Realisasi Pembiayaan dan Penerima Manfaat Program Prioritas di Bidang Pendidikan Tahun 2024

Target and Realization of Financing and Beneficiaries of Priority Programs in the Education Sector in 2024

Program	Target (Juta Rupiah) (Million Rupiah)	Realisasi Realization	Dampak Program Program Impact	Lokasi Location
Beasiswa Scholarship	28,000	25,670.18	<ul style="list-style-type: none"> · 1.725 orang penerima manfaat DEB SoBi (Pelaku UMKM, kelompok tani, dan rumah tangga). · 23.002 bibit pohon yang ditanam. · 30 produk inovatif hasil olahan sampah. · 4.596,6 kg total sampah yang berhasil dikumpulkan. · 1.725 DEB SoBi beneficiaries (MSMEs, farmer groups, and households). · 23,002 tree seedlings planted. · 30 innovative products from waste processing. · 4,596.6 kg of total waste collected. 	<p>Jawa, Sumatera, Kalimantan, Sulawesi, Bali, Nusa Tenggara, Maluku, Papua.</p> <p>Java, Sumatera, Kalimantan, Sulawesi, Bali, Nusa Tenggara, Maluku, Papua.</p>

Program	Target	Realisasi Realization	Dampak Program Program Impact	Lokasi Location
	(Juta Rupiah) (Million Rupiah)			
Program Inovasi Pelajar Inovasi Pelajar Program	12,000	9,406.97	<ul style="list-style-type: none"> Tenaga kerja yang terserap dari adanya 125 proyek sosial yang sudah berjalan sebanyak 1.481 orang. Rata-rata profit per bulan yang diterima oleh 85 Kelompok <i>Young Leader</i> yaitu Rp4.923.488,00. Rata-rata profit per bulan yang diterima oleh 40 Kelompok Keberlanjutan PFmuda yaitu Rp6.785.387,00. Rata-rata omzet per bulan dari 85 kelompok <i>Young Leader</i> yaitu Rp16.087.710,00. Rata-rata omzet per bulan dari 40 kelompok Keberlanjutan PFmuda yaitu Rp16.431.448,00. The workforce absorbed from the 125 ongoing social projects is 1,481 people. The average profit per month received by 85 Young Leader Groups is Rp4,923,488.00. The average profit per month received by 40 Kelompok PFmuda Keberlanjutan is Rp6,785,387.00. The average turnover per month from 85 Kelompok Young Leaders is Rp16,087,710.00. The average turnover per month from 40 Kelompok PFmuda Keberlanjutan is Rp16,431,448.00. 	Jawa, Sumatera, Kalimantan, Sulawesi, Bali, Nusa Tenggara, Maluku, Papua.
Sekolah Energi Berdikari	6,000	7,169.80	<ul style="list-style-type: none"> 39.600 kWh kapasitas PLTS terpasang. 45.840 ton CO₂e/tahun reduksi emisi karbon. Rp81.600.000,00 penghematan biaya listrik per tahun. 180 siswa terpilih sebagai <i>green warriors</i> untuk pengembangan inovasi ramah lingkungan. 360 pekerja Pertamina Grup serta 156 mahasiswa penerima Beasiswa Sobat Bumi. 39,600 kWh installed PLTS capacity. 45,840 ton CO₂e/year carbon emission reduction. Rp81,600,000.00 electricity cost savings per year. 180 students selected as green warriors for developing environmentally friendly innovations. 360 Pertamina Group workers and 156 students receiving Sobat Bumi Scholarships. 	Jawa, Sumatera, Sulawesi, Bali, Papua Barat. Java, Sumatra, Sulawesi, Bali, West Papua.
Jumlah Total	46,000	42,246.96		

Keterangan | Note:

Program Prioritas Pendidikan ini dilaksanakan bekerja sama dengan Mitra Kerja Sama di antaranya Pertamina Foundation. This Education Priority Program is implemented in collaboration with Collaborative Partners including the Pertamina Foundation.

1. Beasiswa

Perseroan membuka program beasiswa untuk mahasiswa pendidikan sarjana (S1) dan vokasi (D3/D4), yakni Beasiswa Sobat Bumi. Penerima beasiswa ini akan melakukan *green initiative* berupa kegiatan Aksi Sobat Bumi (Aksi SoBi) dan Desa Energi Berdikari Sobat Bumi (DEB SoBi). Di 2024, penerima Beasiswa Sobat Bumi sebanyak 1.090 mahasiswa dan *Local Hero* sebanyak 3 orang.

2. Program Inovasi Pelajar

Program Inovasi Pelajar dan Generasi Muda merupakan program kompetisi adu gagasan proyek sosial yang akan melahirkan para inovator dengan predikat *Young Leader*. Bagi mereka yang berhasil mengembangkan proyek sosialnya menjadi *sociopreneur* berkelanjutan diberi predikat *Super Young Leader*. Di 2024, inovator muda yang berhasil mengembangkan proyek sosialnya menjadi *sociopreneurship* sejumlah 40 orang. Penerima manfaat pada program ini sebanyak 23.270 orang dan menghasilkan 1.554 serapan tenaga kerja.

3. Sekolah Energi Berdikari

Program Sekolah Adiwiyata atau Sekolah Energi Berdikari bertujuan mengenalkan energi baru terbarukan kepada generasi muda. Terdapat 12 sekolah menjadi target program Sekolah Adiwiyata tahun 2024, yang diikuti sebanyak 6.162 siswa dan 180 guru.

Peningkatan Kualitas Kesehatan dan Prasarana Kesehatan

Selama 2024, Pertamina Grup melalui subholding dan anak perusahaan, maupun unit operasi/unit bisnis memberikan bantuan sarana kesehatan kepada beberapa pihak, di antaranya:

- Klayas Sehat Mandiri Terampil Kreatif (Klayas Semarak) di Sorong dengan optimalisasi distribusi air bersih yang berdampak pada 82 KK sehingga mampu mendapatkan air bersih; dan
- Bantuan pengembangan Posyandu Kelurahan Kasang, Kota Jambi, Jambi berupa timbangan bayi, meja, kursi, alat cek kolesterol, alat permainan edukatif, dan tanaman obat-obatan.

1. Scholarship

The Company opens a scholarship program for undergraduate (S1) and vocational (D3/D4) education students, the Sobat Bumi Scholarship. Recipients of this scholarship will engage in green initiatives in the form of Aksi Sobat Bumi (Aksi SoBi) and Desa Energi Berdikari Sobat Bumi (DEB SoBi) activities. In 2024, the recipients of the Sobat Bumi Scholarship are 1,090 students and 3 Local Heroes.

2. Student Innovation Program

The Student and Young Generation Innovation Program is a social project pitch competition program that will produce innovators with the title of Young Leader. Those who succeed in developing their social projects into sustainable sociopreneurs are awarded the Super Young Leader title, which in 2024, a total of 40 young innovators received the title. The program recorded a total of 23,270 beneficiaries and generated 1,554 jobs.

3. Adiwiyata School

The Adiwiyata School Program or Sekolah Energi Berdikari aims to introduce new renewable energy to the younger generation. There are 12 schools targeted for the Adiwiyata School program in 2024, with 6,162 students and 180 teachers.

Improving Health Quality and Health Facilities

During 2024, Pertamina Group through its subholdings and subsidiaries, as well as operating units/business units provided health facilities assistance to several parties, including:

- Klayas Sehat Mandiri Terampil Kreatif (Klayas Semarak) in Sorong by optimizing the distribution of clean water which has an impact on 82 households so that they can get clean water; and
- Assistance for the development of Integrated Health Post (Posyandu) in Kasang Village, Jambi City, Jambi, in the form of baby scales, tables, chairs, cholesterol test kits, educational play kits, and medicinal plants.

Pilar Lingkungan Hidup [SOC-9.C1, 9.C2][SOC-13.A5]

Environmental Pillar

Prioritas Pilar Lingkungan Hidup dalam pemenuhan TJSL meliputi tiga hal, yakni keanekaragaman hayati yang menjadi bagian Program *Carbon Project Collaboration*, Desa Energi Berdikari (DEB), dan pengelolaan limbah. Program-program yang diselenggarakan juga menyoar antara lain kelompok rentan sebagai penerima manfaat. Realisasi pembiayaan program-program di Pilar Lingkungan Hidup tahun 2024 mencapai Rp120 miliar atau 91,91% dari RKA sebesar Rp130 miliar, dengan alokasi terbesar untuk Program Keanekaragaman Hayati.

The priority of the Environmental Pillar in fulfilling CSR includes three aspects, namely biodiversity as part of the Carbon Project Collaboration Program, Desa Energi Berdikari (DEB), and waste management. The programs also target underserved groups as beneficiaries, among others. The realization of financing for programs in the Environmental Pillar in 2024 reached Rp120 billion or 91.91% of the WP&B of Rp130 billion, with the largest allocation for the Biodiversity Program.

Target dan Realisasi Pembiayaan Program Prioritas Pilar Lingkungan

Target and Realization of Financing for Environmental Pillar Priority Programs

Program	2024		Lokasi Location
	RKA 2024 (Rp Juta) (Rp Million)	Realisasi 2024 (Rp Juta) 2024 Realization (Rp Million)	
Desa Energi Berdikari	20,100	21,167	Jawa, Sumatra, Sulawesi, Kalimantan, Bali, Papua Barat. Java, Sumatra, Sulawesi, Kalimantan, Bali, West Papua.
Hutan Lestari	45,000	49,245	Jawa, Sumatera, Sulawesi, Kalimantan, Bali, Nusa Tenggara, Papua. Java, Sumatra, Sulawesi, Kalimantan, Bali, Nusa Tenggara, Papua.
Penyediaan Air Bersih Clean Water Supply	6,000	6,474	Jawa, Sumatera, Sulawesi, Kalimantan, Bali, Nusa Tenggara, Papua. Java, Sumatra, Sulawesi, Kalimantan, Bali, Nusa Tenggara, Papua.
Jumlah Total	71,100	76,886	

Target dan Realisasi Program Prioritas Pilar Lingkungan Tahun 2024
 Target and Realization of Environmental Pillar Priority Programs in 2024

Program	Realisasi Program Program Realization	Dampak Program Impact Program
Desa Energi Berdikari	<p>Total Energi Terpasang Pembangkit Listrik Tenaga Surya, Mikrohidro, <i>Hybrid</i> Surya dan Angin: 733.559 Wp dan Biogas and Metana: 846.180 m³ ton.</p> <p>Total Installed Energy Solar, Microhydro, Hybrid Solar and Wind Power Plants: 733,559 Wp and Biogas and Methane: 846,180 m³ tons.</p>	<ul style="list-style-type: none"> · 35.746 KK penerima manfaat. · Rp3,6 miliar/tahun peningkatan ekonomi. · 15.762,6 ton/tahun produksi hasil panen padi. · 40 orang telah tersertifikasi oleh PPSDM Kementerian ESDM. · Total reduksi emisi karbon sebesar 729.662 ton CO₂e/ tahun. · 35,746 beneficiary households. · Rp3.6 billion/year economic increase. · 15,762.6 tons/year of rice crop production. · 40 people have been certified by the PPSDM of the Ministry of Energy and Mineral Resources. · Total carbon emission reduction of 729,662 ton CO₂e/ year.
Hutan Lestari	<p>Perhutanan Sosial Sebanyak 13 lokasi yang sudah ditanami pembibitan 338.000 pohon produktif seluas 68 hektar.</p> <p>Social Forestry A total of 13 locations have been planted with 338,000 productive tree seedlings covering 68 hectares.</p> <p>Program Penanaman Pohon di Hutan Kota dan Desa Binaan</p> <ul style="list-style-type: none"> · Penanaman lebih dari dari 8.918.938 tumbuhan, di antaranya mangrove dan pohon daratan lainnya. · Sebanyak 337 program penanaman dilaksanakan di seluruh wilayah operasi Pertamina Grup dengan luas penanaman sebesar 891 Ha. <p>Tree Planting Program in Urban Forest and Assisted Villages</p> <ul style="list-style-type: none"> · Planting more than 8,918,938 plants, including mangroves and other terrestrial trees. · A total of 337 planting programs were carried out in all Pertamina Group operating areas, with a total planting area of 891 Ha. 	<ul style="list-style-type: none"> · Sebanyak 3.795 petani hutan sudah teredukasi untuk mengelola hutan secara berkelanjutan dan dapat membuat pupuk organik sebesar 70 ton/ tahun. · Sebanyak 4.783 penerima manfaat dengan pendapatan kelompok sebesar Rp3 miliar/tahun. · A total of 3,795 forest farmers have been educated on sustainable forest management and capable of making 70 tons/year of organic fertilizer. · A total of 4,783 beneficiaries with a group income of Rp3 billion/year.
Penyediaan Air Bersih Clean Water Supply	<ul style="list-style-type: none"> · 11 titik di Jawa Barat · 10 titik di Jawa Timur · 2 titik di Kalimantan Barat · 16 titik di Papua · 3 titik di Nusa Tenggara Timur · 19 titik di Sumatra Utara · 1 titik di Riau · 10 lokasi di Jawa Tengah · 11 points in West Java · 10 points in East Java · 2 points in West Kalimantan · 16 points in Papua · 3 points in East Nusa Tenggara · 19 points in North Sumatra · 1 point in Riau · 10 locations in Central Java 	<p>Sebanyak 33.633 orang yang menerima manfaat program air bersih dan dapat meningkatkan roda ekonomi masyarakat sekitar seperti dapat melakukan irigasi pertanian.</p> <p>A total of 33,633 people receive the benefits of the clean water program, and can improve the economy of the surrounding community by being capable of conducting agricultural irrigation.</p>

Keanekaragaman Hayati dan Carbon Project Collaboration

Carbon Project Collaboration adalah solusi berbasis alam yang mengusung tiga pendekatan utama: aksi iklim (reduksi emisi GRK dan peningkatan serapan karbon), pemberdayaan masyarakat (peningkatan kapasitas dan kesejahteraan ekonomi), serta perlindungan keanekaragaman hayati. Program ini diwujudkan melalui konservasi dan reforestasi hutan, termasuk penanaman 2,8 juta pohon mangrove dan vegetasi daratan hingga 2024, melampaui target 2,5 juta pohon.

Sebagai bagian dari komitmen lingkungan, Hutan Lestari mengusung konsep *agroforestry* di 13 lokasi seluas 891 hektar dengan 9 juta pohon. Reforestasi ini berpotensi mengurangi emisi GRK 222.973 ton CO₂e/tahun selama 10 tahun serta melibatkan 8.000 petani dalam pengembangan produk ramah lingkungan. Sementara itu, kawasan Hutan Lestari UGM & Mahakam telah menjadi habitat bagi 60 spesies avifauna, 6 reptil, 2 amfibi, 17 insekta, dan 10 mamalia, dengan manfaat bagi 4.783 masyarakat lokal.

Dalam aspek sosial, Program Perhutanan Sosial mencakup kerja sama dengan 13 Kelompok Usaha Perhutanan Sosial (KUPS) untuk mendorong ekonomi berbasis hutan yang berkelanjutan. Selain konservasi hutan, Pertamina Grup juga menjalankan proyek berbasis ekosistem laut dan pesisir:

- Proyek Knato Lau Lewa (Lembata, Nusa Tenggara Timur): Rehabilitasi ekosistem laut, restorasi terumbu karang, ekonomi sirkular dari kain tenun, serta edukasi energi terbarukan bagi anak-anak.
- Proyek Kwatisore (Taman Nasional Teluk Cendrawasih, Papua Tengah): Pelatihan sertifikasi penyelaman bagi warga lokal serta pengaktifan Whale Shark Center (WSC) sebagai pusat riset dan edukasi hiu paus.

Dengan pendekatan komprehensif ini, Pertamina Grup terus memperkuat kontribusinya dalam mitigasi perubahan iklim dan pemberdayaan masyarakat.

Biodiversity and Carbon Project Collaboration

Carbon Project Collaboration is a nature-based solution with three main approaches: climate action (GHG emission reduction and carbon sequestration enhancement), community empowerment (capacity building and economic well-being), and biodiversity conservation. The program is realized through forest conservation and reforestation, including the planting of 2.8 million mangrove trees and terrestrial vegetation by 2024, exceeding the target of 2.5 million trees.

As part of its environmental commitment, the sustainable forest (Hutan Lestari) promotes the concept of *agroforestry* in 13 locations covering an area of 891 hectares with 9 million trees. This reforestation has the potential to reduce GHG emissions by 222,973 tons of CO₂e/year for 10 years and involve 8,000 farmers in the development of environmentally friendly products. Meanwhile, the Hutan Lestari UGM & Mahakam area has become a habitat for 60 species of avifauna, 6 reptiles, 2 amphibians, 17 insects, and 10 mammals, with benefits for 4,783 local communities.

In the social aspect, the Social Forestry Program covers cooperation with 13 Social Forestry Business Groups (KUPS) to encourage a sustainable forest-based economy. In addition to forest conservation, Pertamina Group also runs marine and coastal ecosystem-based projects:

- Knato Lau Lewa Project (Lembata, East Nusa Tenggara): Marine ecosystem rehabilitation, coral reef restoration, circular economy from woven fabrics, and renewable energy education for children.
- Kwatisore Project (Cendrawasih Bay National Park, Central Papua): Diving certification training for local residents and activation of the Whale Shark Center (WSC) as a whale shark research and education center.

With this comprehensive approach, Pertamina Group continues to strengthen its contribution to climate change mitigation and community empowerment.

Daftar KUPS dan Menandatangani Perjanjian Kerja Sama Program Perhutanan Sosial
List of KUPS Signing Cooperation Agreement for Social Forestry Program

KUPS	Entitas Pertamina Grup Pertamina Group Entities	Lokasi Program Perhutanan Sosial Location of Social Forestry Program
LPHD Sungsang IV	RDMP Kilang Pertamina Plaju	Sungsang IV, Kec. Banyuasin II, Kab. Banyuasin, Sumatera Selatan Banyuasin Regency, South Sumatra Province
KUPS Margo Rukun Bestari	PGE Area Ulubelu	Desa Karangrejo, Kec. Ulubelu, Kab. Tanggamus, Prov. Lampung Karangrejo Village, Ulubelu District, Tanggamus Regency, Lampung Province
LPHD Maha Wana Basuki Desa Besakih	Integrated Terminal Manggis, Bali	Besakih, Kec. Rendang, Kabupaten Karangasem, Bali Besakih, Rendang District, Karangasem Regency, Bali
Kelompok MHA Desa Adat Kukuh	Fuel Terminal Sanggaran, Bali	Jl. Raya Alas Kedaton, Kukuh, Kec. Marga, Kabupaten Tabanan, Bali Jl. Raya Alas Kedaton, Kukuh, Marga District, Tabanan Regency, Bali Province
Kelompok Tani Hutan (KTH) Banu Giri Lestari Desa Yehembang Kangin, Kabupaten Jembrana	Aviation Fuel Terminal (AFT) Ngurah Rai Manggis, Bali	Desa Yehembang Kangin, Kecamatan Mendoyo, Kabupaten Jembrana, Provinsi Bali Yehembang Kangin Village, Mendoyo District, Jembrana Regency, Bali Province
Kelompok KTH Bina Lestari	AFT BIL, Lombok Tengah	Dusun Bongak, Kabupaten Lombok Tengah, Nusa Tenggara Barat Bongak Hamlet, Central Lombok Regency, West Nusa Tenggara
LPHD Arjuna Lestari	Integrated Terminal Surabaya	Desa Cowek, Jatiarjo, Kec. Prigen, Pasuruan, Jawa Timur Cowek Village, Jatiarjo, Prigen District, Pasuruan, East Java
LPHD Belempe	Regional 4 Zona 14 PEP Papua Field	Kuadas, Kec. Makbon, Kabupaten Sorong, Papua Barat Kuadas, Makbon District, Sorong Regency, West Papua
LPHD Handil Terusan	Regional 3 Zona 9 PT Pertamina Hulu Sangasanga	Handil Terusan, Kecamatan Anggana, Kabupaten Kutai Kartanegara Handil Terusan, Anggana District, Kutai Kartanegara Regency
KTH Wana Manunggal	Regional 1 Zona 4 PEP Pendopo Field	Sukaraya, Suku Tengah Lakitan Ulu, Kabupaten Musi Rawas, Sumatera Selatan Sukaraya, Suku Tengah Lakitan Ulu District, Musi Rawas Regency, South Sumatra
LPHD Cindakko	AFT Hasanuddin, Sulawesi Selatan	Dusun Cindakko, Desa Bonto Somba, Kecamatan Tompo Bulu Cindakko Hamlet, Bonto Somba Village, Tompo Bulu District
KTH Lestari Gunung Selatan	Pertamina EP Tarakan	Jl. Gunung Selatan RT 18, Kelurahan Kampung 1 Skip, Kecamatan Tarakan Tengah, Kota Tarakan Jl. Gunung Selatan RT 18, Kampung 1 Skip Sub-district, Tarakan Tengah District, Tarakan City
KTH Siarang-arang Lestari	Regional 1 Pertamina Hulu Rokan	Desa Siarang Arang, Kec. Pujud, Kabupaten Rokan Hilir, Riau Siarang Arang Village, Pujud District, Rokan Hilir Regency, Riau

Prioritas Dukungan terhadap Tujuan Pembangunan Berkelanjutan (TPB) 15: Ekosistem Daratan
 Priority Support to Sustainable Development Goal (SDG) 15: Life on Land

Metadata TPB Kementerian PPN/Bappenas SDGs Metadata of Ministry of National Development/Bappenas		Dukungan Pertamina Grup Pertamina Group Support	
Target	Indikator Indicator	Realisasi 2024 2024 Realization	Target 2025 2025 Target
15.a Memobilisasi sumber daya penting dari semua sumber dan pada semua tingkatan untuk membiayai pengelolaan hutan yang berkelanjutan dan memberikan insentif yang memadai bagi negara berkembang untuk memajukan pengelolaannya, termasuk untuk pelestarian dan reforestasi. Mobilize critical resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives for developing countries to advance their management, including for conservation and reforestation.	15.a.1(a) Bantuan pembangunan resmi untuk konservasi dan pemanfaatan keanekaragaman hayati secara berkelanjutan. Formal development assistance for the conservation and sustainable utilization of biodiversity.	<ul style="list-style-type: none"> • Sebanyak 13 lokasi yang sudah ditanami pembibitan 338.000 pohon produktif seluas 68 hektar. • Penanaman lebih dari 8.918.938 tumbuhan, di antaranya mangrove dan pohon daratan lainnya. • A total of 13 locations have been planted with 338,000 productive tree seedlings covering 68 hectares. • Planting more than 8,918,938 plants, including mangroves and other terrestrial trees. 	Menanam 4 juta pohon. Planting 4 million trees.

Pemberdayaan Masyarakat Berbasis Pengelolaan Limbah

Pertamina Grup terus mendukung upaya pemerintah menanggulangi sampah dan mencapai Indonesia Bersih Sampah 2025 melalui Program Sampah Kita untuk mengedukasi masyarakat mengubah sampah menjadi produk yang bernilai ekonomi. Program Sampah Kita memiliki 121 program pengolahan sampah dengan target berkontribusi aktif mengurangi sampah 30% dan penanganan sampah 70%. Pelaksanaan kegiatan pengolahan sampah pada 2024 telah dapat mengolah sampah hingga 951.023 ton. Dari pelaksanaan kegiatan ini dapat mengurangi emisi karbon hingga 101.499 ton CO₂e per tahunnya.

Empowerment of Community-Based Waste Management

Pertamina Group continues to support the government's efforts to tackle waste and achieve a Waste-Free Indonesia 2025 through the Sampah Kita Program to educate the community to turn waste into products with economic value. The Sampah Kita Program has 121 waste processing programs with the target to actively contribute to waste reduction by 30% and waste handling by 70%. The implementation of waste management activities in 2024 has been able to process waste up to 951,023 tons. The program has reduced carbon emissions by 101,499 tons of CO₂e per year.

Program Sampah Kita juga menghasilkan manfaat hingga Rp644 juta per tahun dan memberikan manfaat kepada lebih dari 48 ribu orang di sekitar entitas anak maupun unit operasi/unit bisnis Pertamina Grup. Beberapa program pengolahan sampah yang memberi dampak positif kepada warga antara lain:

- Wiralodra (Wilayah Masyarakat Pengelola Daur Ulang Sampah) di Desa Balongan, Desa Lombang dan Lembaga Pemasarakatan Bimasakti Jawa Barat telah memberi manfaat kepada 32 orang dengan meningkatkan pendapatan kelompok rata-rata Rp36 juta per tahun.
- Program lain adalah Bank Sampah Kumpulin.id, Desa Laksana, Kecamatan Ibun, Jawa Barat, untuk mengajak masyarakat mengelola sampah menjadi pupuk dan kerajinan *eco brick* serta menukar sampah menjadi saldo aplikasi ojek *online* Kamojang.

Bantuan Sarana-Prasarana Umum, Sanitasi, dan Air Bersih

Pada 2024, kami melanjutkan program akses air bersih di seluruh Indonesia, di antaranya membangun sarana penampungan air bersih dan jaringan pipa distribusinya untuk memasok kebutuhan 200 kepala keluarga (KK) di Desa Ulakan, Kabupaten Karangasem, Bali. Kegiatan lain adalah kerja sama Pertamina Grup dengan TNI Angkatan Darat menyelesaikan 2.664 titik sumur bor serta pembangunan sarana air bersih di 20 lokasi di enam provinsi dengan rincian sembilan lokasi sudah selesai dan 11 lokasi masih dalam proses. Pertamina Grup melalui subholding, anak perusahaan maupun unit operasi/unit bisnis juga menyalurkan bantuan air bersih untuk membantu 33.622 orang yang mengalami kesulitan air karena daerahnya mengalami kekeringan.

The Sampah Kita program also generated benefits of up to Rp644 million per year for more than 48,000 people around Pertamina Group's subsidiaries and operating units/business units. Some of the waste management programs that have a positive impact on residents include:

- Wiralodra (Waste Recycling Management CommunityArea) in Balongan Village, Lombang Village and Bimasakti Correctional Institution in West Java has benefited 32 people by increasing group income at an average of Rp36 million per year.
- Another program is the Kumpulin.id Waste Bank, Laksana Village, Ibun District, West Java, to engage the community in managing waste into fertilizer and eco bricks as well as converting waste into the balance of the Kamojang online motorcycle taxi application.

Assistance for Public Facilities, Sanitation, and Clean Water

In 2024, we continued the program for access to clean water across Indonesia, including building clean water storage facilities and their distribution pipelines to supply 200 households in Ulakan Village, Karangasem Regency, Bali. The other activity was Pertamina Group's cooperation with the Indonesian Armed Forces to complete 2,664 drilled wells and the construction of clean water facilities in 20 locations in six provinces, consisting of nine locations that have been completed and 11 locations still in process. Pertamina Group through subholdings, subsidiaries and operating units/business units also distributed clean water to help 33,622 people who experienced water shortages due to drought.

Prioritas Dukungan terhadap Tujuan Pembangunan Berkelanjutan (TPB) 6: Air Bersih dan Sanitasi Layak
 Priority Support to Sustainable Development Goal (SDG) 6: Clean Water and Sanitation

Metadata TPB Kementerian PPN/Bappenas SDGs Metadata of Ministry of National Development/Bappenas		Dukungan Pertamina Grup Pertamina Group Support
Target	Indikator Indicator	Realisasi 2024 2024 Realization
6.1 Pada 2030, mencapai akses universal dan merata terhadap air minum yang aman dan terjangkau bagi semua. By 2030, achieve universal and equitable access to safe and affordable drinking water for all.	6.11 Persentase rumah tangga yang menggunakan layanan air minum yang dikelola secara aman. Percentage of households using safely managed drinking water services.	Program akses air bersih direalisasikan dengan penyelesaian 2.664 titik sumur bor dan pembangunan sarana air bersih di 20 lokasi pada 6 provinsi. Jumlah penerima manfaat dari program-program tersebut sekitar 33.622 orang, sehingga jumlah KK yang memiliki akses terhadap air bersih akan terus meningkat. The clean water access program was realized by completing 2,664 drilled wells and constructing clean water facilities in 20 locations in 6 provinces. The number of beneficiaries of these programs was 33,622 people, so the number of households with access to clean water will continue to increase.

Pilar Hukum & Tata Kelola

Legal & Governance Pillar

Realisasi Program Tata Kelola Perusahaan di 2024 meliputi beberapa program/kegiatan, dengan biaya mencapai Rp2,3 miliar. Program/kegiatan yang dilaksanakan ditujukan untuk mendukung peningkatan kepatuhan dan penerapan tata kelola keberlanjutan, di antaranya penyusunan Buku Putih Anggaran Dasar dan Jasa Penunjangnya, konsultan pembaharuan Sertifikasi ISO 37001:2016 dan jasa penunjangnya, pengaktaan Keputusan RUPS holding, pengukuran (*assessment/evaluasi*) GCG dan jasa penunjangnya, sosialisasi STK Penerbitan Keputusan RUPS, serta revisi dan sosialisasi *soft structure* GCG (Kode Etik, *Code of Corporate Governance* (CoCG), dan *Board Manual*).

The realization of the Corporate Governance Program in 2024 included several programs/activities, with costs reaching Rp2.3 billion. The programs/activities implemented are aimed at supporting the improvement of compliance and the implementation of sustainable governance, including the preparation of the Articles of Association and its Support Services, ISO 37001:2016 Certification renewal consultant and its support services, notarization of GMS Resolution of holding, GCG measurement (*assessment/evaluation*) and its support services, dissemination of STK Issuance of GMS Resolution, as well as revision and dissemination of GCG soft structure (Code of Ethics, Code of Corporate Governance (CoCG), and Board Manual).

Keberpihakan pada Penduduk Asli/Masyarakat Adat [GRI 411-1][OG 11.17.3][SOC-10.C1]

Alliance with Indigenous Peoples

Beberapa wilayah operasi Pertamina Grup berada di daerah yang ditinggali masyarakat adat, sehingga berpotensi memberikan dampak kepada mereka. Sesuai Kebijakan HAM Pertamina Grup, kami menghormati hak masyarakat adat dan melakukan pengelolaan dampak melalui upaya:

- a. Menilai dan memahami konteks sosial dan ekonomi tempat Perusahaan beroperasi demi mengidentifikasi semua kelompok dalam komunitas di wilayah terkait, terutama kelompok rentan. Perusahaan juga mendukung pengembangan sosial dan ekonomi masyarakat adat, suku, dan penduduk asli.
- b. Mengakui dan menghormati sifat unik dan HAM masyarakat adat, suku dan penduduk asli sesuai dengan Konvensi ILO No. 169 tentang *Indigenous and Tribal Peoples Convention*. Hak-hak masyarakat adat, suku dan penduduk asli antara lain adalah hak atas tanah, wilayah dan sumber daya mereka, hak atas air, struktur organisasi, ekonomi dan sosial mereka dan hak untuk konsultasi tanpa paksaan dengan itikad baik dan dengan tujuan untuk memperoleh pemahaman dan membantu mencapai persetujuan sehubungan dengan tindakan mitigasi yang diusulkan. Konsultasi dilakukan dengan prosedur yang tepat dan melalui lembaga perwakilan masyarakat adat, suku dan penduduk asli.

Pertamina Grup menerapkan *Free, Prior, and Informed Consent* (FPIC) atau Persetujuan Bebas atas Dasar Informasi Awal dalam memulai setiap kegiatan yang akan dijalankan. Melalui mekanisme FPIC, kami berusaha mendapatkan dukungan dari masyarakat adat dan memastikan bahwa hak-hak mereka terlindungi. Dalam konteks pengadaan lahan untuk kegiatan operasi Pertamina Grup, FPIC dapat memberikan perlindungan terhadap hak tenurial masyarakat adat, sehingga tidak ada penguasaan lahan mereka tanpa persetujuan yang sah. Salah satunya adalah pendekatan yang dilakukan PEP Papua Field dari wilayah Salawati, Kabupaten Sorong, Papua Barat Daya, dengan melibatkan masyarakat adat dari marga Moifilit dan marga Wallim sebagai pemilik hak ulayat atas lahan dan tanam tumbuh yang diakui secara adat, berkaitan dengan pengadaan tanah untuk calon sumur pengembangan SLW-C4X dan SLW-E6X. [SOC-10.A1][SOC-11.A2]

Some of Pertamina Group's operating areas are located in areas inhabited by indigenous peoples, which may potentially impact them. As stated in Pertamina Group's Human Rights Policy, we respect the rights of indigenous peoples and manage impacts through the following efforts:

- a. Assess and understand the social and economic context in which the Company operates to identify all groups within the communities in the relevant areas, especially the underserved groups. The Company also supports the social and economic development of customary, tribal and indigenous peoples.
- b. Recognize and respect the unique characteristics and human rights of customary, tribal and indigenous peoples according to ILO Convention No. 169 on Indigenous and Tribal Peoples Convention. The rights of customary, tribal and indigenous peoples include rights to their lands, territories, and resources, rights to water, their organizational, economic and social structures and the right to free, prior and informed consultation in good faith and with the aim of gaining understanding and helping to reach agreement with respect to proposed mitigation measures. Consultations are conducted with appropriate procedures and through representative institutions of customary, tribal and indigenous peoples.

Pertamina Group implements Free, Prior, and Informed Consent (FPIC) in initiating every activity. Through the FPIC mechanism, we seek to gain the support of indigenous peoples and ensure that their rights are protected. In the context of land acquisition for Pertamina Group operations, FPIC can protect indigenous peoples' tenurial rights, ensuring that their land is not acquired without their legitimate consent. One of the approaches taken by PEP Papua Field from the Salawati area, Sorong Regency, Southwest Papua, involving indigenous communities from the Moifilit and Wallim clans as customary land and plantation rights holders, in relation to land acquisition for the SLW-C4X and SLW-E6X development well candidates. [SOC-10.A1][SOC-11.A2]

Selain pendekatan kepada masyarakat adat, kami juga mengedepankan kepatuhan hukum dalam proses pengadaan lahan. Proses pengadaan lahan melibatkan pihak-pihak berwenang dan dilaksanakan berdasarkan asas kemanusiaan, keadilan, kemanfaatan, kepastian, keterbukaan, kesepakatan, keikutsertaan, kesejahteraan, berkelanjutan dan keselarasan. Pertamina Grup berupaya tidak melakukan pemindahan penduduk maupun pemukiman mereka secara paksa. [OG 11.16.2, 11.17.2][SOC-11.C1, 11.C2][EM-EP-210a.1]

Perseroan melalui subholding, anak perusahaan, maupun unit operasi/unit bisnis juga melibatkan masyarakat adat dalam pemberdayaan, di antaranya: [OG 11.17.3][SOC-10.A2]

- Pertamina EP Papua Field bersama mitra lokal yakni Dominggu Absalon Kalami, memberdayakan masyarakat Kampung Adat Malasigi di Kabupaten Sorong, dengan mengembangkan ekowisata Kampung Adat Malasigi yang memiliki luas 1.750 hektar.
- PT Kilang Pertamina Internasional (KPI) RU VII Kasim di Sorong, Papua Barat Daya, menyelenggarakan Program Mama Bagarak (Mama-mama Bergerak) guna memberikan ruang kepada perempuan pada masyarakat adat Suku Moi Lemas, untuk berorganisasi, berketerampilan, lebih percaya diri, dan mandiri secara ekonomi. Sebagai wadah pemberdayaan, dibentuk Kelompok Kalifiti beranggotakan 47 mama-mama Suku Moi Lemas untuk mengolah minyak kelapa.

In addition to the approach to indigenous peoples, we also prioritize legal compliance in the land acquisition process. The land acquisition process involves authorized parties and is carried out based on the principles of humanity, justice, benefit, certainty, transparency, agreement, participation, welfare, sustainability and harmony. Pertamina Group refrains from forcibly relocating people or their settlements. [OG 11.16.2, 11.17.2][SOC-11.C1, 11.C2][EM-EP-210a.1]

The Company through its subholdings, subsidiaries, and operating units/business units also involves indigenous peoples in empowerment, including: [OG 11.17.3][SOC-10.A2]

- Pertamina EP Papua Field together with local partner Dominggu Absalon Kalami, empowers the Malasigi Traditional Village community in Sorong Regency, by developing Malasigi Traditional Village ecotourism which has an area of 1,750 hectares.
- PT Pertamina International Refinery (KPI) RU VII Kasim in Sorong, Southwest Papua, organizes the Mama Bagarak (Mothers on the Move) Program to provide space for women in the Moi Lemas tribal community to organize, gain skills, be more confident, and be economically independent. As a forum for empowerment, the Kalifiti Group was formed with 47 members of the Moi Lemas tribe to process coconut oil.

Pengaduan Masyarakat [OG 11.17.4][SOC-12.C1, 12.C2]

Community Complaints

Pertamina Grup memberikan akses kepada masyarakat untuk menyampaikan pengaduan/keluhan, baik terkait dampak kegiatan operasi maupun pelaksanaan program pemberdayaan masyarakat. Pengaduan/keluhan dapat disampaikan melalui pertemuan berkala dengan pekerja Pertamina Grup setempat ataupun *hotline* PCC 135. Selama 2024, Perseroan tidak menerima pengaduan/keluhan dari masyarakat adat maupun rekrutmen pekerja lokal yang berada di Papua. Adapun jika terdapat pengaduan akan ditindaklanjuti, termasuk pengaduan dari masyarakat terkait pelibatan pekerja lokal dengan cara menerapkan kebijakan rekrutmen berbasis afirmasi putra-putri asli orang Papua untuk wilayah operasi Pertamina Grup di Papua. Upaya tersebut diharapkan bisa meningkatkan kepercayaan masyarakat setempat terhadap keberadaan Perseroan. [OG 11.17.4][SOC-12.A1, 12.A2, 12.A3]

Pertamina Group provides access to the community to submit complaints/grievances, both related to the impact of operational activities and the implementation of community empowerment programs. Complaints can be submitted through periodic meetings with local employees of Pertamina Group or PCC 135 hotline. During 2024, the Company did not receive any complaints from indigenous communities or recruitment of local workers in Papua. If there are complaints, they will be followed up, including complaints from the community regarding the involvement of local workers by implementing a recruitment policy based on the affirmation of native Papuans for Pertamina Group's operating areas in Papua. These efforts are expected to increase the local community's trust in the Company's presence. [OG 11.17.4][SOC-12.A1, 12.A2, 12.A3]

Penanganan Masyarakat Terdampak Insiden Skala Besar [GRI 413-2][OG

11.15.3][SOC-1.C2]

Response to Communities Affected by Large-Scale Incidents

Pada 2024, Perseroan menindaklanjuti dampak negatif aktual yang ditimbulkan dari insiden skala besar yang terjadi. Pertamina Grup menghormati proses pengadilan dan putusan Pengadilan Negeri Jakarta Selatan yang mengabulkan sebagian gugatan dari 46 warga Kampung Tanah Merah, Jakarta Utara yang menjadi korban kebakaran Depo Plumpang pada 3 Maret 2023 lalu. Dalam amar putusan atas gugatan bernomor 976/Pdt.G/2023/PN JKT.SEL, pengadilan memerintahkan PT Pertamina Patra Niaga membayar kerugian materiil dan imaterial sebesar Rp23,1 miliar kepada 46 warga Kampung Tanah Merah. Saat ini, Pertamina Grup masih mendalami putusan tersebut untuk memutuskan langkah selanjutnya.

In 2024, the Company followed up on the actual negative impacts caused by the occurrence of large-scale incidents. Pertamina Group fully respects the court proceedings and the ruling of the South Jakarta District Court, which partially granted the lawsuit of 46 residents of Kampung Tanah Merah, North Jakarta, who were victims of the Plumpang Depot fire on March 3, 2023. In the ruling on the lawsuit number 976/Pdt.G/2023/PN JKT.SEL, the court ordered PT Pertamina Patra Niaga to pay material and immaterial damages of Rp23.1 billion to 46 residents of Kampung Tanah Merah. Currently, Pertamina Group is still studying the verdict to decide the next step.

Terus Memberi Manfaat Berkelanjutan untuk Masyarakat

Keep on Giving Sustainable Benefits to the Community

Pertamina Grup berkomitmen memberikan manfaat nyata bagi masyarakat dengan melibatkan kontraktor, vendor, dan mitra kerja lokal untuk membuka lapangan pekerjaan, menggerakkan ekonomi daerah, dan mendukung peningkatan TKDN.

Pertamina Group is committed to providing tangible benefits to the community by involving local contractors, vendors, and partners to create jobs, drive the regional economy, and support the increase in domestic content (TKDN).

Proporsi Pelibatan Kontraktor/Vendor/Mitra Kerja Lokal [GRI 204-1][OG 11.14.6]

[SOC-14.C1]

Proportion of Local Contractor/Vendor/Partner Involvement

Pelibatan kontraktor/vendor/mitra kerja lokal dilakukan dengan menyertakan badan usaha yang berbadan hukum dan berkedudukan di Indonesia dalam rantai pasok Pertamina Grup. Perseroan menerapkan persyaratan ketat bagi kontraktor/vendor/mitra kerja lokal, berdasarkan kriteria sesuai standar Pertamina Grup dan berlaku di seluruh wilayah operasi di Indonesia maupun mancanegara. [SOC-14.A3]

The involvement of local contractors/vendors/partners is done by including business entities incorporated and domiciled in Indonesia in Pertamina Group's supply chain. The Company applies strict requirements for local contractors/vendors/partners, based on criteria according to Pertamina Group's standards and applicable in all operating areas in Indonesia and overseas. [SOC-14.A3]

Keberadaan kontraktor/vendor/mitra kerja lokal memberikan efek berantai terhadap ekonomi lokal, dengan membuka lapangan kerja dan mendukung penggunaan produk dalam negeri dari industri di setiap wilayah operasi subholding, anak perusahaan maupun unit bisnisnya. Salah satu proyek Pertamina Grup yang berdampak signifikan bagi perekonomian daerah adalah proyek *Refinery Development Master Plan* (RDMP) Kilang Balikpapan, Kalimantan Timur, yang melibatkan lebih dari 20.000 pekerja. Keberadaan mereka mendorong geliat industri perhotelan untuk kebutuhan tempat tinggal pekerja, dan industri restoran/rumah makan untuk kebutuhan makan pekerja, serta industri lainnya sehingga membuka lapangan kerja. [SOC-14.A2, 14.A7, 14.A8]

The presence of local contractors/vendors/partners has a multiplier effect on the local economy, by creating jobs and supporting the use of domestic products from industries in each operating area of the subholding, its subsidiaries, and business units. One of Pertamina Group's projects that has a significant impact on the local economy is the Balikpapan Refinery Development Master Plan (RDMP) project, East Kalimantan, involving more than 20,000 employees. Their presence encourages the hotel industry for employees' housing needs, and the restaurant industry for employees' food needs, as well as other industries that create job opportunities. [SOC-14.A2, 14.A7, 14.A8]

Selama 2024, terdapat 13.138 kontraktor/vendor/mitra kerja lokal atau 94,8% dari total kontraktor/vendor/mitra kerja di Pertamina Grup. Berdasarkan nilai kontrak pengadaan barang dan jasa, jumlah nilai kontrak untuk kontraktor/vendor/mitra kerja lokal 2024 sebesar Rp285,53 triliun atau 96,40%, dan bertambah dari 2023 sebesar Rp215,61 triliun. [SOC-14.A1]

In 2024, there were 13,138 local contractors/vendors/partners, or 94.8% of the total contractors/vendors/partners in Pertamina Group. In 2024, the value of goods and services procurement contracts for local contractors/vendors/partners amounted to Rp285.53 trillion or 96.40%, and increased from Rp215.61 trillion in 2023. [SOC-14.A1]

Proporsi Pengadaan Barang dan Jasa

Proportion of Goods and Services Procurement

Uraian Description	Satuan Unit	2024		2023		2022	
		Jumlah Total	%	Jumlah Total	%	Jumlah Total	%
Jumlah Kontraktor/Vendor/Mitra Kerja Number of Contractors/Vendors/Working Partners							
Dalam Negeri (Nasional) National	Badan Usaha Business Entities	13,138	94.84	13,417	94.87	13,419	95.50
Internasional International		715	5.16	726	5.13	632	4.50
Jumlah Total		13,853	100.00	14,474	100.00	14,051	100.00
Nilai Kontrak Contract Value							
Dalam Negeri (Nasional) National	Rp Triliun Trillion Rp	285.53	96.40	215.61	94.88	186.20	96.72
Internasional International		10.67	3.60	11.62	5.12	6.31	3.28
Jumlah Total		296.20	100.00	227.23	100.00	192.51	100.00

Keterangan | Note:

Data ini merupakan data kontraktor/vendor/mitra kerja yang mendapatkan kontrak.
This data is the data of contractors/vendors/work partners who received the contract.

Tingkat Komponen Dalam Negeri (TKDN) [SOC-14.C1, 14.A4]

Pertamina Grup mendukung pelaksanaan Program Peningkatan Penggunaan Produk Dalam Negeri (P3DN) untuk menambah capaian penggunaan Tingkat Komponen Dalam Negeri (TKDN). Di tingkat holding, peningkatan TKDN dikelola oleh Fungsi *Local Content Utilization Management*, dan didukung oleh Fungsi P3DN di masing-masing subholding. Fungsi P3DN bertanggung jawab menyusun kebijakan, strategi dan inisiatif strategis, melakukan pemantauan dan evaluasi penerapan TKDN, serta melakukan fasilitasi terhadap perbedaan penafsiran TKDN. Perseroan melakukan beberapa langkah untuk meningkatkan nilai TKDN yakni, dengan merumuskan Sistem Tata Kerja (STK) TKDN untuk seluruh Pertamina Grup; merumuskan dan menerapkan Indikator Kinerja Utama (KPI) terkait TKDN; menyusun detail peta jalur (*roadmap*) per komoditas barang/jasa; meningkatkan kompetensi terkait TKDN; melakukan sertifikasi TKDN untuk produk Pertamina Grup; serta mengembangkan *digital tools monitoring* TKDN Pertamina Grup. [SOC-14.A5, 14.A6]

Secara bertahap, Pertamina Grup berupaya menambah TKDN, hingga mencapai 50% pada 2029. Sampai dengan akhir 2024, Perseroan mampu melakukan percepatan dengan realisasi konsolidasi TKDN mencapai 71,24%.

Domestic Component Level (TKDN) [SOC-14.C1, 14.A4]

Pertamina Group supports the implementation of the Increasing the Use of Domestic Products (P3DN) Program to increase the achievement of the use of the Domestic Component Level (TKDN). At the holding level, the increase in TKDN is managed by the Local Content Utilization Management Function and supported by the P3DN Function in each subholding. The P3DN function is responsible for formulating policies, strategies, and strategic initiatives, monitoring and evaluating the implementation of TKDN, and facilitating differences in interpretation of TKDN. The Company takes several steps to increase the value of TKDN, such as formulating a TKDN Work System (STK) for Pertamina Group; formulating and implementing Key Performance Indicators (KPIs) related to TKDN; preparing a detailed roadmap per commodity goods/services; improving competencies related to TKDN; conducting TKDN certification for Pertamina Group products; and developing Pertamina Group's TKDN monitoring digital tools. [SOC-14.A5, 14.A6]

Pertamina Group is gradually increasing its TKDN, reaching 50% by 2029. As of the end of 2024, the Company managed to accelerate with the consolidated realization of TKDN reaching 71.24%.

Target dan Realisasi TKDN Pertamina Grup (%)

Target and Realization of TKDN Pertamina Group (%)

Uraian Description	2024	2023	2022
Target	47	45	40
Realisasi Realization	71.24	73.19	60.59

Target dan Realisasi TKDN Pertamina Grup Berdasarkan Entitas (%)

Target and Realization of TKDN Pertamina Group by Entity (%)

Entitas Anak Subsidiaries	2024		2023	2022
	Target	Realisasi Realization	Realisasi Realization	
Holding	35.0	72.5	86.4	53.3
SH Upstream	52.0	71.7	74.4	63.9
SH Refining & Petrochemical	30.0	31.4	50.1	44.9
SH Commercial & Trading	35.0	58.7	56.7	59.4
SH Power & NRE	40.0	73.7	47.0	53.0
SH Gas	40.0	68.5	53.1	50.2
SH Integrated Marine Logistics	30.0	47.3	67.3	49.5

Asesmen Lingkungan dan Sosial Kontraktor/Vendor/Mitra Kerja dan Evaluasi [\[OG 11.12.3\]\[SOC-2.C2\]\[SOC-4.C3\]](#)

Secara keseluruhan, 70% dari kegiatan yang dijalankan Pertamina Grup melibatkan vendor. Pelibatan vendor disertai asesmen lingkungan dan sosial, untuk memastikan kepatuhan terhadap kebijakan, hukum, dan hal-hal yang diatur dalam kontrak, serta dukungan pada pencapaian aspirasi sesuai Kebijakan Keberlanjutan Pertamina Grup, yakni menjadi perusahaan ramah lingkungan, memiliki tanggung jawab sosial, serta tata kelola yang baik. Asesmen dilakukan antara lain terhadap vendor baru yang berjumlah 105 perusahaan di 2024, atau 2,8% dari total pemasok baru tahun 2024.

Asesmen sosial dilaksanakan melalui pemeriksaan kelengkapan administrasi terkait aspek HAM dan ketenagakerjaan; keselamatan dan kesehatan kerja (K3)/*Contractor Safety Management System (CSMS)*. Setiap tahun, Pertamina Grup melakukan evaluasi kinerja kontraktor/vendor/mitra kerja. Evaluasi meliputi antara lain pemenuhan hak-hak dan kesejahteraan pekerja, termasuk pelatihan, ketersediaan akomodasi, serta memastikan tidak ada praktik-praktik perbudakan modern, dan pengelolaan dampak sosial pelaksanaan proyek terhadap masyarakat. Evaluasi dilakukan Fungsi Pengguna dan Fungsi Procurement dengan metode sesuai ketentuan dalam TKO No. B3.4-02/130200/2023-S9, kecuali Subholding Upstream yang mengacu kepada ketentuan Pedoman Tata Kerja (PTK-007) dari SKK Migas. [\[GRI 414-1, 414-2\]\[OG 11.10.8\]\[OG.11.10.9\]\[SOC-4.A1, 4.A2, 4.A3, 4.A4, 4.A5\]](#)

Asesmen lingkungan dilakukan dengan menerapkan Kebijakan *Green Procurement*, melakukan pengadaan yang bertanggung jawab, serta menggunakan sistem manajemen yang meminimalkan dampak operasional terhadap lingkungan. Melalui evaluasi yang dilakukan, Perseroan memastikan setiap kontraktor, mitra, dan pemasok telah menerapkan proses produksi yang berorientasi pada tujuan mengurangi emisi GRK maupun non-GRK, memanfaatkan sumber daya alam yang berorientasi pada daur ulang, melestarikan sumber daya air, mengurangi dampak zat kimia terhadap kesehatan manusia dan lingkungan, mempertimbangkan dan melestarikan keanekaragaman hayati, menyediakan produk dan layanan yang menciptakan nilai lingkungan, serta kepatuhan terhadap perundang-undangan. Sebagai wujud dari upaya untuk memperkuat pengelolaan aspek lingkungan dalam setiap tahapan operasional, Perseroan memetakan *value chain* yang berhubungan dengan pengelolaan aspek lingkungan. [\[GRI 308-1, 308-2\]](#)

Environmental and Social Assessment of Contractors/Vendors/Partners and Evaluation [\[OG 11.12.3\]\[SOC-2.C2\]\[SOC-4.C3\]](#)

Overall, 70% of Pertamina Group's activities involve vendors. Vendor engagements are conducted along with environmental and social assessments, to ensure compliance with policies, laws, and contractual terms, as well as to support the achievement of aspirations in line with Pertamina Group's Sustainability Policy, which is to be an environmentally friendly and socially responsible company with good governance. The assessment was conducted on 105 new vendors in 2024, or 2.8% of the total new suppliers in 2024.

Social assessment is carried out by checking the completeness of administration related to human rights and employment aspects, occupational health and safety (OHS)/*Contractor Safety Management System (CSMS)*. Every year, Pertamina Group evaluates the performance of contractors/vendors/partners. The evaluation includes the fulfilment of employees' rights and well-being, including training, availability of accommodation, as well as ensuring the absence of modern slavery practices, and management of the social impact of project implementation on the community. The evaluation is carried out by the User Function and Procurement Function with methods in accordance with the provisions in TKO No. B3.4-02/130200/2023-S9, except for the Subholding Upstream which refers to the provisions of the Work Procedure Guidelines (PTK-007) from SKK Migas. [\[GRI 414-1, 414-2\]\[OG 11.10.8\]\[OG.11.10.9\]\[SOC-4.A1, 4.A2, 4.A3, 4.A4, 4.A5\]](#)

Environmental assessments are conducted by implementing the Green Procurement Policy, responsible procurement, and use management systems that minimize operational impacts on the environment. Through the evaluation, the Company ensures that each contractor, partner, and supplier has implemented production processes that are oriented towards the goal of reducing GHG and non-GHG emissions, using natural resources that are oriented towards recycling, conserving water resources, reducing the impact of chemicals on human health and the environment, considering and preserving biodiversity, providing products and services that create environmental value, and compliance with laws and regulations. As a manifestation of efforts to strengthen the management of environmental aspects in every stage of operations, the Company mapped the value chain related to the management of environmental aspects. [\[GRI 308-1, 308-2\]](#)

Berdasarkan evaluasi 2024, terdapat 182 pemasok yang memperoleh sanksi Hitam, 25 pemasok yang memperoleh sanksi Merah, serta 21 pemasok yang memperoleh sanksi Kuning. Sanksi dijatuhkan berupa penerbitan surat sanksi kategori Hitam, Merah, dan Kuning. Pemberian surat sanksi berimplikasi pada kesertaan dalam pengadaan barang/jasa di Pertamina Grup.

Based on the 2024 evaluation, there were 182 suppliers that received Black sanctions, 25 suppliers that received Red sanctions, and 21 suppliers that received Yellow sanctions. Sanctions are imposed by issuing sanction letters in the Black, Red, and Yellow categories. The issuance of sanction letters has implications for the inclusion in the procurement of goods/services at Pertamina Group.

Jumlah Vendor yang Dikenakan Sanksi

Number of Sanctioned Vendors

Kategori Category	2024	2023	2022
Hitam Black	182	204	203
Merah Red	25	51	37
Kuning Yellow	21	33	50

Keterangan | Note:

- Hitam: Kelompok penyedia barang/jasa ini tidak diperbolehkan mengikuti kegiatan pengadaan barang/jasa selanjutnya.
- Merah: Kelompok penyedia barang/jasa ini tidak diperbolehkan mengikuti kegiatan pengadaan barang/jasa selanjutnya 1 tahun sejak sanksi dimasukkan ke dalam sistem (berlaku untuk penyedia barang/jasa).
- Kuning: Dapat mengikuti pemilihan penyedia di lingkungan Pertamina Grup (selain *cost recovery*) selama 2 tahun dan dilanjutkan dengan masa percobaan selama 1 tahun kepada penyedia barang/jasa tersebut beserta pemilik dan/atau pengurusnya.
- Black: This group of goods/services providers is not allowed to participate in the next goods/services procurement activities.
- Red: This group of goods/services providers is not allowed to participate in further goods/services procurement activities 1 year after the sanction is entered into the system (applies to goods/services providers).
- Yellow: The provider can participate in the selection of providers within the Pertamina Group (other than *cost recovery*) for 2 years and continue with a trial period of 1 year for the goods/service provider and its owner and/or management.

Perseroan belum secara khusus memasukkan klausul HAM dalam kontrak pekerjaan dengan kontraktor/vendor/mitra kerja, namun kami melakukan sosialisasi Kebijakan HAM Pertamina Grup kepada mereka. Selama periode pelaporan, tidak ada kontraktor/vendor/mitra kerja yang dihadapkan pada permasalahan terkait dugaan pelanggaran HAM, sehingga Perseroan tidak melakukan aksi bersifat khusus yang bersifat perbaikan. [SOC-2.A1, 2.A2, 2.A3, 2.A4]

The Company has not specifically included human rights clauses in work contracts with contractors/vendors/partners, but we have disseminated Pertamina Group's Human Rights Policy to them. During the reporting period, no contractors/vendors/partners were faced with issues related to alleged human rights violations, so the Company did not take any special remedial actions. [SOC-2.A1, 2.A2, 2.A3, 2.A4]

Di samping itu, kami juga senantiasa memberikan pemaparan dan sosialisasi mengenai topik-topik keberlanjutan yang diterapkan dalam rantai pasokan dan rantai nilai perusahaan kepada kontraktor/vendor/mitra kerja dalam acara *Vendor Day*. Pelaksanaan *Vendor Day* 2024 pada tanggal 11 Juli 2024 untuk sosialisasi kebijakan dan kepatuhan regulasi kepada kontraktor/vendor/mitra kerja, sehingga memiliki integritas, kapabilitas dan kredibilitas dalam mendukung operasional Pertamina Grup, termasuk penerapan *green procurement*. Kegiatan *Vendor Day* diikuti oleh sekitar 250 peserta dari berbagai kontraktor/vendor/mitra kerja.

In addition, we also continue to deliver exposure and dissemination on sustainability topics applied in the company's supply chain and value chain to contractors/vendors/partners in the *Vendor Day* event. The 2024 *Vendor Day* was held on July 11, 2024, to disseminate policies and regulatory compliance to contractors/vendors/partners, ensuring they have integrity, capability and credibility in supporting Pertamina Group operations, including the implementation of green procurement. The *Vendor Day* event was attended by approximately 250 participants from various contractors/vendors/partners.

Pelibatan Pekerja Lokal [GRI 202-2][OG 11.1.2, 11.14.3][SOC-15.C1]

Local Worker Involvement

Dengan wilayah operasi tersebar di seluruh Indonesia, Perseroan berupaya melibatkan pekerja lokal dari setiap unit operasi/unit bisnis, dengan tetap memperhatikan ketentuan internal yakni TKO Pengelolaan Rekrutmen yang berlaku di Perusahaan. Sesuai ketentuan tersebut, salah satu syarat menjadi pekerja Pertamina Grup adalah warga negara Indonesia (WNI). Sampai dengan akhir 2024, seluruh (100%) pekerja maupun pejabat utama di Pertamina Grup adalah WNI. Tidak ada pekerja asing/WNA, namun untuk beberapa proyek kerja sama dengan pihak asing, ada beberapa tenaga kerja asing (TKA) karena sifat pekerjaan yang membutuhkan keahlian khusus. Sejalan dengan kebijakan kesetaraan kesempatan untuk berkarier dan prinsip keberagaman, beberapa pejabat perusahaan pada entitas anak maupun unit operasi/unit bisnis merupakan tenaga kerja yang berasal dari wilayah operasi masing-masing. [SOC-15.A1, 15.A2]

With operating areas spread across Indonesia, the Company aims to involve local workers from each operating unit/business unit, while still considering the internal provisions of the Recruitment Management TKO that apply in the Company. Under these provisions, being an Indonesian citizen (WNI) is one of the requirements to become an employee of Pertamina Group. Until the end of 2024, all (100%) of employees and key officers in Pertamina Group are Indonesian citizens, and no foreign employees. However, some projects under cooperation with foreign parties may employ expatriates due to the nature of the job that requires specific skills. In line with the policy of equal career opportunities and the principle of diversity, some company officers in subsidiaries and operating units/business units are locals originating from their respective operating areas. [SOC-15.A1, 15.A2]

Jumlah Pekerja Pertamina Grup dan Persentase Pekerja WNI Berdasarkan Penempatan
 Number of Pertamina Group Employees and Percentage of Indonesian Employees by Placement

Penempatan Placement	2024		2023*		2022*	
	Jumlah Total	%	Jumlah Total	%	Jumlah Total	%
Holding	1,527	100.00	1,522	100.00	1,513	100.00
SH Commercial & Trading	6,285	98.99	6,055	99.37	5,784	99.43
SH Upstream	14,659	99.26	14,119	99.98	5,782	99.00
SH Refining & Petrochemical	7,634	99.82	5,965	99.97	3,129	100.00
SH Power & NRE	762	100.00	724	100.00	717	100.00
SH Gas	3,303	99.97	2,802	100.00	7,248	100.00
SH Integrated Marine Logistics	2,526	99.76	3,384	99.88	14,939	100.00
AP Services & Portfolio	6,657	99.95	5,836	99.97	6,445	100.00
Yayasan Foundation	448	100.00	396	100.00	25	100.00
Jumlah Total	43,801	99.75	40,803	99.97	45,582	99.86

Keterangan | Notes:

SH: Subholding

AP: Anak Perusahaan | Subsidiary

*Penyajian kembali informasi (*restatement*). [GRI 2-4]

*Restatement of information.



Manfaat Tidak Langsung [GRI 203-1, 203-2]

Indirect Benefits

Manfaat tidak langsung dari keberadaan Pertamina Grup direalisasikan melalui penyerapan tenaga kerja lokal oleh pemasok/vendor/kontraktor/mitra kerja lokal yang bekerja sama dengan kami. Beberapa proyek yang dilaksanakan pada periode pelaporan telah dapat membuka lapangan kerja bagi warga setempat, di antaranya:

- Proyek RDMP Kilang Balikpapan yang mempekerjakan lebih dari 20.000 pekerja lokal dari Balikpapan dan wilayah lain di Kalimantan Timur dan provinsi lain di Kalimantan.
- PT Kilang Pertamina Internasional (PT KPI) Unit Dumai melaksanakan penggantian katalis atau *Plant Stop Changed Out Catalyst (COC)* dengan melibatkan 1.207 tenaga kerja, terdiri atas 60% pekerja lokal dan 40% pekerja non lokal (luar daerah).
- Penyelenggaraan *Event* Internasional. Pertamina Grup mempekerjakan tenaga kerja lokal dalam ajang Pertamina *Grand Prix of Indonesia 2024* di Lombok, Nusa Tenggara Barat. Penyelenggaraan kegiatan tahunan ini melibatkan sekitar 4.600 tenaga kerja lokal, sehingga berdampak ikutan bagi peningkatan ekonomi warga setempat. Tenaga kerja lokal bertugas sebagai penjaga gerbang masuk, *crew* atau *usher hospitality, marshal* hingga tenaga pendukung lainnya.

Perseroan melalui subholding, anak perusahaan, maupun unit operasi/unit bisnis, menyelenggarakan pelatihan bagi pekerja lokal maupun pekerja lain, untuk peningkatan kompetensi maupun sertifikasi. Kegiatan tersebut antara lain: [SOC-15.A3]

- PT Pertamina Hulu Sangasanga, PT Pertamina EP (PEP) Sangasanga dan PT PEP Sangatta Field mengadakan Program Pelatihan dan Sertifikasi Operator Kesehatan dan Keselamatan Kerja (K3) Migas dan Operator Lantai Perawatan Sumur. Pelatihan diikuti oleh 22 pekerja dari sekitar wilayah operasi perusahaan meliputi Muara Badak, Marangkayu, Sangatta Selatan, Anggana, Muara Jawa, Samboja, Samboja Barat, dan Sangasanga.
- PT Pertamina Drilling Services Indonesia melalui Indonesia *Drilling Training Center (IDTC)*, menyelenggarakan program pengembangan kapasitas sumber daya manusia (SDM) untuk pekerja dari Namibia, Afrika Selatan. Program pelatihan dilaksanakan bersama *Petroleum Training and Education Fund (Petrofund)*, diikuti 10 pekerja asal Namibia.

Indirect benefits from Pertamina Group's presence are realized through the employment of the local workforce by local suppliers/vendors/contractors/partners with whom we work. Several projects carried out in the reporting period have been able to create jobs for local residents, including:

- Balikpapan Refinery RDMP project that employs more than 20,000 local workers from Balikpapan and other areas in East Kalimantan and other provinces in Kalimantan.
- PT Pertamina International Refinery (PT KPI) Dumai Unit carried out catalyst replacement or Plant Stop Changed Out Catalyst (COC) by involving 1,207 workers, consisting of 60% local workers and 40% non-local workers (outside the region).
- Organizing International Events. Pertamina Group hired local workers for the Pertamina Grand Prix of Indonesia 2024 event in Lombok, West Nusa Tenggara. The annual event involved around 4,600 local workers, which had a ripple effect on improving the economy of local communities. Local workers were assigned as entrance gate attendants, hospitality crew or ushers, marshals and other supporting personnel.

The Company through its subholdings, subsidiaries, and operating units/business units, organizes training for local employees and other workers, for competency development and certification. These activities include:

[SOC-15.A3]

- PT Pertamina Hulu Sangasanga, PT Pertamina EP (PEP) Sangasanga and PT PEP Sangatta Field held an Oil and Gas Occupational Health and Safety (OHS) Operator and Well Maintenance Floor Operator Training and Certification Program. The training was attended by 22 workers from around the company's operating areas including Muara Badak, Marangkayu, Sangatta Selatan, Anggana, Muara Jawa, Samboja, Samboja Barat, and Sangasanga.
- PT Pertamina Drilling Services Indonesia through the Indonesia Drilling Training Center (IDTC), organized a human capital capacity building program for workers from Namibia, South Africa. The training program was carried out with the Petroleum Training and Education Fund (Petrofund), attended by 10 workers from Namibia.

Manfaat Tidak Langsung Signifikan Lainnya [GRI 203-1, 203-2][OG 11.14.4, 11.14.5]

Other Significant Indirect Benefits

Pelibatan kontraktor/vendor/mitra kerja lokal juga mendorong manfaat tidak langsung signifikan yang dirasakan masyarakat di wilayah operasi Perseroan, termasuk bagi pemerintah daerah setempat. Manfaat tidak langsung signifikan lain adalah pembangunan infrastruktur untuk mendukung operasi unit operasi/unit bisnis.

Salah satunya, pengerjaan proyek di Ibu Kota Nusantara (IKN), Kalimantan Timur. Subholding Power & NRE yaitu PT Pertamina Power Indonesia (Pertamina NRE) bersama Otorita IKN mengembangkan solusi berbasis alam dan ekosistem (*nature and ecosystem based solutions* atau NEBS) dengan tiga aspek kunci, yaitu iklim, komunitas, dan keanekaragaman hayati. Realisasi proyek melibatkan masyarakat lokal melalui pengelolaan hutan yang terencana, sekaligus mendorong pengembangan sosial dan ekonomi di desa sekitar.

The involvement of local contractors/vendors/partners also generates significant indirect benefits for the communities in the Company's operating areas, including the local government. Another significant indirect benefit includes the infrastructure development to support the operations of operating units/business units.

One of them is the project in the Capital City of the Nusantara (IKN), East Kalimantan. Subholding Power & NRE, PT Pertamina Power Indonesia (Pertamina NRE) and IKN Authority are developing nature and ecosystem based solutions (NEBS) with three key aspects: climate, community, and biodiversity. The project realization involved local communities through forest management planning, while promoting social and economic development in surrounding villages.



Kinerja Tata Kelola Keberlanjutan: Memperkuat Tata Kelola Keberlanjutan

Sustainability Governance Performance: Strengthening
Sustainability Governance



PT Pertamina (Persero) menjunjung tinggi tata kelola perusahaan yang baik untuk membangun sistem, struktur, dan budaya yang mendukung penerapan keberlanjutan dalam operasional Perseroan. Kami terus memperkuat ikhtiar sebagai motor keberlanjutan di Indonesia, dan meningkatkan keunggulan untuk menjadi pemain energi global ramah lingkungan dan bertanggung jawab secara sosial.

PT Pertamina (Persero) upholds good corporate governance to build systems, structures, and culture that support the implementation of sustainability in the Company's operations. We continuously strengthen our efforts as a sustainability driver in Indonesia, and enhance our advantages to become an environmentally friendly and socially responsible global energy player.



Struktur dan Komposisi Tata Kelola Keberlanjutan

[GRI 2-9, 2-11][GOV-1.C1]

Sustainability Governance Structure and Composition

Sesuai Undang-Undang No. 40 tahun 2007 tentang Perseroan Terbatas, organ tata kelola Pertamina Grup terdiri dari:

- Rapat Umum Pemegang Saham (RUPS), sebagai organ tertinggi tata kelola.
- Dewan Komisaris, bertanggung jawab mengawasi Direksi mengelola Perseroan. Dewan Komisaris dipimpin Komisaris Utama, serta dibantu Komite Audit; Komite Nominasi dan Remunerasi; Komite Pemantau Investasi dan Manajemen Risiko; serta Komite Tata Kelola Terintegrasi.
- Direksi, bertanggung jawab mengelola Perseroan. Direksi dipimpin Direktur Utama yang juga menjabat sebagai Chief Executive Officer (CEO), sebagai pimpinan tertinggi di Perseroan. Direksi dibantu Sekretaris Perusahaan; Fungsi Legal Counsel and Compliance; Satuan Pengawasan Internal; dan Fungsi Health, Safety, Security, and Environmental (HSSE).

In accordance with Law No. 40 of 2007 on Limited Liability Companies, Pertamina Group's governance bodies consist of:

- General Meeting of Shareholders (GMS), as the highest organ of governance.
- The Board of Commissioners, responsible for overseeing the Board of Directors in managing the Company. The Board of Commissioners is led by the President Commissioner, and assisted by the Audit Committee; Nomination and Remuneration Committee; Investment & Risk Management Oversight Committee; and Integrated Governance Committee.
- The Board of Directors is responsible for managing the Company. The Board of Directors is led by the President Director who also serves as the Chief Executive Officer (CEO), as the highest leader in the Company. The Board of Directors is assisted by the Corporate Secretary; Legal Counsel and Compliance Function; Internal Audit Unit; and Health, Safety, Security, and Environmental (HSSE) Function.



Pengungkapan informasi mengenai Dewan Komisaris dan Direksi terkait struktur tata kelola, komposisi dan profil anggota Dewan Komisaris serta Direksi, disampaikan dalam Laporan Tahunan PT Pertamina (Persero) 2024. Pengungkapan informasi mengenai pekerja Pertamina Grup disampaikan pada bahasan pengelolaan sumber daya manusia (SDM) di Laporan ini. [GOV-1.A1]

Disclosure of information on the Board of Commissioners and the Board of Directors regarding the governance structure, composition and profiles of the members, is presented in the 2024 Annual Report of PT Pertamina (Persero). Disclosure of information on Pertamina Group employees is presented in the human capital management section of this Report.

Nominasi dan Seleksi Dewan Komisaris dan Direksi [GRI 2-10][GOV-1.A1]

Nomination and Selection of Board of Commissioners and Board of Directors

Proses nominasi, seleksi, penetapan serta pengangkatan anggota Dewan Komisaris dan Direksi Pertamina Grup mengacu pada Peraturan Menteri Badan Usaha Milik Negara (Permen BUMN) Nomor PER-3/MBU/03/2023. Calon anggota Dewan Komisaris dan/atau Direksi Pertamina Grup harus memenuhi persyaratan formal dan materiil sesuai ketentuan tersebut, dengan tetap mempertimbangkan pendapat dari pemangku kepentingan, keberagaman, independensi, dan kompetensi masing-masing. Pengungkapan informasi kriteria serta syarat calon anggota Direksi dan Dewan Komisaris diungkapkan pada Laporan Tahunan 2024.

The process of nomination, selection, determination and appointment of members of the Board of Commissioners and Board of Directors of Pertamina Group refers to the Regulation of the Minister of State-Owned Enterprises Number PER-3/MBU/03/2023. The nominees for members of the Board of Commissioners and/or Board of Directors of Pertamina Group must fulfill the formal and material requirements under these provisions, while taking into account the opinions of stakeholders, diversity, independence, and competence of each. Disclosure of information on the criteria and requirements for the nominees is disclosed in the 2024 Annual Report.

Penanggung Jawab Keberlanjutan dan Pendelegasian Tanggung Jawab [OJK E.1][GRI 2-12, 2-13][GOV-1.C4, 1.C5][GOV-2.C1, 2.C2, 2.C4]

Person in Charge of Sustainability and Delegation of Responsibility

Direksi menjadi badan tata kelola tertinggi yang bertanggung jawab atas pengelolaan dampak dan penerapan keberlanjutan Perseroan. Tanggung jawab tersebut dijalankan dengan berpedoman pada Kebijakan Keberlanjutan, yang terus dikembangkan sesuai dinamika yang berkembang di tataran nasional, regional maupun global. Kebijakan Keberlanjutan dapat diakses di situs Perseroan pada tautan <https://sustainability.pertamina.com/id-ID/Sustainability-Commitment/Sustainability-Policies/>. [GOV-2.A1]

The Board of Directors is the highest governance body responsible for the Company's impact management and implementation of sustainability. This responsibility is carried out based on the Sustainability Policy, which is developed following the dynamics at the national, regional and global stages. The Sustainability Policy can be accessed on the Company's website at <https://sustainability.pertamina.com/en-US/Sustainability-Commitment/Sustainability-Policies/>. [GOV-2.A1]

Komite Keberlanjutan

Dalam mengelola aspek keberlanjutan, Pertamina memiliki Komite Keberlanjutan yang dibentuk berdasarkan Surat Keputusan Direksi Nomor Kpts-21/C00000/2021-S0 dan perubahannya melalui Surat Keputusan Direksi Nomor Kpts-04/C0000/2025-S0. Komite Keberlanjutan terdiri dari Sustainability Steering Board yang diketuai oleh Direktur Utama dengan anggota seluruh Dewan Direksi. Kemudian, terdapat Sustainability Management Committee yang beranggotakan manajemen setingkat Senior Vice President yang bertugas merumuskan kebijakan, strategi,

Sustainability Committee

In managing the sustainability aspect, Pertamina has a Sustainability Committee established based on the Decree of the Board of Directors Number Kpts-21/C00000/2021-S0 and its amendment through the Decree of the Board of Directors Number Kpts-04/C0000/2025-S0. The Sustainability Committee consists of the Sustainability Steering Board chaired by the President Director & CEO with members from the entire Board of Directors. Then, there is a Sustainability Management Committee consisting of management at the Senior Vice

dan target. Untuk tanggung jawab pelaksanaan program berada pada Sustainability Technical Working Group di tingkat Vice President di Holding maupun Direktur di masing-masing Subholding.

Direksi mendukung pengembangan kinerja Pertamina Grup dalam segala hal yang berkaitan dengan iklim. Direktur Utama selaku Ketua Komite Keberlanjutan bertanggung jawab dalam:

- Memberikan arahan serta mengawasi visi, misi, dan kebijakan strategi Perseroan;
- Menetapkan, memantau, serta mengawasi progres tujuan dan target perubahan iklim;
- Mengambil keputusan, mengkaji, serta memberikan arahan mengenai ambisi, strategi, peta jalan dan inisiatif jangka pendek, menengah, dan panjang dalam penerapan aspek terkait perubahan iklim pada setiap lini bisnis dan fungsi pendukung; dan
- Fungsi kepemimpinan dan koordinasi lainnya, seperti mencapai target yang telah disetujui.

Direksi Subholding mengadakan pertemuan dengan Direksi Perseroan dan Komite Keberlanjutan untuk melaksanakan rapat rutin secara berkala. Dalam rapat tersebut, Direksi akan membahas dan mengevaluasi isu keberlanjutan, termasuk:

- Mengawasi, meninjau, dan menetapkan tujuan kinerja, termasuk target Perseroan seperti target transisi energi;
- Memantau perkembangan terkait kinerja iklim dan kemajuan terhadap target Perseroan;
- Mengawasi, meninjau, dan mengarahkan strategi, rencana aksi, anggaran, dan pengembangan rencana transisi;
- Mengawasi, meninjau, dan mengarahkan proses manajemen risiko perubahan iklim dalam pengembangan bisnis dan strategi Pertamina Grup.

President level in charge of formulating policies, strategies and targets. The responsibility for program implementation lies with the Sustainability Technical Working Group at the Vice President level in the Holding and Director in each Subholding.

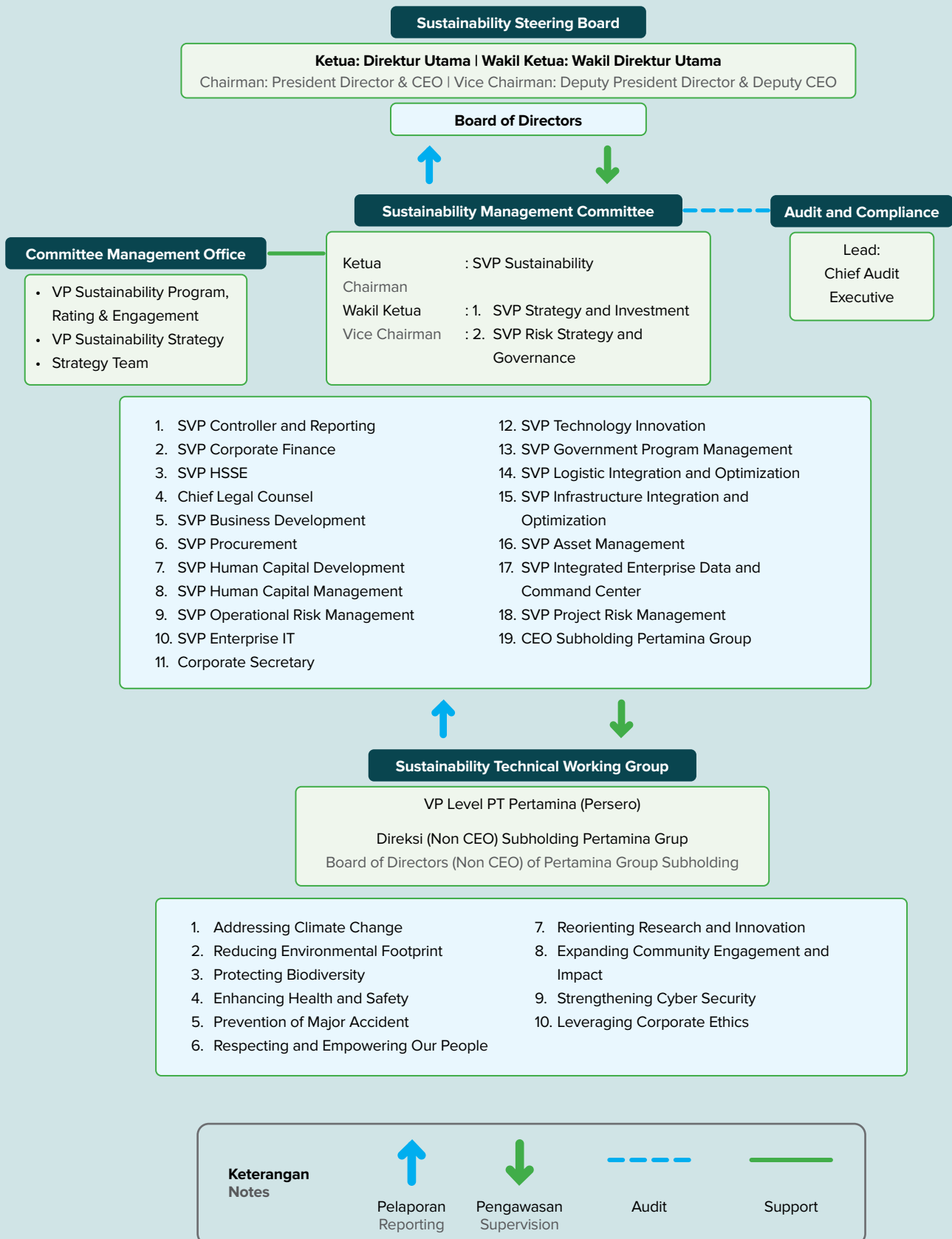
The Board of Directors supports all climate-related performance development of Pertamina Group. The President Director as Chairman of the Sustainability Committee is responsible for:

- Directing and overseeing the Company's vision, mission, and strategic policies;
- Establishing, monitoring, and overseeing the progress of climate change goals and targets;
- Making decisions, reviewing, and directing short, medium, and long term ambitions, strategies, roadmaps and initiatives in the implementation of climate change related aspects in each line of business and supporting functions; and
- Performing other leadership and coordination roles, such as achieving targets that have been approved.

The Board of Directors of subholdings holds regular meetings with the Company's Board of Directors and Sustainability Committee to discuss and evaluate sustainability issues. The Board of Directors has the following roles:

- Overseeing, reviewing, and establishing performance objectives, including the Company's targets such as energy transition targets;
- Monitoring developments in climate-related performance and progress towards the Company's targets;
- Overseeing, reviewing and directing strategy, action plan, budget and transition plan development;
- Overseeing, reviewing and directing the climate change risk management process in Pertamina Group's business development and strategy.

Struktur Organisasi Komite Keberlanjutan [GRI 2-9][GOV-1.C1]
Organizational Structure of Sustainability Committee



Evaluasi Kinerja Komite Keberlanjutan

Pertamina Grup berkomitmen untuk mengelola risiko dan peluang terkait LST secara berkelanjutan. Kami telah menerapkan kebijakan insentif untuk manajemen terkait perubahan iklim pada tingkat Direksi dan manajemen, serta memberikan insentif kepada peran kepemimpinan kunci. Secara khusus, Direktur, pejabat *C-Suite*, serta Manajer Lingkungan/Keberlanjutan berhak atas bonus moneter jika target spesifik terkait dengan kinerja iklim tercapai. Insentif ini disusun untuk memastikan bahwa tindakan kepemimpinan selaras dengan komitmen iklim dan rencana transisi Pertamina Grup, serta mengukur kemajuan dan efektivitas pengelolaan risiko terkait iklim. Target kinerja tersebut, termasuk pencapaian ESG *rating* yang telah menjadi perhatian pemangku kepentingan, serta target pengurangan emisi GRK yang telah ditentukan dan pelepasan kredit karbon. Selain itu, terdapat target jangka panjang untuk pengurangan emisi yang selaras dengan proses dekarbonisasi Pertamina Grup.

Selama periode pelaporan, Komite Keberlanjutan melakukan tugas dan tanggung jawab sebagai bagian dari tindak lanjut untuk menjawab kebutuhan pemegang saham dan perhatian pemangku kepentingan terhadap dampak kegiatan operasi selama periode pelaporan. Kegiatan yang dimaksud di antaranya:

- Memberikan arahan terkait realisasi *sustainability budget tagging 2024*;
- Memberikan arahan terkait perkembangan dekarbonisasi tahun 2024, termasuk analisis terkait *abatement cost* dari program dekarbonisasi yang telah diimplementasikan;
- Memberikan arahan terkait *Methane Abatement* dan kerja sama strategis dengan pemerintahan Jepang melalui Japan Organization for Metals and Energy Security (JOGMEC); dan
- Memberikan arahan terkait topik yang akan menjadi bahan diskusi dalam forum *Conference of Parties (COP) ke-29* di Baku, Azerbaijan.

Peran Direksi dalam Laporan Keberlanjutan [GRI 2-14]

Direksi memiliki peran dalam meninjau dan menyetujui Laporan Keberlanjutan, termasuk penetapan topik material pelaporan. Dalam pelaksanaannya, Direksi mendelegasikan peran tersebut kepada SVP Sustainability sebagai penanggung jawab penyusunan dan penerbitan Laporan Keberlanjutan.

Performance Evaluation of Sustainability Committee

Pertamina Group is committed to the sustainable management of ESG-related risks and opportunities. We have implemented an incentive policy for climate change-related management at the Board of Directors and management levels, as well as providing incentives to key leadership roles. In particular, Directors, C-Suite officers, and Environment/Sustainability Managers are eligible for monetary bonuses if specific targets related to climate performance are achieved. These incentives are designed to ensure that leadership actions are aligned with Pertamina Group's climate commitments and transition plans, and measure the progress and effectiveness of climate-related risk management. Such performance targets include the achievement of ESG ratings that have been the focus of stakeholder concerns, as well as established GHG emission reduction targets and the retirement of carbon credits. In addition, there are long-term targets for emissions reductions that are aligned with Pertamina Group's decarbonization process.

During the reporting period, the Sustainability Committee performed its duties and responsibilities as part of the follow-up to address the shareholders' needs and stakeholders' concerns on the impact of operations. The activities included:

- Providing direction regarding the realization of sustainability budget tagging 2024;
- Providing direction related to the development of decarbonization in 2024, including analysis on abatement cost of the decarbonization program that has been implemented;
- Providing direction on Methane Abatement and strategic cooperation with the Japanese government through the Japan Organization for Metals and Energy Security (JOGMEC); and
- Providing direction on topics to be discussed at the 29th Conference of Parties (COP) forum in Baku, Azerbaijan.

Role of the Board of Directors in the Sustainability Report

The Board of Directors has a role in reviewing and giving approval to the Sustainability Report, including the determination of material topics of reporting. In its implementation, the Board of Directors delegates this role to SVP Sustainability as the person in charge of preparing and publishing the Sustainability Report.

Pengelolaan Aset Terintegrasi [GOV-2.A5]

Integrated Asset Management

Pertamina Grup mengembangkan bisnis energi terintegrasi meliputi operasi hulu, tengah, dan hilir, dengan jangkauan pada pasar domestik dan luar negeri. Perseroan mengoperasikan 24% blok domestik dan berkontribusi signifikan terhadap produksi minyak domestik mencapai 70% dan gas 28%. Hal ini mendorong Pertamina Grup mengelola aset secara terintegrasi sehingga Perseroan mampu mengelola *dual growth strategy* di era transisi energi, yakni dengan memperkuat produksi, keterjangkauan, dan aksesibilitas produk energi. Pada saat yang sama, Pertamina Grup juga melakukan program dekarbonisasi.

Untuk mewujudkan hal tersebut, Pertamina Grup melakukan berbagai langkah, di antaranya penyusunan *Roadmap Technology Acceleration* dalam upaya mengintegrasikan semua inisiatif terkait percepatan adopsi teknologi di seluruh lini bisnis, baik di holding maupun subholding. Upaya lain adalah dengan sertifikasi ISO 55001:2014 Sistem Manajemen Aset yang diperoleh Subholding Refining & Petrochemical PT Kilang Pertamina Internasional (KPI), sehingga pengelolaan maupun utilisasi terhadap seluruh aset menjadi lebih optimal.

Melalui pengelolaan yang optimal, aset Pertamina Grup pada periode 2020-2023 atau pasca-restrukturisasi, mengalami pertumbuhan hingga 32% menjadi USD91,1 miliar atau setara Rp1.390 triliun pada akhir 2023. Pertumbuhan aset didorong peningkatan aset tetap serta perluasan properti minyak dan gas serta panas bumi yang dikelola Pertamina Grup, serta didukung penerapan LST di seluruh bisnis dan operasi Perseroan.

Pertamina Group has been developing an integrated energy business covering upstream, midstream and downstream operations, with coverage in domestic and overseas markets. The Company operates 24% of domestic blocks and contributes significantly to domestic oil production of 70% and gas of 28%. This encourages Pertamina Group to implement integrated asset management that enables the Company to manage a dual growth strategy in the era of energy transition, by strengthening the production, affordability, and accessibility of energy products. At the same time, Pertamina Group also conducts decarbonization programs.

To realize this, Pertamina Group took various actions, such as formulating the Technology Acceleration Roadmap to integrate all initiatives related to accelerating technology adoption in all business lines, both in the holding and subholdings. Another effort is the ISO 55001:2014 Asset Management System certification earned by Subholding Refining & Petrochemical PT Kilang Pertamina Internasional (KPI), to ensure more optimized management and utilization of all assets.

Through optimal management, Pertamina Group's assets in the period 2020-2023, or post-restructuring, grew by 32% to USD91.1 billion, or equivalent to Rp1,390 trillion by the end of 2023. Asset growth was driven by an increase in fixed assets and the expansion of oil & gas and geothermal properties managed by Pertamina Group, and supported by the implementation of ESG throughout the Company's business and operations.

Penilaian Risiko Penerapan Keberlanjutan dan Proses Reduksi Risiko

[OJK E.3][GRI 2-25][GOV-1.C3, 1.A3][GOV-2.C2, 2.C3, 2.C4]

Risk Assessment of Sustainability Implementation and Risk Reduction Process

Perusahaan memahami bahwa kegiatan operasional dan bisnis yang dijalankan memiliki risiko terhadap lingkungan maupun sosial. Perusahaan senantiasa berupaya untuk memitigasi dampak dari risiko melalui pengawasan internal berbasis pengelolaan risiko. Untuk menguatkan upaya tersebut, Pertamina Grup telah membentuk Direktorat Manajemen Risiko di Perusahaan. Direktorat Manajemen Risiko fokus pada peningkatan peran manajemen risiko sebagai penggerak utama pertumbuhan bisnis dan eksekusi strategi operasional dan implementasi proyek guna mencegah atau mengurangi potensi kerugian. Direktorat Manajemen Risiko berkolaborasi dan bersinergi dengan seluruh fungsi terkait dalam mempercepat pengembangan bisnis ke depan.

The Company understands that its operations and business activities carry environmental and social risks. The Company continuously works towards mitigating the impact of risks through internal control based on risk management. To strengthen these efforts, Pertamina Group has established a Risk Management Directorate in the Company. The Risk Management Directorate focuses on enhancing the role of risk management as a key driver of business growth and execution of operational strategies and project implementation to prevent or mitigate potential losses. The Risk Management Directorate collaborates and synergizes with all relevant functions in accelerating business development going forward.

Pada 2024, Perusahaan membentuk Komite Tata Kelola Terintegrasi (KTKT) sebagai organ dari Dewan Komisaris. KTKT berperan dalam harmonisasi Kebijakan Manajemen Risiko Terintegrasi, Kepatuhan Terintegrasi serta Audit Internal Terintegrasi. Dengan dukungan KTKT diharapkan pengelolaan tata kelola terintegrasi holding-subholding-Anak Perusahaan dapat berjalan dengan baik untuk mendukung pertumbuhan berkelanjutan.

In 2024, the Company established the Integrated Governance Committee (KTKT) as an organ of the Board of Commissioners. KTKT plays a role in harmonizing the Integrated Risk Management Policy, Integrated Compliance, and Integrated Internal Audit. The KTKT is expected to support the integrated governance management of the holding-subholding-subsidary companies to run properly to ensure sustainable growth.

Identifikasi dan Pengendalian Risiko Aspek Ekonomi dan Lingkungan, Sosial, & Tata Kelola (LST)

Identification and Control of Economic and Environmental, Social, & Governance (ESG) Risks

Pengungkapan informasi mengenai pengelolaan risiko selama 2024 disampaikan dalam Laporan Tahunan PT Pertamina (Persero) 2024. Informasi yang diungkapkan dalam Laporan ini adalah informasi terkait pengelolaan risiko terhadap LST dalam penerapan keberlanjutan Perusahaan. Proses identifikasi, pengukuran, pemantauan dan pengendalian risiko terhadap LST, dijalankan dengan mengacu pada Pedoman Manajemen Risiko serta Traktat Manajemen Risiko. Berikut uraian pengendalian risiko LST.

Disclosure of information on risk management during 2024 is presented in the 2024 Annual Report of PT Pertamina (Persero). The information disclosed in this Report is information on ESG-related risk management in the Company's sustainability implementation. The process of identifying, measuring, monitoring, and controlling ESG risks is carried out with reference to the Risk Management Guidelines and Risk Management Treaty. The following is a description of ESG risk control.

Pengendalian Risiko Aspek Ekonomi dan LST
Economic and ESG Aspect Risk Control

No	Risiko Risk	Dampak Impact	Pengendalian Risiko Risk Control
Aspek Ekonomi Economic Aspect			
1.	<p>Strategi transisi energi</p> <p>Rencana strategi perusahaan terkait perubahan iklim & dekarbonisasi tidak sesuai dengan perubahan tren industri.</p> <p>Energy transition strategy</p> <p>The company's strategy plan on climate change & decarbonization does not keep track with changes in industry trends.</p>	<p>1. Target pertumbuhan perusahaan tidak tercapai.</p> <p>2. Kemampuan perusahaan memenuhi kewajiban menurun.</p> <p>1. Failure to achieve the company's growth target.</p> <p>2. Declining ability of the company to fulfill its obligations.</p>	<p>1. Melakukan koordinasi dengan Pemerintah terkait kebijakan/peraturan dekarbonisasi.</p> <p>2. Melakukan <i>review</i> dan <i>alignment</i> RJPP dengan <i>business plan</i>.</p> <p>3. Melakukan riset untuk menyusun kebijakan dan proyeksi tren industri terbaru.</p> <p>4. Koordinasi dengan Direktorat/Unit Bisnis/Subholding terkait untuk memperoleh <i>update</i> strategi bisnis sebagai <i>corrective action</i> dalam penanggulangan perubahan kondisi yang terjadi.</p> <p>1. Coordinating with the Government on decarbonization policies/regulations.</p> <p>2. Conducting review and alignment of the RJPP with the business plan.</p> <p>3. Conducting research to formulate policies and projections of the latest industry trends.</p> <p>4. Coordinating with relevant Directorates/Business Units/Subholdings to get updates on business strategies as corrective action in responding to changes in the current conditions.</p>
2.	<p>Inovasi Keberlanjutan</p> <p>Risiko kegagalan dalam penyusunan riset dan kajian energi rendah karbon (<i>low carbon</i>).</p> <p>Sustainability Innovation</p> <p>Risk of failure in the preparation of low carbon energy research and studies.</p>	<p>Hasil riset dan kajian tidak akurat sehingga tidak dapat diimplementasikan.</p> <p>Inaccurate results of research and studies and therefore they cannot be implemented.</p>	<p>1. Menyusun Kerangka Acuan Kerja (KAK) secara komprehensif dengan menguraikan tahapan riset dan kajian energi <i>low carbon</i>.</p> <p>2. Menyusun program kerja dan melakukan evaluasi kajian energi <i>low carbon</i> secara berkala.</p> <p>1. Drafting a comprehensive Terms of Reference (ToR) by outlining the stages of low-carbon energy research and studies.</p> <p>2. Establishing a work program and conducting periodic evaluations of low-carbon energy studies.</p>
Aspek Lingkungan Environmental Aspect			
3.	<p>Emisi GRK</p> <p>Meningkatnya emisi dari aktivitas kegiatan operasi perusahaan, sehingga mengakibatkan tidak tercapainya target penurunan emisi.</p> <p>GHG Emissions</p> <p>Increased emissions from the company's operations, resulting in failure to achieve emission reduction targets.</p>	<p>Mempercepat terjadinya perubahan iklim.</p> <p>Accelerating climate change.</p>	<p>1. Mengevaluasi <i>roadmap</i> dekarbonisasi.</p> <p>2. Menyusun dan menetapkan pedoman reduksi emisi.</p> <p>3. Mengimplementasikan upaya reduksi emisi.</p> <p>4. Melakukan <i>monitoring</i> beban emisi dan program reduksi emisi.</p> <p>1. Evaluating the decarbonization roadmap.</p> <p>2. Drafting and establishing emission reduction guidelines.</p> <p>3. Implementing emission reduction initiatives.</p> <p>4. Monitoring emission load and emission reduction program.</p>

No	Risiko Risk	Dampak Impact	Pengendalian Risiko Risk Control
4.	<p>Produk Ramah Lingkungan</p> <p>Proses pemetaan produk dan jasa ramah lingkungan yang kurang akurat serta keterlambatan dalam melakukan kajian, analisis, inovasi desain pengembangan produk dan jasa.</p> <p>Environmentally Friendly Products</p> <p>Inaccurate mapping of environmentally friendly products and services and delays in conducting studies, analysis, product and service development design innovations.</p>	<p>1. Pelaporan produk/jasa ramah lingkungan dibatalkan oleh Pemerintah.</p> <p>2. Proses pengembangan atau pelaporan perubahan produk/jasa ramah lingkungan dimulai ulang dari awal.</p> <p>1. Green product/service reporting is canceled by the Government.</p> <p>2. The process of developing or reporting changes to green products/services is restarted from the beginning.</p>	<p>1. Melakukan koordinasi dengan Pemerintah terkait kebijakan/peraturan produk ramah lingkungan.</p> <p>2. Mempercepat proses pemetaan, penyusunan kajian, dan pengembangan inovasi produk ramah lingkungan.</p> <p>3. Meningkatkan koordinasi dengan fungsi terkait dalam rangka pemenuhan dokumen atau menyampaikan tanggapan pelaporan produk/jasa baru atau pelaporan perubahan produk/jasa ramah lingkungan.</p> <p>1. Coordinating with the Government regarding policies/regulations on environmentally friendly products.</p> <p>2. Accelerating the process of mapping, preparing studies, and developing environmentally friendly product innovations.</p> <p>3. Improving coordination with relevant functions to fulfill document requirements or submit responses to reporting of new products/services or reporting of changes in environmentally friendly products/services.</p>
Aspek Sosial Social Aspect			
5.	<p>Kinerja K3</p> <p>Terjadinya kecelakaan kerja dan/atau <i>fatality</i>.</p> <p>OHS Performance</p> <p>Incidents of work accidents and/or fatalities.</p>	<p>Tidak tercapainya HSSE <i>excellence</i> yang dapat mempengaruhi kinerja operasi dan reputasi perusahaan.</p> <p>Failure to achieve HSSE excellence may affect the company's operating performance and reputation.</p>	<p>1. Melakukan evaluasi terkait implementasi Pedoman Pengelolaan <i>Human Factor, Behavior Based Safety</i>.</p> <p>2. Pelatihan dan <i>drill</i> insiden mayor di level korporasi.</p> <p>3. Pelaksanaan audit HSSE secara berkala dan <i>monitoring</i> rekomendasi hasil audit.</p> <p>4. Penilaian dan <i>monitoring</i> risiko setiap bulan.</p> <p>5. Pengelolaan <i>Process Safety Asset Integrity Management System</i> (PSAIM).</p> <p>6. <i>Emergency Response & Crisis Management Plan</i> (ERCMP).</p> <p>7. <i>Business Continuity Management System</i> (BCMS).</p> <p>1. Evaluating the implementation of the Human Factor Management Guidelines, Behavior Based Safety.</p> <p>2. Major incident training and drills at the corporate level.</p> <p>3. Implementation of regular HSSE audits and monitoring of audit recommendations.</p> <p>4. Monthly risk assessment and monitoring.</p> <p>5. Management of Process Safety Asset Integrity Management System (PSAIM).</p> <p>6. Emergency Response & Crisis Management Plan (ERCMP).</p> <p>7. Business Continuity Management System (BCMS).</p>

No	Risiko Risk	Dampak Impact	Pengendalian Risiko Risk Control
Aspek Tata Kelola Governance Aspect			
6.	<p>Kesiapan SDM</p> <p>Tidak tersedianya talenta muda untuk suksesor posisi strategis sesuai kebutuhan bisnis perusahaan, terutama di bidang <i>new and renewable energy</i>.</p> <p>HC Readiness</p> <p>Unavailability of young talent for successor to strategic positions according to the company's business needs, especially in the field of new and renewable energy.</p>	<ol style="list-style-type: none"> 1. Target strategis perusahaan tidak tercapai. 2. Tertundanya pengambilan keputusan. 3. Terjadinya kesalahan prosedur dalam pekerjaan. 4. Kegiatan operasional perusahaan terganggu. <ol style="list-style-type: none"> 1. The company's strategic targets are not achieved. 2. Delayed decision making. 3. The occurrence of procedural errors at work. 4. Disrupted company operations. 	<ol style="list-style-type: none"> 1. Pengembangan <i>mapping & talent identification</i> yang setara bagi seluruh pekerja. 2. Peningkatan program pengembangan kapasitas dan pengelolaan talenta di perusahaan. 3. Menyiapkan <i>successor plan</i> untuk tiap <i>delta positions</i>. <ol style="list-style-type: none"> 1. Development of equal mapping & talent identification for all employees. 2. Improvement of capacity building and talent management programs in the company. 3. Preparing a successor plan for each delta position.
7.	<p>Korupsi</p> <p>Munculnya gugatan/tuntutan hukum atas kasus korupsi yang dilakukan oleh pekerja.</p> <p>Corruption</p> <p>Filing of lawsuit over corruption cases committed by employees.</p>	<ol style="list-style-type: none"> 1. Menurunnya reputasi perusahaan. 2. Menurunnya kepercayaan pemangku kepentingan. <ol style="list-style-type: none"> 1. Declining company reputation. 2. Decreasing stakeholder trust. 	<ol style="list-style-type: none"> 1. Mengimplementasikan <i>anti-fraud awareness program</i>. 2. Melakukan pelatihan dan sosialisasi secara berkala terkait etika perusahaan. 3. Mewajibkan pekerja untuk mengimplementasikan <i>Good Corporate Governance (GCG)</i> secara menyeluruh meliputi pernyataan <i>Conflict of Interest (Col)</i>, <i>Code of Conduct (CoC)</i>, Laporan Harta Kekayaan Penyelenggara Negara (LHKPN), dan Gratifikasi. <ol style="list-style-type: none"> 1. Implementing an anti-fraud awareness program. 2. Conducting regular training and dissemination on corporate ethics. 3. Requiring employees to fully implement Good Corporate Governance (GCG) including Conflict of Interest (Col) statement, Code of Conduct (CoC), State Official Wealth Report (LHKPN), and Gratification.
8.	<p>Kecurangan</p> <p>Program <i>Anti-fraud</i> untuk meningkatkan kesadaran pekerja terhadap kecurangan tidak tercapai sesuai target.</p> <p>Fraud</p> <p>Failure to achieve the target for the anti-fraud program to raise employees' awareness.</p>	<ol style="list-style-type: none"> 1. Potensi peningkatan kasus <i>fraud</i> di lingkungan perusahaan. 2. Menurunnya reputasi dan kepercayaan pemangku kepentingan terhadap perusahaan. 3. Audit atas efektivitas <i>anti-fraud</i>. <ol style="list-style-type: none"> 1. Potential increase in fraud cases within the company. 2. Declining reputation and stakeholder trust in the company. 3. Audit of anti-fraud effectiveness. 	<ol style="list-style-type: none"> 1. Melakukan <i>monitoring</i> terhadap <i>fraud awareness program</i> secara periodik dan melaporkan hasilnya kepada Chief Audit Executive. 2. Melakukan Sertifikasi ISO 37001:2016 Sistem Manajemen Anti Penyuapan (SMAP). <ol style="list-style-type: none"> 1. Monitoring the anti-fraud awareness program periodically and reporting the results to the Chief Audit Executive. 2. Conducting ISO 37001:2016 Certification of Anti-Bribery Management System (SMAP).

No	Risiko Risk	Dampak Impact	Pengendalian Risiko Risk Control
9.	<p>Cybersecurity</p> <p>Gangguan pada semua layanan IT dan kelumpuhan sistem informasi akibat serangan siber & <i>phishing</i>. Disruption to all IT services and downtime of information systems due to cyber & phishing attacks.</p>	<p>Terjadinya gangguan pada operasional bisnis Pertamina Grup yang menggunakan layanan IT karena sistem informasi tidak bisa diakses. Disruption to Pertamina Group's business operations that use IT services due to inaccessibility of information systems.</p>	<ol style="list-style-type: none"> Melakukan IT <i>security assessment</i> untuk pengujian terhadap keandalan sistem atau keamanan informasi dari sisi infrastruktur, aplikasi, atau jaringan. Meningkatkan keterampilan dan keahlian dengan memberikan pelatihan/sertifikasi terkait keamanan siber kepada pekerja IT. <i>Monitoring</i> implementasi/operasional inisiatif keamanan siber. Meningkatkan kewaspadaan terkait keamanan siber kepada seluruh insan Pertamina Grup/<i>human firewall</i>. <ol style="list-style-type: none"> Performing IT security assessment to test system reliability or information security in terms of infrastructure, applications, or networks. Improving skills and expertise by providing cybersecurity-related training/certification to IT personnel. Monitoring the implementation/operation of cybersecurity initiatives. Raising awareness of cybersecurity to all Pertamina Group personnel/human firewall.
10.	<p>Peraturan Perlindungan Data Pribadi (PDP)</p> <p>Tersebarnya data pribadi pelanggan, karyawan, mitra bisnis (<i>partner</i>), mitra kerja Perusahaan. Personal Data Protection Regulation (PDP) Breaches of personal data of customers, employees, partners, and vendors of the Company.</p>	<ol style="list-style-type: none"> Perusahaan mengalami tuntutan hukum yang menimbulkan sanksi dan/atau denda. Merusak citra perusahaan. <ol style="list-style-type: none"> The company is subject to lawsuits that result in sanctions and/or fines. Damage to the company's image. 	<ol style="list-style-type: none"> Menyusun <i>roadmap</i> Penerapan PDP sesuai UU No. 27/2022 yang mulai berlaku 17 Oktober 2024. Melakukan pencegahan dan pengamanan terhadap perlindungan data pribadi seluruh pemangku kepentingan perusahaan. Melakukan penyusunan <i>Data Protection Officer (DPO)</i>. Melakukan <i>mapping</i> terhadap <i>Record of Processing Activities (ROPA)</i>. Melaksanakan <i>Data Protection Impact & Assessment (DPIA)</i>. <ol style="list-style-type: none"> Developing a roadmap for PDP Implementation under Law No. 27/2022, which comes into effect on October 17, 2024. Preventing and securing the privacy of personal data of all company stakeholders. Preparing a Data Protection Officer (DPO). Mapping the Record of Processing Activities (ROPA). Conducting Data Protection Impact & Assessment (DPIA).

Melalui penerapan manajemen risiko, Perusahaan mampu mengelola dengan efektif setiap risiko yang timbul sehingga kejadian/insiden yang terjadi dapat dikendalikan secepatnya dan diminimalkan dampaknya.

Through the implementation of risk management, the Company is able to effectively manage any risks that arise to control events/incidents that occur as soon as possible and minimize their impact.

Pengelolaan Peluang, Prospek Usaha, dan Pangsa Pasar [EM-RM-410a.2]

Management of Opportunities, Business Prospects, and Market Share

Dalam mengelola keberlanjutan, Perseroan berupaya meminimalkan risiko dan mengembangkan peluang guna mendukung bisnis berkelanjutan di masa depan. Potensi peluang yang dikelola yaitu pengembangan EBT, mencakup proyek peningkatan energi hingga 23% pada 2026, dan mendukung pencapaian NZE di 2060 atau lebih cepat. Di 2024, Pertamina Grup melanjutkan berbagai kolaborasi dan kerja sama dengan berbagai pihak guna mendukung *dual growth strategy* Perseroan, yakni mempertahankan dan meningkatkan bisnis eksisting untuk menjamin ketahanan energi nasional, dan pada saat yang sama mengembangkan bisnis rendah karbon.

Beberapa kolaborasi yang dilaksanakan antara lain penandatanganan empat perjanjian dalam kegiatan Indonesia *International Sustainability Forum 2024*, yakni:

- *Joint Study Agreement (JSA)* antara Pertamina Grup, Pertamina Hulu Energi (PHE), dan Korea Maritime & Ocean University Consortium (KMOUC);
- Sinergi antara Pertamina Grup dan Pupuk Indonesia sebagai bentuk sinergi BUMN dalam kajian bersama pengembangan potensi CCS/CCUS;
- Pertamina Grup juga melakukan sinergi melalui JSA mengenai *Feasibility Study on Carbon Capture, Transportation and Storage*, dengan blok ONWJ sebagai fasilitas penyimpanan karbon; serta
- Perjanjian JSA CCS & CEO *Strategic Exchange* bersama dengan POSCO INTERNATIONAL.

Pertamina Grup juga melanjutkan ekspansi di Afrika yang dimulai sejak 2013. Dari sisi bisnis hulu migas, Perseroan memiliki rekam jejak di Aljazair, Gabon, Nigeria, Angola, Namibia dan Tanzania. Dari bisnis perkapalan, Pertamina Grup memiliki tiga *leading port* di Aljazair, Nigeria dan Angola, yang mencakup rute Mesir, Aljazair, Nigeria, Afrika Selatan, Tanzania, Djibouti, dan Gibraltar. Memasuki 2024, Perseroan melakukan ekspansi bisnis di Kenya, Tanzania, Mozambik dan Afrika Selatan guna mengembangkan blok panas bumi serta serta solusi energi terbarukan melalui *project gas to power*.

In managing sustainability, the Company aims to minimize risks and leverage opportunities to support sustainable business in the future. Potential opportunities that are managed include the development of NRE, including projects to increase energy to 23% by 2026, and support the achievement of NZE by 2060 or sooner. In 2024, Pertamina Group continued various collaborations and partnerships with multiple parties to support the Company's dual growth strategy, which is to maintain and improve existing business to ensure national energy security, and at the same time develop low-carbon business.

Some of the collaborations include the signing of four agreements during the 2024 Indonesia International Sustainability Forum, as follows:

- *Joint Study Agreement (JSA)* between Pertamina Group, Pertamina Hulu Energi (PHE), and Korea Maritime & Ocean University Consortium (KMOUC);
- Synergy between Pertamina Group and Pupuk Indonesia as a form of SOE synergy in joint study of CCS/CCUS potential development;
- Pertamina Group also synergized through JSA on *Feasibility Study on Carbon Capture, Transportation and Storage*, with ONWJ block as a carbon storage facility; and
- *JSA CCS & CEO Strategic Exchange Agreement* with POSCO INTERNATIONAL.

Pertamina Group also continued its expansion in Africa which started in 2013. In the upstream oil and gas business, the Company has a track record in Algeria, Gabon, Nigeria, Angola, Namibia and Tanzania. From the shipping business, Pertamina Group has three leading ports in Algeria, Nigeria and Angola, covering the routes of Egypt, Algeria, Nigeria, South Africa, Tanzania, Djibouti and Gibraltar. Moving into 2024, the Company expanded its business in Kenya, Tanzania, Mozambique and South Africa to develop geothermal blocks as well as renewable energy solutions through gas to power projects.

Peningkatan Kompetensi Keberlanjutan untuk Pejabat Tata Kelola [OJK E.2][GRI 2-17][GOV-1.A6][GOV-2.A3]

Sustainability Competency Training for Governance Executives

Sepanjang 2024, Perseroan menyertakan para anggota Dewan Komisaris pada kegiatan untuk meningkatkan pengetahuan, kompetensi, dan pengalaman kolektif terkait keberlanjutan, di antaranya:

- *Cyber Security Fundamental for Executive* pada tanggal 2 April 2024;
- *Digital Innovation and Transformation* pada tanggal 24 – 25 April 2024;
- *Global Oil Demand & Oil Price* pada tanggal 9 Oktober 2024; dan
- Pembahasan Dewan Komisaris dengan Delegasi Menteri Energi Kerajaan Norwegia dan Norway-Indonesia Energy Seminar terkait *Business Exchange on Green Transition* pada tanggal 2 Juli 2024 yang bertujuan membentuk ruang kolaborasi dan peninjauan investasi pengembangan bisnis energi baru dan terbarukan yang dapat mendukung pengembangan bisnis berkelanjutan Pertamina Grup.

Adapun kegiatan peningkatan pengetahuan, kompetensi dan pengalaman kolektif terkait keberlanjutan yang diikuti para anggota Direksi selama 2024, di antaranya:

- *Strategic Leadership in Energy Sustainability*;
- *BCG Sharing Session on Managing Technology Risk in Energy*;
- *BUMN School of Excellent Master Class - Women Empowerment*.

Selain itu, Perseroan juga melaksanakan kegiatan pembelajaran dan pelatihan bagi pekerja, di antaranya melalui Pertamina *Learning Festival* (PLF) pada Oktober 2024 untuk mendorong optimalisasi ekosistem pembelajaran kolaboratif di Pertamina Grup, serta pengembangan kompetensi di berbagai bidang. PLF dilaksanakan oleh Pertamina Corporate University (PCU) melalui serangkaian kegiatan berupa Webinar KOMET secara tematik, *Training & Certification Week* dan *Expert Sharing Session*. Untuk kegiatan pelatihan lain disampaikan pada bahasan tentang Penguatan Pengelolaan Sumber Daya Manusia untuk Bisnis Berkelanjutan di Laporan ini.

Throughout 2024, the Company included members of the Board of Commissioners in activities to enhance their collective knowledge, competence, and experience on sustainability, including:

- *Cyber Security Fundamental for Executive* on April 2, 2024;
- *Digital Innovation and Transformation* on April 24-25, 2024;
- *Global Oil Demand & Oil Price* on October 9, 2024; and
- Discussion of the Board of Commissioners with the Delegates of the Minister of Energy of the Kingdom of Norway and Norway-Indonesia Energy Seminar on *Business Exchange on Green Transition* on July 2, 2024, which aims to create a space for collaboration and investment exploration in the development of new and renewable energy businesses that can support Pertamina Group's sustainable business development.

The activities to increase collective knowledge, competence, and experience on sustainability that the members of the Board of Directors attended during 2024, including:

- *Strategic Leadership in Energy Sustainability*;
- *BCG Sharing Session on Managing Technology Risk in Energy*;
- *BUMN School of Excellence Master Class - Women Empowerment*.

In addition, the Company also organizes learning and training activities for employees, such as through the Pertamina *Learning Festival* (PLF) in October 2024 to optimize the collaborative learning ecosystem in Pertamina Group, as well as competency development in various fields. PLF was organized by Pertamina Corporate University (PCU) through a series of activities such as thematic KOMET Webinars, *Training & Certification Week*, and *Expert Sharing Session*. Other training activities are presented in the topic of *Strengthening Human Capital Management for Sustainable Business* in this Report.

Evaluasi serta Penilaian Kinerja Dewan Komisaris dan Direksi [GRI 2-18][GOV-2.A2]

Evaluation and Assessment of Board Performance

Kinerja keberlanjutan Dewan Komisaris dan Direksi dievaluasi melalui pencapaian target dalam indikator kinerja utama (KPI). Proses penilaian kinerja Dewan Komisaris meliputi kinerja secara kolegal maupun individu, yang dilakukan secara mandiri (*self-assessment*). Indikator yang menjadi penilaian dibagi menjadi tiga kategori yaitu internal Dewan Komisaris, Dewan Komisaris dengan Direksi dan Dewan Komisaris dengan RUPS. Indikator yang berkaitan dengan keberlanjutan terdapat pada item KPI capaian terhadap isu strategis.

The sustainability performance of the Board of Commissioners and Board of Directors is evaluated through the achievement of targets in key performance indicators (KPIs). The performance assessment process of the Board of Commissioners covers both collegial and individual performance, which is conducted through self-assessment. The assessment indicators are divided into three categories: internal Board of Commissioners, Board of Commissioners and Board of Directors, and Board of Commissioners and GMS. Sustainability-related indicators are included in the KPI item on achievement of strategic issues.

Proses penilaian kinerja Direksi diukur dan dievaluasi melalui pencapaian target dalam Kontrak Manajemen 2024 yang disahkan dan disetujui oleh Kementerian BUMN. Berdasarkan penilaian yang dilaksanakan di 2024, diperoleh hasil 102,36% atau Sangat Baik.

The Board of Directors' performance assessment is conducted by measuring and evaluating the achievement of targets in the 2024 Management Contract, which was ratified and approved by the Ministry of SOEs. The results of the assessment carried out in 2024 showed a score of 102.36% or Very Good.

Pengukuran atas Penerapan GCG

Pertamina Grup juga melakukan pengukuran penerapan GCG secara keseluruhan, yang terdiri dari penilaian (*assessment*) dan evaluasi (*review*). Penilaian dilaksanakan dua tahun sekali oleh penilai (*assessor*) independen, dan di antara periode tersebut dilakukan evaluasi atas tindak lanjut hasil penilaian GCG pada tahun sebelumnya. Pada 2024, penilaian dilakukan menggunakan dua parameter, yaitu Keputusan Menteri Badan Usaha Milik Negara Nomor SK-16/S.MBU/2012 dan IFC Corporate Governance Methodology. Berdasarkan hasil penilaian IFC Corporate Governance Methodology, implementasi GCG Pertamina Grup mencapai level 4 "*Leadership*". Adapun rincian hasil pengukurannya adalah sebagai berikut:

GCG Implementation Measurement

Pertamina Group also conducts an overall measurement of GCG implementation, which consists of an assessment and evaluation (*review*). The assessment is carried out every two years by an independent assessor, and in between periods, an evaluation is carried out on the follow-up of the GCG assessment results in the previous year. In 2024, the assessment was conducted using two parameters, namely Decree of the Minister of State-Owned Enterprises Number SK-16/S.MBU/2012 and the IFC Corporate Governance Methodology. Based on the assessment results based on the IFC Corporate Governance Methodology, Pertamina Group's GCG implementation reached level 4 "*Leadership*". The details of the measurement results are as follows:

Hasil Pengukuran atas Penerapan GCG Results of GCG Implementation Measurement

Keterangan Description	2024	2023	2022
Skor Score	94.27	95.25	95.06
Predikat Predicate	Sangat Baik Very Good	Sangat Baik Very Good	Sangat Baik Very Good

Keterangan Description	2024	2023	2022
International Finance Corporation (IFC) Corporate Governance Methodology			
Skor Score	Level 4	-	-
Predikat Predicate	Leadership	-	-

Kebijakan Remunerasi Dewan Komisaris dan Direksi [GRI 2-19, 2-20, 2-21]

Remuneration Policy for Board of Commissioners and Board of Directors

Remunerasi anggota Dewan Komisaris dan Direksi Perseroan ditetapkan oleh Menteri BUMN sebagai RUPS, dengan mengacu pada Permen BUMN Nomor PER-3/MBU/03/2023 tentang Organ dan Sumber Daya Manusia Badan Usaha Milik Negara. Pertimbangan usulan penetapan remunerasi antara lain kinerja dan pencapaian target KPI baik finansial maupun non-finansial, serta faktor eksternal seperti namun tidak terbatas pada inflasi dan *salary survey*. [GOV-1.A5]

The remuneration of members of the Board of Commissioners and Board of Directors is determined by the Minister of SOEs as representation of the GMS, with reference to the Minister of SOEs Regulation No. PER-3/MBU/03/2023 on Organs and Human Capital of State-Owned Enterprises. Considerations for the proposal to determine remuneration include performance and achievement of KPI targets, both financial and non-financial, as well as external factors such as but not limited to inflation and salary surveys. [GOV-1.A5]

Pengungkapan informasi mengenai kebijakan dan besaran remunerasi Dewan Komisaris dan Direksi Perseroan tahun 2024, disampaikan dalam Laporan Tahunan PT Pertamina (Persero) 2024. Laporan ini hanya mengungkapkan informasi rasio total gaji pekerja dengan level tertinggi terhadap total gaji tahunan rata-rata untuk semua karyawan; serta rasio persentase kenaikan total gaji tahunan untuk pekerja dengan level tertinggi terhadap rasio peningkatan persentase median total gaji untuk semua karyawan.

Disclosure of information on the policy and amount of remuneration for the Board of Commissioners and Board of Directors in 2024 is presented in the 2024 Annual Report of PT Pertamina (Persero). This report only discloses information on the ratio of the total salary of the highest level employee to the median annual total salary for all employees; as well as the ratio of the percentage increase in total annual salary for the highest level employee to the ratio of the percentage increase in median total salary for all employees.

Rasio Persentase Kenaikan Gaji Tahun 2024

Salary Increase Percentage Ratio in 2024

Uraian Description	Nilai Score
Rasio total gaji pekerja dengan level tertinggi terhadap total gaji tahunan rata-rata untuk semua karyawan Ratio of the total annual salary of the highest-level worker to the median total annual salary for all employees	0.84 : 1
Rasio persentase kenaikan total gaji tahunan untuk pekerja dengan level tertinggi terhadap rasio peningkatan persentase median total gaji untuk semua karyawan Ratio of the percentage increase in total annual salary for the highest-level workers to the ratio of the percentage increase in median total salary for all employees	1 : 1.60

Pelibatan Pemangku Kepentingan [OJK E.4][GRI 2-29][GOV 2.A][GOV 9.C1]

Stakeholder Engagement

Kami mengidentifikasi beberapa pemangku kepentingan yang turut mempengaruhi kesinambungan Perseroan, berdasarkan Standar AA1000 Stakeholder Engagement Standard (SES) 2015. Pertamina Grup melibatkan pemangku kepentingan dalam penerapan praktik-praktik keberlanjutan, melalui metode pelibatan yang mempertimbangkan signifikansi pengaruh terhadap Perseroan.

We identified several stakeholders that influence the sustainability of the Company, based on the AA1000 Stakeholder Engagement Standard (SES) 2015. Pertamina Group engages stakeholders in the implementation of sustainability practices, through engagement methods that consider the significance of influence on the Company.

Pemangku Kepentingan dan Signifikansi: Pemegang Saham

Pemegang saham sebagai pemilik modal, sehingga diperlukan dialog komunikasi terkait strategi dan kinerja Perseroan untuk membangun kepercayaan.

Stakeholder and The Significance: Shareholders

Shareholders are the owners of capital, a communication dialog about the Company's strategy and performance is required to build trust.

Tujuan Pelibatan

Mengomunikasikan kinerja pengelolaan perusahaan yang efisien serta berkelanjutan.

Purpose of Engagement

To communicate the performance of the company's efficient and sustainable management.

Metode Pelibatan

Pelaporan kinerja rutin sesuai kebutuhan, termasuk penyelenggaraan Rapat Umum Pemegang Saham (RUPS) Tahunan, RUPS Sirkuler, dan RUPS Luar Biasa.

Engagement Method

Routine performance reporting as needed, including by Holding the Annual General Meeting of Shareholders (GMS), Circular GMS, and Extraordinary GMS.

Isu dan Kepedulian

Informasi tentang arahan strategis, kinerja keuangan dan operasional, serta aksi Perseroan.

Issues and Concern

Information on the Company's strategic direction, financial, operational performance, and actions.

Pemangku Kepentingan dan Signifikansi: Pelanggan

Memberikan produk yang aman dan setara kepada seluruh pelanggan Perseroan.

Stakeholder and The Significance: Customer

Providing safe and equal products to all the Company's customers.

Tujuan Pelibatan

Memastikan ketersediaan produk dan jasa dengan memperhatikan aspek mutu, keselamatan dan kesehatan pelanggan, serta memberikan informasi transparan terkait produk dan jasa.

Purpose of Engagement

To ensure the availability of products and services by paying attention to quality, safety and health of customers, as well as to provide clear information about products and services.

Metode Pelibatan

- Layanan respons pengaduan terpusat 24/7 dan pelaksanaan survei kepuasan pelanggan.
- Kegiatan dan program *engagement* khusus dengan pelanggan.

Engagement Method

- 24/7 centralized complaint response service and customer satisfaction survey implementation.
- Special engagement activities and programs with customers.

Isu dan Kepedulian

- Pelayanan pengaduan pelanggan.
- Kepuasan pelanggan.
- Praktik pemasaran dan persaingan usaha sehat.

Issues and Concern

- Customer complaint service.
- Customer satisfaction.
- Ethical marketing practices.

Pemangku Kepentingan dan Signifikansi: Pekerja

Pekerja merupakan hal fundamental bagi Perseroan, sehingga diperlukan perbaikan aspek kesehatan dan keselamatan kerja (K3), kesejahteraan serta pengembangan kompetensi.

Stakeholder and The Significance: Employees

Employees are a fundamental matter for the Company, so it is important to improve the aspects of occupational health and safety (OHS), welfare and competence development.

Tujuan Pelibatan

- Memenuhi hak-hak normatif pekerja, kebebasan berserikat, kesempatan yang setara, dan non-diskriminasi.
- Menjamin upaya melindungi kesehatan dan keselamatan kerja (K3).
- Peningkatan kompetensi melalui pelatihan, pendidikan dan pengembangan pekerja.

Purpose of Engagement

- To fulfill employees' normative rights, freedom of association, equal opportunity, and nondiscrimination.
- To ensure efforts to protect occupational safety and health (OHS).
- To improve employee competence through training, education and development.

Metode Pelibatan

- Penyusunan Perjanjian Kerja Bersama (PKB) secara berkala.
- Pelaksanaan Survei Indeks Keterikatan Karyawan.
- Pembuatan kebijakan terkait sumber daya manusia serta penciptaan iklim kerja yang positif.
- Penerapan pedoman pengelolaan dan protokol HSSE kepada seluruh pekerja.

Engagement Method

- Regularly comply with the Collective Bargaining Agreement (CBA).
- Implement the Employee Engagement Index Survey.
- Making policies related to human resources and creating a positive work climate.
- Apply the management guidelines and HSSE protocols to all employees.

Isu dan Kepedulian

- Perlindungan hak pekerja.
- K3.

Issues and Concern

- Protection of employees' rights.
- OHS.

Pemangku Kepentingan dan Signifikansi: Investor

Investor sebagai entitas yang berperan dalam menunjang penyediaan pendanaan untuk pertumbuhan Perseroan, sehingga diperlukan komunikasi dua arah untuk membangun kepercayaan.

Stakeholder and The Significance: Investor

Investors are entities that play a role in supporting the provision of funding for the Company's growth, so two-way communication is required to build trust.

Tujuan Pelibatan	Metode Pelibatan	Isu dan Kepedulian
<p>Mengomunikasikan kesinambungan usaha dan operasional, kinerja finansial, serta pengelolaan LST untuk potensi investasi di masa depan.</p>	<ul style="list-style-type: none"> · Komunikasi dan korespondensi dilaksanakan secara berkala. · Menyampaikan dan menerbitkan laporan tahunan yang didalamnya termasuk Laporan Keuangan serta Laporan Keberlanjutan. 	<ul style="list-style-type: none"> · Informasi terkait kinerja keuangan dan operasional. · Kinerja keberlanjutan.
<p>Purpose of Engagement To communicate business and operational continuity, financial performance, and ESG management for potential future investments.</p>	<p>Engagement Method</p> <ul style="list-style-type: none"> · Communication and correspondence are conducted regularly. · Deliver and publish annual reports such as Financial Report and Sustainability Report. 	<p>Issues and Concern</p> <ul style="list-style-type: none"> · Information related to financial and operational performance. · Sustainability performance.

Pemangku Kepentingan dan Signifikansi: Regulator, Legislatif, dan Lembaga Pengawas

Perseroan senantiasa bermitra dengan regulator dalam meningkatkan standar industri pada praktik keberlanjutan.

Stakeholder and The Significance: Regulators, Legislatures, and Supervisory Agency

The Company always partners with regulators to improve industry standards on sustainability practices.

Tujuan Pelibatan	Metode Pelibatan	Isu dan Kepedulian
<p>Mengomunikasikan kepatuhan regulasi, termasuk pelaksanaan tanggung jawab sosial dan lingkungan (TJSL), serta penerapan GCG.</p>	<ul style="list-style-type: none"> · Melakukan Rapat Dengar Pendapat, kunjungan kerja, FGD, audiensi, <i>courtesy call</i>. · Pelaporan pelaksanaan kinerja dan GCG. 	<ul style="list-style-type: none"> · Kepatuhan hukum. · Program untuk menumbuhkan praktik tempat kerja yang bertanggung jawab.
<p>Purpose of Engagement To communicate compliance with all regulations, including implementation of corporate social responsibility (CSR), as well as implementation of GCG.</p>	<p>Engagement Method</p> <ul style="list-style-type: none"> · Conduct hearings, working visits, FGD, courtesy calls, and other forums. · Submit reporting on performance and GCG implementation. 	<p>Issues and Concern</p> <ul style="list-style-type: none"> · Legal compliance. · Programs to foster responsible workplace practices.

Pemangku Kepentingan dan Signifikansi: Masyarakat di Sekitar Wilayah Usaha Perseroan

Perseroan berkomitmen untuk mengembangkan dan bekerja sama dengan masyarakat sekitar wilayah operasional dalam mewujudkan Tujuan Pembangunan Berkelanjutan (TPB).

Stakeholder and The Significance: Communities Around the Company's Business Area

The Company is committed to developing and collaborating with communities around its operational areas to achieve the Sustainable Development Goals (SDGs).

Tujuan Pelibatan

Kepatuhan dalam pengelolaan dampak sosial terkait peningkatan kesejahteraan dan pemberdayaan masyarakat, melalui pelaksanaan TJSL.

Purpose of Engagement

Compliance in managing social impacts related to increased welfare and community empowerment through the implementation of CSR.

Metode Pelibatan

Melaksanakan program TJSL di seluruh wilayah operasi Perseroan, dengan menyertakan konsultasi publik dan musyawarah perencanaan pembangunan (musrenbang) rutin.

Engagement Method

Implement CSR program in all the Company's operational areas, including regular public consultations and development planning meetings.

Isu dan Kepedulian

Implementasi Program TJSL.

Issues and Concern

Implementation of CSR Programs.

Pemangku Kepentingan dan Signifikansi: Media Massa

Perseroan senantiasa melibatkan media massa secara rutin untuk mempublikasikan kinerja keberlanjutan Perseroan.

Stakeholder and The Significance: Mass Media

The Company always involves the mass media regularly to publish the sustainability performance.

Tujuan Pelibatan

Menyediakan keterbukaan informasi kinerja dan aksi korporasi Perseroan.

Purpose of Engagement

To provide disclosure of information regarding the Company's performance and corporate actions.

Metode Pelibatan

Melakukan komunikasi dengan media melalui *press release*, *press conference*, wawancara, serta lainnya.

Engagement Method

Communicate with the media through press releases, press conferences, interviews, and others.

Isu dan Kepedulian

Pemberitaan terkait berbagai informasi yang dimiliki Perseroan.

Issues and Concern

News about the Company's various Information.

Pemangku Kepentingan dan Signifikansi: Kontraktor

Perseroan bekerja sama dengan mitra guna memastikan bahwa kegiatan operasional Perseroan telah dilakukan selaras dengan K3, serta kepentingan terbaik kedua pihak.

Stakeholder and The Significance: Contractors

The Company always collaborates with partners to ensure that the Company's operational activities are carried out in accordance with OHS, as well as the best interests of both parties.

Tujuan Pelibatan

Menjalin hubungan kerja sama yang saling menguntungkan dan berkelanjutan, serta memperhatikan aspek K3.

Purpose of Engagement

To establish mutually beneficial and sustainable cooperative relationships that prioritize OHS aspects.

Metode Pelibatan

Penerapan *Contractor Safety Management System* (CSMS), disertai evaluasi secara berkala sesuai kebutuhan.

Engagement Method

Implementation of the Contractor Safety Management System (CSMS), accompanied by periodic evaluations as needed.

Isu dan Kepedulian

- K3.
- Pengadaan barang dan jasa yang bertanggung jawab.

Issues and Concern

- OHS.
- Responsible procurement of goods and services.

Pemangku Kepentingan dan Signifikansi: Lembaga Swadaya Masyarakat (LSM)

Perseroan bekerja sama dengan LSM dalam meninjau kinerja keberlanjutan yang telah dilakukan Perseroan.

Stakeholder and The Significance: Non-Governmental Organization (NGO)

The Company cooperates with NGOs in reviewing the sustainability performance that has been carried out by the Company.

Tujuan Pelibatan

Menyediakan informasi terkait pengelolaan LST yang dilakukan Perseroan.

Purpose of Engagement

To provide information related to the management of ESG by the Company.

Metode Pelibatan

- Menyampaikan kinerja Perseroan melalui media dan saluran informasi lainnya.

- Melakukan komunikasi, FGD, dan kerja sama program.

Engagement Method

- Communicate the Company's performance through media and other information channels.

- Conduct communication, FGD and program cooperation.

Isu dan Kepedulian

- Informasi terkait kinerja keberlanjutan.
- Pelaksanaan TJSL.

Issues and Concern

- Information related to sustainability performance.

- Implementation of CSR.

Pemangku Kepentingan dan Signifikansi: Lembaga Penelitian dan Perguruan Tinggi

Perseroan bekerja sama dengan Lembaga Penelitian dan Perguruan Tinggi untuk melakukan eksplorasi dan inovasi terkait produk rendah karbon.

Stakeholder and The Significance: Research Institutes and Universities

The Company cooperates with Research Institutes and Universities to explore and innovate low carbon products.

Tujuan Pelibatan

Riset dan pengembangan teknologi yang mendukung kegiatan usaha dan kelangsungan bisnis Perseroan.

Purpose of Engagement

Technology research and development that support the Company's business activities and continuity,

Metode Pelibatan

Kerja sama riset, kegiatan, dan publikasi ilmiah.

Engagement Method

Cooperation on research, activities, and scientific publications.

Isu dan Kepedulian

- Penelitian dan pengembangan.
- Sharing of industry best practices.

Issues and Concern

- Research and development.
- Sharing of industry best practices.



Kontribusi pada Kebijakan Publik [OG 11.2.4, 11.22.2][GOV-5.A1, GOV-5.C1, 5.C2]

Contribution to Public Policy

Komitmen Pertamina Grup dalam mendukung pengelolaan perubahan iklim diwujudkan antara lain melalui kesertaan pada berbagai forum baik di tingkat nasional maupun global. Selama 2024, ada beberapa forum yang diikuti Pertamina Grup, di antaranya:

- Indonesia International Sustainability Forum (IISF)**
 Dalam forum IISF, Pertamina Grup menyebutkan, strategi transisi energi dijalankan Pertamina Grup untuk mendukung pertumbuhan ekonomi nasional dan target NZE Pemerintah Indonesia. Transisi energi Pertamina Grup bisa mendukung pertumbuhan ekonomi nasional sekaligus menguatkan peningkatan kemampuan Indonesia dalam menghadapi trilema energi.
- Conference of the Parties (COP) 29**
 Pertamina Grup turut hadir dalam COP 29 di Baku, Azerbaijan. Dalam forum internasional tersebut, Pertamina Grup berpartisipasi dalam forum yang menyoroti isu-isu perubahan iklim dan transisi energi, serta mempertegas posisi sebagai perusahaan energi terdepan di Indonesia yang berkomitmen terhadap keberlanjutan.
- Leadership Development Program**
 Pertamina Grup mendukung Institut Energi Anak Bangsa dan terlibat dalam kegiatan Leadership Development Program sebagai inisiatif Pertamina Grup dalam upaya mewujudkan ketahanan energi nasional sebagai perusahaan energi nasional yang berkelas dunia melalui wadah edukasi generasi mendatang tentang trilema energi, untuk menjaga ketahanan energi nasional (*energy security*), mencapai target *net zero emission (environmental sustainability)*, dan menyeimbangkan biaya dan kebutuhan ekonomi (*energy affordability*), di mana perusahaan telah menerapkan langkah konkret untuk menjawab tantangan tersebut.
- Rapat Dengar Pendapat, Rapat Panja, Kunjungan Kerja, dan Focus Group Discussion dengan Lembaga Legislatif**
 Pertamina Grup bersinergi dengan lembaga legislatif Republik Indonesia yang terkait dengan Bidang Energi melaksanakan ragam kegiatan tersebut di atas

Pertamina Group's commitment in supporting climate change management is realized, among others, through participation in various forums both at the national and global levels. During 2024, there were several forums that Pertamina Group participated in, including:

- Indonesia International Sustainability Forum (IISF)**
 In the IISF forum, Pertamina Group pointed out that the Company implemented its energy transition strategy to support national economic growth and the Indonesian Government's NZE target. Pertamina Group's energy transition can support national economic growth while strengthening Indonesia's ability to deal with the energy trilemma.
- Conference of the Parties (COP) 29**
 Pertamina Group attended the COP 29 in Baku, Azerbaijan. In this international forum, Pertamina Group participated in a forum that highlighted the issues of climate change and energy transition, and solidified its position as a leading energy company in Indonesia with a commitment to sustainability.
- Leadership Development Program**
 Pertamina Group supports the Institut Energi Anak Bangsa and is involved in the Leadership Development Program activities as an initiative of Pertamina Group to realize national energy security as a world-class national energy company. The initiative serves as a platform for educating the next generation about the energy trilemma, to maintain national energy security, achieve net zero emission targets (environmental sustainability), and balance economic costs and needs (energy affordability), where the company has implemented concrete steps to answer these challenges.
- Hearings, Working Committee Meetings, Working Visits, and Focus Group Discussions with Legislative Institutions**
 Pertamina Group in synergy with the legislative institutions of the Republic of Indonesia in the Energy Sector carried out a variety of activities several

beberapa kali dengan fokus pembahasan dan wilayah yang spesifik dalam hal pengelolaan operasional Pertamina Grup mulai dari hulu hingga hilir, termasuk namun tidak terbatas pada *lifting* migas, stok dan ketahanan energi, serta konsumsi produk, dalam rangka memastikan kesiapan dan ketersediaan bahan bakar rendah karbon.

- **Seminar, Simposium, dan *Workshop* Perubahan Iklim**
 Pertamina Grup bersama dengan pihak akademisi melaksanakan program yang merupakan wujud dukungan pencapaian *National Determined Contribution* (NDC) Perusahaan dan regulasi yang ditetapkan pemerintah untuk mencapai komitmen perubahan iklim secara nasional yang bersifat transformasi dan memerlukan standar prosedur sehingga dapat melibatkan partisipasi masyarakat dengan mekanisme insentif yang terukur.
- **Investasi Hijau Menuju Indonesia Emas 2045**
 Pertamina Grup mendorong percepatan penggunaan bahan bakar yang ramah lingkungan dan mendukung transisi energi menjadi energi yang lebih ramah lingkungan.
- **Pertamina Goes to Campus**
 Pertamina Grup melaksanakan rangkaian kegiatan di berbagai Perguruan Tinggi yang tersebar di seluruh Indonesia dengan tujuan mengedukasi mahasiswa dan akademisi terkait bisnis Pertamina Grup dan juga tantangan industri energi yang dihadapi, termasuk juga mendorong pemikiran-pemikiran dan ide-ide konsep pembaharuan terkait sumber energi alternatif yang berkelanjutan sehingga dapat menjadi opsi solusi terhadap trilema energi.
- **Pertamuda Seed & Scale 2024**
 Pertamina Grup menyelenggarakan program yang menjadi wadah bagi inovator-inovator muda untuk dapat menyumbangkan pemikiran, ide, dan konsepnya atas berbagai hal terkait sumber energi yang terbarukan dan berkelanjutan sehingga terbuka kesempatan adanya terobosan yang berasal dari masyarakat dengan memanfaatkan potensi yang ada di masyarakat sehingga penyeimbangan transisi energi dan lebih lanjut trilema energi dapat lebih aplikatif di tengah masyarakat.

times with a specific focus of discussion and area in managing Pertamina Group's operations from upstream to downstream, including but not limited to oil and gas lifting, energy stocks and security, and product consumption, to ensure the readiness and availability of low carbon fuels.

- **Climate Change Seminar, Symposium, and *Workshop***
 Pertamina Group in collaboration with academics conducted programs that support the achievement of the Company's National Determined Contribution (NDC) and regulations established by the government to achieve national climate change commitments that are transformational and require standard procedures to involve community participation with measurable incentive mechanisms.
- **Green Investment Towards Golden Indonesia 2045**
 Pertamina Group encourages the acceleration of the use of environmentally friendly fuels and supports the energy transition to more environmentally friendly energy.
- **Pertamina Goes to Campus**
 Pertamina Group conducts a series of activities in various universities across Indonesia to educate students and academics regarding Pertamina Group's business and the challenges faced by the energy industry, including encouraging thoughts and ideas for new concepts related to sustainable alternative energy sources as a solution option to the energy trilemma.
- **Pertamuda Seed & Scale 2024**
 Pertamina Group organizes a program to provide a forum for young innovators to contribute their thoughts, ideas, and concepts on various matters related to renewable and sustainable energy sources to open up opportunities for breakthroughs that come from the community by utilizing the potential in the community to balance the energy transition for more applicable energy trilemma in the community.

Kontribusi Politik [GRI 415-1]

Political Contribution

Pertamina Grup memiliki kebijakan untuk tidak memberikan kontribusi politik dalam bentuk pemberian dana maupun sumbangan apapun termasuk penggunaan fasilitas Perseroan, untuk kegiatan politik maupun individu politisi. Perseroan mewajibkan pekerja Pertamina Grup untuk mengundurkan diri bila mencalonkan diri sebagai anggota legislatif atau kepala daerah. Di samping itu, sebagai bagian dari komitmennya untuk menjaga integritas dan independensi, Pertamina Grup dengan tegas menyatakan bahwa perusahaan tidak terlibat dalam kegiatan politik. Pertamina Grup memastikan bahwa seluruh operasional dan kebijakan yang diambil sepenuhnya berfokus pada upaya meningkatkan kinerja perusahaan, memberikan nilai tambah kepada masyarakat, dan menjalankan tanggung jawab sosial sebagai perusahaan negara.

Pertamina Group has a policy to refrain from making political contributions in any form of funding or donations, including the use of Company facilities, to political activities or individual politicians. The Company requires Pertamina Group employees to resign when running for legislative or regional head positions. In addition, as part of its commitment to maintain integrity and independence, Pertamina Group explicitly states that the company is not involved in political activities. Pertamina Group ensures that all operations and policies are fully focused on improving the company's performance, creating added value to society, and fulfilling its social responsibility as a state-owned company.

Praktik Bisnis Beretika, Kepatuhan, dan Pencegahan Benturan Kepentingan [GRI 2-23, 2-24, 2-27][GOV-1.C2][GOV-2.C1][GOV-1.A2, 1.A7]

[GRI 2-23, 2-24, 2-27][GOV-1.C2][GOV-2.C1][GOV-1.A2, 1.A7]

Ethical Business Practices, Compliance, and Conflict of Interest Prevention

Pertamina Grup menjunjung tinggi standar praktik tata kelola yang baik serta praktik bisnis yang beretika untuk mendukung penerapan keberlanjutan terkait LST. Kami menjalankan bisnis dengan mengedepankan kepatuhan hukum, dan menerapkan Pedoman Perilaku (*Code of Conduct*) yang ditetapkan berdasarkan Surat Keputusan Direktur Utama No.Kpts-15/C00000/2022-SO. Pedoman Perilaku menjadi acuan dalam menerapkan perilaku usaha maupun perilaku kerja seluruh insan Pertamina Grup, pihak eksternal yang bertindak untuk dan atas nama Perseroan, anak perusahaan dan struktur perusahaan di bawahnya, serta kontraktor/mitra kerja/vendor yang bekerja sama dengan Perseroan. Pemberian pemahaman praktik bisnis beretika juga disampaikan secara implisit dalam *talkshow* pada peringatan Hari Anti Korupsi Sedunia 2024 yang dilaksanakan pada 26 November 2024 yang dihadiri oleh 1.420 Pekerja PWT/PWTT/TAD/TKJP holding, subholding, dan Anak Perusahaan Services.

Pertamina Group upholds high standards of good governance and ethical business practices to support the implementation of sustainability related to ESG. We emphasize legal compliance in conducting business, and implement the Code of Conduct stipulated in the President Director Decree No.Kpts-15/C00000/2022-SO. The Code of Conduct serves as a guiding principle in implementing the business and work behavior of all Pertamina Group personnel, external parties acting for and on behalf of the Company, subsidiaries, and those below its structures, as well as contractors/partners/vendors working with the Company. The ethical business practices was also implicitly communicated in a talk show on the commemoration of World Anti-Corruption Day 2024 held on November 26, 2024 which was attended by 1,420 Permanent/Non-permanent/Outsourced/Support Employees of the holding, subholdings, and service subsidiaries.

Selain itu, Pertamina Grup melakukan sosialisasi Pedoman Perilaku kepada Pekerja PWT/PWTT sesuai dengan pedoman yang berlaku di masing-masing entitas melalui *Compliance Online System* (Compols) dengan total pekerja sebagai berikut:

In addition, Pertamina Group disseminated the Code of Conduct to permanent/non-permanent employees according to the applicable guidelines in each entity through the Compliance Online System (Compols), with the number of employees as follows:

No	Nama Entitas Entity Name	Jumlah Pekerja Total Workers
1	PT Pertamina (Persero)	1,427
2	PT Pertamina Hulu Energi	254
3	PT Pertamina Patra Niaga	3,939
4	PT Pertamina Power Indonesia	124
5	PT Perusahaan Gas Negara, Tbk	1,101
6	PT Kilang Pertamina Internasional	5,893
7	PT Pertamina International Shipping	431
8	PT Pertamina Training & Consulting	288
9	PT Pertamina Bina Medika IHC	3,020
10	PT Pelita Air Service	741
11	PT Asuransi Tugu Pratama Indonesia, Tbk	655
12	PT Nusantara Regas	76
13	PT Patra Jasa	324
14	PT Pertamina Pedeve Indonesia	6
Total		18,279

Sosialisasi tidak hanya terbatas pada masalah *fraud* (penipuan) dan *bribery* (suap), tetapi juga mencakup potensi risiko etika lainnya yang dapat mempengaruhi integritas dan reputasi perusahaan. Sosialisasi ini mencakup berbagai aspek seperti konflik kepentingan, diskriminasi, pelanggaran hak asasi manusia, serta kebijakan dan praktik yang tidak sesuai dengan standar etika yang diterapkan oleh Perseroan.

The socialization is not only limited to fraud and bribery issues, but also covers other potential ethical risks that may affect the Company's integrity and reputation. We conduct socialization of various aspects such as conflicts of interest, discrimination, human rights violations, and policies and practices concerning noncompliance with the ethical standards applied by the Company.

Pencegahan Benturan Kepentingan [GRI 2-15]

Conflict of Interest Prevention

Penerapan pencegahan benturan kepentingan di Pertamina Grup dilaksanakan sesuai Pedoman No.A9.1-01/N00000/2023-S9 tentang Pencegahan Pelanggaran Konflik Kepentingan. Hal tersebut dilakukan dengan mewajibkan insan Pertamina Grup untuk melakukan deklarasi pernyataan tidak memiliki benturan kepentingan setiap tahun, tidak menoleransi suap, menjunjung tinggi kepercayaan, dan berpedoman pada asas-asas tata kelola korporasi yang baik, dengan mengacu pada ISO 37001:2016 Sistem Manajemen Anti Penyuapan (SMAP).

Berdasarkan laporan yang disampaikan, diketahui selama 2024, ada beberapa upaya yang dilakukan untuk memastikan pencegahan pelanggaran konflik kepentingan telah berjalan dengan baik, di antaranya:

- Mencantumkan ketentuan larangan konflik kepentingan dalam setiap proses pengadaan barang/jasa di Perseroan;
- Dilaksanakannya *sharing session* mengenai *Conflict of Interest (COI)* kepada pekerja Pertamina Grup; dan
- Dilarang menawarkan, memberi, dan/atau menerima sesuatu yang tidak sesuai dengan ketentuan gratifikasi untuk tujuan memperoleh manfaat/imbalan/kontraprestasi dan perlakuan istimewa dari pihak-pihak tertentu.

The conflict of interest prevention in Pertamina Group is carried out based on Guideline No. A9.1-01/N00000/2023-S9 on Prevention of Conflict of Interest Violations. The Company requires Pertamina Group personnel to annually declare that they have no conflict of interest, do not tolerate bribery, uphold trust, and are guided by the good corporate governance principles, by referring to ISO 37001:2016 Anti-Bribery Management System (SMAP).

Based on the report submitted, several efforts were made to ensure that the prevention of conflict of interest violations had been implemented properly during 2024, including:

- Include the conflict of interest prohibition in every procurement of goods/services process in the Company;
- Conducting sharing sessions on Conflict of Interest (COI) to Pertamina Group employees; and
- Prohibiting offering, giving, and/or accepting something that violates the provisions of gratification to gain benefits/rewards/counter-performance, and preferential treatment from certain parties.



Komunikasi Hal-hal Kritis [OJK F.24][GRI 2-16, 2-26][GOV-2.A4]

Communicating Critical Issues

Perseroan memiliki beberapa mekanisme yang dapat digunakan pemangku kepentingan termasuk masyarakat, untuk menyampaikan hal-hal kritis kepada manajemen, salah satunya yaitu Sistem Pelaporan Pelanggaran atau *Whistleblowing System* (WBS). Dalam kondisi tertentu, masyarakat maupun pemangku kepentingan lain dapat menyampaikan hal-hal kritis, pengaduan/keluhan secara langsung kepada pimpinan dan/atau pejabat perusahaan di Pertamina Grup. Mekanisme yang disediakan antara lain *town hall meeting* dan *management walkthrough* untuk pekerja; *vendor day* untuk kontraktor/mitra kerja/vendor; *customer day* untuk pelanggan; rapat koordinasi dengan pemerintah, regulator/SKK Migas; serta kunjungan wartawan untuk media massa.

Selama 2024, Perseroan menyelenggarakan beberapa kegiatan untuk meningkatkan kepedulian pemangku kepentingan, di antaranya kerja sama dengan lembaga penegak hukum terkait penegakan hukum dan tata tertib di lingkungan Pertamina Grup. Kegiatan lain adalah kolaborasi bersama Polri terkait satgas hari raya Idul Fitri, Natal, maupun tahun baru, serta pengembangan personel dalam rangka penanganan pengamanan wilayah operasional Pertamina Grup; dan kolaborasi dengan TNI terkait optimalisasi serta sinergitas pengamanan objek vital nasional strategis maupun objek lainnya di lingkungan kerja Pertamina Grup.

The Company has several mechanisms that can be used by stakeholders, including the community, to convey critical issues to management, one of which is the Whistleblowing System (WBS). Under certain conditions, the community and other stakeholders may submit critical issues, complaints/ grievances directly to leaders and/or company officers of Pertamina Group. Other mechanisms provided include town hall meetings and management walkthroughs for employees; Vendor Day for contractors/ partners/vendors; Customer Day for customers; coordination meetings with the government, regulators/ SKK Migas; and journalist visits for mass media.

During 2024, the Company organized several activities to increase stakeholder awareness, including cooperation with law enforcement agencies related to law enforcement and discipline within the Pertamina Group. Other activities are collaboration with the National Police related to the task force for Eid al-Fitr, Christmas, and New Year, as well as personnel development in handling the security of Pertamina Group's operating areas; and collaboration with the Armed Forces on the optimization and synergy of securing strategic national vital objects and other objects in the Pertamina Group's work environment.

Survei Kepuasan Pelanggan [OJK F.30]

Customer Satisfaction Survey

Secara berkala, Pertamina Grup melakukan evaluasi efektivitas mekanisme pengaduan dan proses remediasi lainnya melalui survei kepuasan pelanggan terhadap Pertamina *Call Center* (PCC) 135. Berdasarkan survei 2024 diperoleh hasil sebesar 4,27 dari skala 5, meningkat dari 2023 yang mencapai 4,26. Selain itu, Perseroan menyertakan PCC 135 dalam berbagai ajang penilaian pihak independen, dengan capaian selama 2024:

Pertamina Group regularly evaluates the effectiveness of the grievance mechanism and other remediation processes through a customer satisfaction survey of Pertamina Call Center (PCC) 135. The result of the 2024 survey showed a score of 4.27 on a scale of 5, an increase from 4.26 in 2023. In addition, the Company included PCC 135 in various independent party assessment events, with achievements during 2024 as follows:

1. PCC 135 meraih penghargaan Indonesia DEI & ESG (IDEAS) Awards 2024 Kategori *Environmental, Social & Governance* (ESG) atas inovasinya dalam memberikan pelayanan prima kepada pelanggan. Penghargaan IDEAS Awards 2024 diselenggarakan PR Indonesia diberikan kepada Humas BUMN yang mampu menunjukkan kinerja positif dalam penerapan komunikasi *diversity, equity, inclusion* (DEI), dan LST;
 2. *Agent* PCC 135 meraih peringkat *Platinum* dan *Silver The Best Agent Inbound Public Small* pada ajang The Best Contact Center Indonesia (TBCCI) 2024 yang diselenggarakan Indonesia Contact Center Association (ICCA).
 3. PCC 135 mendapat 12 penghargaan pada ajang Contact Center World Asia Pacific Awards 2024 yang diselenggarakan oleh Contact Center World dan The Global Association for Contact Center and Customer Engagement Best Practices di Australia. Pencapaian ini merupakan raihan PCC 135 untuk lima tahun berturut-turut.
1. PCC 135 won the Indonesia DEI & ESG (IDEAS) Awards 2024 in the Environmental, Social & Governance (ESG) category for its innovation in providing service excellence to customers. The IDEAS Awards 2024 organized by PR Indonesia is presented to SOE PRs that are able to show positive performance in the implementation of diversity, equity, inclusion (DEI), and ESG communications;
 2. PCC 135 Agent won the Platinum and Silver ratings of The Best Agent Inbound Public Small at The Best Contact Center Indonesia (TBCCI) 2024 event organized by the Indonesia Contact Center Association (ICCA).
 3. PCC 135 received 12 awards at the Contact Center World Asia Pacific Awards 2024 organized by Contact Center World and The Global Association for Contact Center and Customer Engagement Best Practices in Australia. PCC 135 has received the awards for the fifth consecutive year.



Dukungan pada Antikorupsi [GRI 205-1, 205-2, 205-3][OG 11.20.2, 11.20.3, 11.20.4][EM-EP-510a.2]

[EM-SV-510a.2] GOV-3.C1, 3.C3, 3.C4][GOV 4.A3, 4.A4]

Support for Anti-Corruption

Pertamina Grup terus berupaya membangun tata kelola perusahaan yang baik untuk mencegah tindakan koruptif melalui teknologi digitalisasi, standarisasi serta transparansi yang mencakup pula kontraktor/mitra kerja/vendor.

Pertamina Group continues to build good corporate governance to prevent any corruption through digitalization, standardization, and transparency that also covers contractors/partners/vendors.

Digitalisasi Cegah Korupsi: Penerapan *One Procurement to Pay*

Digitalization Prevents Corruption: One Procurement to Pay Implementation

Salah satu kegiatan operasi yang memiliki risiko korupsi adalah pengadaan. Pada periode pelaporan, Pertamina Grup menggelar Penandatanganan Komitmen Bersama Implementasi *One Procurement to Pay (Contract Digitalization & Procurement Plan List Online)*. Untuk tahap pertama, *One Procurement to Pay* akan diterapkan di tiga subholding yaitu Subholding Commercial & Trading, Subholding Refining & Petrochemical, serta Subholding Integrated Marine Logistics.

One Procurement to Pay merupakan platform yang mengintegrasikan beberapa aktivitas fungsi di korporasi yakni Fungsi *Procurement, Shared Services, Enterprise IT, Legal, Finance, HSSE, dan User* termasuk kaitannya dengan vendor. Melalui platform digital ini, Pertamina Grup mengintegrasikan fungsi terkait dan 127 aplikasi dalam suatu *Digital Platform Pipeline* sehingga semuanya bisa terpantau secara waktu nyata dan berlangsung sesuai proses bisnis yang seharusnya serta sejalan dengan ketentuan yang berlaku dan mengurangi *human error* yang dapat berpotensi korupsi.

One of the operating activities that has a risk of corruption is procurement. In the reporting period, Pertamina Group signed a Joint Commitment to Implement One Procurement to Pay (Contract Digitalization & Online Procurement Plan List). For the first phase, One Procurement to Pay will be implemented in three subholdings: Subholding Commercial & Trading, Subholding Refining & Petrochemical, and Subholding Integrated Marine Logistics.

One Procurement to Pay is a platform that integrates several corporate function activities, such as Procurement, Shared Services, Enterprise IT, Legal, Finance, HSSE, and User functions, including those related to vendors. Through this digital platform, Pertamina Group integrates related functions and 127 applications in a Digital Platform Pipeline where everything can be monitored in real time and conducted according to proper business processes and in compliance with applicable regulations, as well as reducing human errors that could potentially lead to corruption.

Resertifikasi dan Pengembangan ISO 37001 SMAP [GOV-3.A2]

ISO 37001 SMAP Recertification and Development

Pertamina Grup telah melakukan sertifikasi ISO 37001 Sistem Manajemen Anti Penyuapan (SMAP) sejak 2018 dan pada 2024, melakukan resertifikasi dengan melaksanakan *assessment* ISO 37001:2016 SMAP untuk lingkup holding. *Assessment* dilakukan oleh pihak eksternal independen pada periode 4-6 Maret 2024. Berdasarkan *assessment* dinyatakan bahwa Pertamina Grup berhasil memperoleh resertifikasi ISO 37001:2016 SMAP dengan Sertifikat Nomor ID21/05670 tertanggal 8 April 2024. Selain Holding, terdapat 11 entitas di lingkungan Pertamina Grup yang telah tersertifikasi ISO 37001:2016, antara lain PT Pertamina Hulu Energi, PT Pertamina Patra Niaga, PT Perusahaan Gas Negara Tbk, PT Kilang Pertamina Internasional, PT Pertamina International Shipping, PT Asuransi Tugu Pratama Indonesia Tbk, PT Pertamina Training & Consulting, PT Pertamina Bina Medika IHC, PT Pelita Air Service, PT Patra Jasa, serta PT Tuban Petrochemical Industries.

Kami juga mendorong entitas anak untuk meningkatkan penerapan ISO 37001:2016 SMAP. Pada 2024, Subholding Gas PT Perusahaan Gas Negara Tbk (PGN) telah mengembangkan ruang lingkup sertifikasi kepada fungsi yang lebih luas, sekaligus dilakukan integrasi dengan ISO 9001 Sistem Manajemen Mutu, ISO 45001 Sistem Manajemen K3 dan ISO 14001 Sistem Manajemen Lingkungan. Pengembangan diwujudkan dengan Resertifikasi Integrasi Mutu HSSE dan Anti Penyuapan, sekaligus menambah ruang lingkup sertifikasi ISO 37001 SMAP dari tiga fungsi menjadi 9 fungsi yang dianggap memiliki risiko penyuapan yang tinggi, yakni Kepatuhan, Risiko, Pengadaan barang/Jasa, Keuangan, Komunikasi Perusahaan, CSR, Hubungan dengan Pemangku Kepentingan, Anggaran, dan Kepegawaian. Lebih lanjut, Kebijakan Anti Penyuapan sudah terintegrasi dengan HSSE dan *Quality Management*, yaitu Pedoman Sistem Manajemen Mutu K3 dan Anti Penyuapan (SMMK3AP) yang sudah ditandatangani oleh Direktur Utama. Kebijakan ini wajib dipahami dan diterapkan oleh seluruh manajemen dan merupakan bagian dari upaya pencegahan praktik penyuapan secara menyeluruh.

Pertamina Group has been certified with ISO 37001 Anti-Bribery Management System (SMAP) since 2018 and recertified by carrying out assessment of ISO 37001:2016 SMAP for the scope of the Holding in 2024. The assessment was carried out by an independent external party on March 4 to 6, 2024. The assessment results stated that Pertamina Group successfully obtained ISO 37001:2016 SMAP recertification with Certificate Number ID21/05670 dated April 8, 2024. In addition to Holding, a total of 11 entities within Pertamina Group have been certified with ISO 37001:2016, including PT Pertamina Hulu Energi, PT Pertamina Patra Niaga, PT Perusahaan Gas Negara Tbk, PT Pertamina International Refinery, PT Pertamina International Shipping, PT Asuransi Tugu Pratama Indonesia Tbk, PT Pertamina Training & Consulting, PT Pertamina Bina Medika IHC, PT Pelita Air Service, PT Patra Jasa, and PT Tuban Petrochemical Industries.

We also encourage subsidiaries to improve the implementation of ISO 37001:2016 SMAP. In 2024, PT Perusahaan Gas Negara Tbk (PGN) Gas Subholding has expanded the scope of certification to a wider range of functions, while integrating with ISO 9001 Quality Management System, ISO 45001 OHS Management System and ISO 14001 Environmental Management System. The expansion was realized with the HSSE and Anti-Bribery Quality Integration Recertification, as well as expanding the scope of ISO 37001 SMAP certification from three functions to 9 functions that are considered to have a high risk of bribery, namely Compliance, Risk, Procurement, Finance, Corporate Communications, CSR, Stakeholder Relations, Budget, and Employment. Furthermore, the Anti-Bribery Policy has been integrated with HSSE and Quality Management into the HSSE and Anti-Bribery Quality Management System Guidelines (SMMK3AP) which has been signed by the President Director. All members of management must understand and implement this policy as part of the overall effort to prevent bribery practices.

Kerangka SMAP
SMAP Framework

Perencanaan → Plan	Pelaksanaan → Do	Pengecekan → Check	Tindak Lanjut Action
<ul style="list-style-type: none"> · Konteks Organisasi · Kepemimpinan · Perencanaan · Dukungan · Organizational Context · Leadership · Planning · Support 	<ul style="list-style-type: none"> · Mitigasi risiko penyuapan · Uji kelayakan · Pengendalian keuangan · Pengendalian non keuangan · Pelaksanaan komitmen dan kontrol anti penyuapan · Pengaturan mengenai gratifikasi · Penerapan WBS · Pengelolaan investigasi dan penanganan penyuapan · Bribery risk mitigation · Due diligence · Financial controls · Non-financial controls · Implementation of anti-bribery commitments and controls · Arrangements regarding gratuities · Implementation of WBS · Management of bribery investigation and handling 	<ul style="list-style-type: none"> · Pencapaian sasaran dan <i>performance</i> SMAP · Audit internal atas penerapan SMAP · Tinjauan manajemen · Achievement of SMAP objectives and performance · Internal audit of SMAP implementation · Management review 	<p>Melakukan perbaikan dan peningkatan penerapan SMAP berdasarkan hasil audit internal maupun tinjauan manajemen.</p> <p>Improvement and enhancement of SMAP implementation based on the results of internal audit and management review.</p>



Meningkatkan Kepatuhan dan Transparansi [GOV-3.A3][GOV-4.C3]

Improving Compliance and Transparency

Sistem Pelaporan Pelanggaran

Salah satu upaya meningkatkan kepatuhan adalah penerapan Sistem Pelaporan Pelanggaran atau *Whistleblowing System (WBS)*, sebagai mekanisme penyampaian laporan dugaan pelanggaran prinsip-prinsip GCG serta nilai-nilai etika di Perseroan. WBS di lingkungan Pertamina dikelola secara tersentralisasi oleh PT Pertamina (Persero) sebagai holding melalui Fungsi WBS yang merupakan subordinat dari Internal Audit – Investigation IA & WBS. Fungsi WBS bertanggung jawab untuk mengelola seluruh pengaduan yang masuk dari seluruh entitas di Pertamina Grup, termasuk subholding dan Anak Perusahaan Services, guna memastikan penanganan pengaduan dilakukan secara independen dan sesuai prinsip-prinsip GCG. Dalam mengelola WBS, Perseroan bekerja sama dengan konsultan independen yang menyediakan beberapa kanal WBS:

Whistleblowing System (WBS)

One of the efforts to improve compliance is the implementation of the Whistleblowing System or WBS, as a mechanism for submitting reports of alleged violations of GCG principles and ethics in the Company. The WBS within Pertamina is managed centrally by PT Pertamina (Persero) as the holding company through the WBS Function, which is a subordinate of Internal Audit - Investigation IA & WBS. The WBS function is responsible for managing all incoming complaints from all entities in Pertamina Group, including subholdings and service subsidiaries, to ensure that complaints are handled independently and in accordance with GCG principles. In managing WBS, the Company cooperates with an independent consultant who provides several WBS channels:



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WBS di Pertamina dikelola dengan menjunjung tinggi prinsip *trust* (kepercayaan), *impartiality* (ketidakberpihakan), dan *protection* (perlindungan) sesuai dengan ISO 37002:2021 tentang *Whistleblowing Management System*. Prinsip-prinsip ini menjadi landasan untuk mendorong partisipasi aktif seluruh insan Pertamina Grup maupun masyarakat dalam mengungkap dugaan tindakan *fraud* maupun *irregularities* (kecurangan dan pelanggaran lainnya), serta mendukung terwujudnya budaya integritas dan tata kelola yang baik di lingkungan Pertamina Grup. Selama 2024, Perseroan menerima 303 pelaporan melalui WBS, terdiri atas 146 pengaduan untuk kategori *fraud* dan 157 pengaduan untuk kategori *irregularities*.

Pertamina manages WBS by upholding the principles of trust, impartiality, and protection based on ISO 37002:2021 on Whistleblowing Management System. These principles are the basis for encouraging the active participation of all Pertamina Group employees and the public in disclosing suspected fraud or irregularities, and supporting the realization of a culture of integrity and good governance within the Pertamina Group. During 2024, the Company received 303 reports through the WBS, consisting of 146 complaints for the fraud category and 157 complaints for the irregularities category.

Kinerja Whistleblowing System

Whistleblowing System Performance

Uraian Description	2024
Analisis Awal Preliminary Analysis	122
Daftar Tunggu Investigasi Investigation Waiting List	1
Proses Penanganan/Investigasi Handling/Investigation Process	47
Ringkasan Penanganan/Investigasi Handling/Investigation Summary	10
Ditutup Closed	123
Total	303

Penyampaian LHKPN

Upaya lain adalah penyampaian Laporan Harta Kekayaan Penyelenggara Negara (LHKPN) dan pelaporan gratifikasi, sesuai regulasi yang berlaku di antaranya UU Nomor 28 Tahun 1999 tentang Penyelenggaraan Negara yang Bersih dan Bebas dari Korupsi, Kolusi dan Nepotisme; Surat Keputusan Direktur Utama Nomor Kpts-03/C00000/2021-S0 Tanggal 1 Februari 2021 tentang Kewajiban Penyampaian Laporan Harta Kekayaan Penyelenggara Negara (LHKPN) di PT Pertamina (Persero) dan Anak Perusahaan; serta Pedoman No. A13-001/N00200/2021-S9 Tanggal 1 Februari 2021 tentang Pengelolaan Kewajiban Penyampaian LHKPN. Berdasarkan ketentuan tersebut para anggota Dewan Komisaris, Direksi, dan pejabat struktural Perseroan harus melaporkan kekayaan masing-masing kepada Komisi Pemberantasan Korupsi (KPK). Pada 2024, realisasi penyampaian LHKPN mencapai 100% dari total 10.423 jumlah pejabat perusahaan yang menjadi Wajib Laport (WL) menyampaikan LHKPN.

Perseroan juga memiliki Pedoman Pengendalian Gratifikasi No. A09-003/M00000/2024-S0, yang memuat ketentuan mengenai gratifikasi. Pertamina Grup telah membentuk Unit Pengendalian Gratifikasi (UPG), yang dibentuk berdasarkan Tata Kerja Organisasi Unit Pengendalian Gratifikasi No. A09-001/N00200/2022-S0. UPG menyampaikan laporan secara berkala dan berkoordinasi dengan KPK untuk laporan gratifikasi. Selama 2024, terdapat 27 pelaporan gratifikasi dalam bentuk barang dan 18 pelaporan gratifikasi dalam bentuk uang dengan total keseluruhan pelaporan selama 2024 sebanyak 45 pelaporan dan sudah ditindaklanjuti.

LHKPN Submission

Another effort is the submission of the State Official Wealth Report (LHKPN) and gratification reporting, in compliance with applicable regulations including Law Number 28 of 1999 concerning the State Administration that is Clean and Free from Corruption, Collusion and Nepotism; Decree of the President Director Number Kpts-03/C00000/2021/2021-S0 Dated February 1, 2021 concerning the Obligation to Submit the State Official Wealth Report (LHKPN) at PT Pertamina (Persero) and Subsidiaries; and Guideline No. A13-001/N00200/2021/2021-S9 Dated February 1, 2021 concerning the Management of the Obligation to Submit LHKPN. Based on these provisions, members of the Board of Commissioners, Board of Directors, and structural officers of the Company must report their respective wealth to the Corruption Eradication Commission (KPK). In 2024, the realization of LHKPN submission reached 100% of the total 10,423 company officers who became Mandatory Reporters (WL) to submit LHKPN.

The Company also has Gratification Control Guidelines No. A09-003/M00000/2024-S0, which contains provisions on gratification. Pertamina Group has established a Gratification Control Unit (UPG) based on the Gratification Control Unit Organization Work Procedure No. A09-001/N00200/2022-S0. The UPG submits regular reports and coordinates with KPK for reports of gratification. During 2024, there were 27 gratification reports in the form of goods and 18 gratification reports in the form of money with a total of 45 reports during 2024 which have been followed up.

Pembentukan Budaya *Anti-Fraud* Pertamina Grup [GOV-3.C2, 3.A1, 3.A4]

Building Pertamina Group's Anti-Fraud Culture

Strategi pelaksanaan kegiatan *anti-fraud* yang dilakukan mencakup rangkaian program yang sistematis dan menyeluruh, sejalan dengan nilai, visi, misi, dan tujuan Perseroan. Untuk memastikan program tersebut berjalan dengan efektif, serangkaian kegiatan *anti-fraud* telah disusun dan dikomunikasikan kepada para pekerja, di antaranya:

1. Pembentukan *Anti-Fraud Agent* (AFA) Internal Audit Pertamina Grup Tahun 2024, yaitu telah ditunjuk 69 orang auditor internal dari 33 entitas Pertamina Grup yang telah membantu pelaksanaan 37 *sharing session*/sosialisasi *fraud awareness* dan *anti-fraud program*.
2. Pelaksanaan kegiatan *anti-fraud training* kepada pekerja Pertamina Grup bekerja sama dengan Pertamina Corporate University (PCU) sampai dengan Desember 2024 telah diikuti 19.198 pekerja, yang terdiri dari *fraud awareness* melalui aplikasi *mobile learning* TRACO sebanyak 17.093 pekerja dan *online classroom* sebanyak 2.105 pekerja.
3. Pelaksanaan kompetisi Media Kampanye *Anti-Fraud* Pertamina Grup tahun 2024, berhasil mengumpulkan 100 karya poster dan 34 karya video edukasi bertema *anti-fraud*.
4. Pelaksanaan Pertamina *Fraud Perception Survey* (PERFECT) tahun 2024, dengan total responden yang sudah melakukan pengisian sejumlah 13.462 orang yaitu 12.329 orang responden internal dan 1.133 orang responden eksternal. Hasil pelaksanaan survei ini menghasilkan nilai indeks PERFECT untuk Pertamina Grup sebesar 81,2 atau dalam kategori "Baik". Nilai indeks di 2024 naik sebesar 3% dibandingkan 2023 (dengan nilai indeks 78,5).
5. Penayangan 24 kali *corporate broadcast anti-fraud* selama 2024 melalui *email broadcast* Pertamina dengan tema/*design* yang berbeda.
6. Sosialisasi/*sharing session fraud awareness* dan *anti-fraud program* selama 2024 telah dilaksanakan sebanyak 43 kali kepada kurang lebih 4.752 pekerja.

The strategy for implementing anti-fraud activities involves a series of systematic and comprehensive programs, in line with the Company's values, vision, mission and objectives. To ensure the program runs effectively, a series of anti-fraud activities have been developed and communicated to employees, including:

1. Establishment of Anti-Fraud Agent (AFA) Internal Audit Pertamina Group in 2024, which has appointed 69 internal auditors from 33 Pertamina Group's entities who have assisted in the implementation of 37 sharing sessions/dissemination of fraud awareness and anti-fraud programs.
2. The implementation of anti-fraud training activities for Pertamina Group employees in collaboration with Pertamina Corporate University (PCU) until December 2024 has been attended by 19,198 employees, consisting of fraud awareness through the TRACO mobile learning application for 17,093 employees and online classroom for 2,105 employees.
3. The implementation of Pertamina Group's Anti-Fraud Campaign Media competition in 2024, successfully collected 100 poster entries and 34 anti-fraud-themed educational video entries.
4. Implementation of Pertamina Fraud Perception Survey (PERFECT) in 2024, with a total of 13,462 respondents, comprising 12,329 internal respondents and 1,133 external respondents. The results of this survey showed a PERFECT index value for Pertamina Group of 81.2 or in the "Good" category. The index value in 2024 increased by 3% from 78.5 in 2023.
5. A total of 24 times anti-fraud corporate broadcast during 2024 through Pertamina's email broadcast with different themes/designs.
6. Dissemination/sharing session of fraud awareness and anti-fraud program during 2024 has been conducted 43 times to approximately 4,752 employees.

Insiden *Fraud* yang Terbukti dan Tindakan Diambil [GOV-3.C4]

Laporan-laporan insiden kasus *fraud* yang terbukti, ditindaklanjuti berupa proses penegakan disiplin mulai dari permintaan klarifikasi, analisa kasus dan pembuatan sampai pada pemberian sanksi kepada pekerja dan/atau pihak yang terlibat sesuai dengan prosedur hubungan industrial yang tertuang dalam PKB. Sanksi terbagi beberapa jenis sesuai tindakan yang terbukti dilakukan pekerja, antara lain teguran, surat peringatan, penurunan jenjang jabatan sampai dengan pemutusan hubungan kerja (PHK). Selama 2024, berdasarkan laporan atas kasus *fraud* di lingkungan Pertamina Grup, terdapat 27 pekerja yang mendapatkan sanksi sesuai dengan keterlibatannya.

Proven Incidents of Fraud and Actions Taken [GOV-3.C4]

Reports of incidents of proven fraud cases are followed up by imposing a disciplinary sanction ranging from inquiries for clarification, analysis of cases and actions, up to imposing sanctions on employees and/or parties involved based on industrial relations procedures as stipulated in the CBA. Sanctions are divided into several types according to the proven cases committed by the employees, including reprimands, warning letters, demotion, up to termination of employment. During 2024, based on reports on fraud cases within the Pertamina Group, there were 27 employees who had been penalized for their involvement.

Riset dan Inovasi Produk Berkelanjutan [OJK F.26][GOV-2.A1]

Research and Innovation of Sustainable Products

Riset dan inovasi berkelanjutan termasuk produk ramah lingkungan, menjadi kunci dalam keberhasilan pengembangan transisi energi dan bisnis PT Pertamina (Persero) di masa depan. Pengelolaan riset dan inovasi berkelanjutan dijalankan Fungsi Technology Innovation (TI). Pada 2024, Fungsi TI menghasilkan 10 produk inovasi dan telah mendapatkan kekayaan intelektual *granted* dengan rincian 100 paten dan 10 hak cipta, di mana beberapa di antaranya sudah diterapkan secara komersial. Pada 2024, Fungsi TI berkontribusi sebesar USD35 juta untuk realisasi nilai tambah pengelolaan basis riset teknologi inovasi.

Sustainable research and innovation, including environmentally friendly products, are key to the successful development of the energy transition and PT Pertamina's (Persero) business in the future. The Technology Innovation (TI) is the function that manages sustainable research and innovation. In 2024, the TI function created 10 innovative products and has been granted intellectual property rights consisting of 100 patents and 10 copyrights, some of which have been commercially implemented. By 2024, the TI Function contributed USD35 million to the realization of the added value of managing research-based technology innovation.

Inovasi Produk Energi Ramah Lingkungan [OJK F.26]

Green Energy Product Innovation

Sustainable Aviation Fuel (SAF)

Salah satu produk ramah lingkungan produksi Pertamina adalah SAF, yang merupakan salah satu langkah esensial menuju dekarbonisasi industri penerbangan karena mengurangi emisi karbon hingga rata-rata 80% dibanding bahan bakar konvensional pesawat. Pertamina Grup, dalam hal ini PT Pertamina Patra Niaga dan PT Kilang Pertamina International, telah disertifikasi *International Sustainability and Carbon Certification* (ISCC) untuk program *Carbon Offsetting and Reduction Scheme for International Aviation* (CORSA), dan *Renewable Energy Directive-European Union* (RED-EU). Pertamina Grup memastikan SAF aman digunakan karena telah memenuhi standar spesifikasi bahan bakar penerbangan internasional serta terdaftar sebagai *Corsia Eligible Fuel* (CEF) oleh International Civil Aviation Organization (ICAO).

Pada 2024, Pertamina Grup menandatangani Nota Kesepahaman/MoU dengan Airbus guna memetakan bahan baku yang ada di Indonesia, untuk produksi SAF sesuai syarat-syarat ICAO-CORSA dan EU-RED. Pertamina melalui Subholding Commercial & Trading PT Pertamina Patra Niaga memperluas distribusi SAF ke jaringan global dengan mendorong maskapai internasional menggunakan SAF, di antaranya Virgin Australia Airlines sebagai maskapai internasional pertama pengguna SAF, Sayap Garuda Indah (SGI) dan Bell Textron Inc., sebagai operator helikopter Bell 407 pertama yang menggunakan SAF di Indonesia. Total volume *blended* SAF yang sudah mendapatkan *agreement* sebesar 3.000 KL.

Pengembangan Produksi Hidrogen Hijau

Subholding Power & New Renewable Energy PT Pertamina Power Indonesia (Pertamina NRE), PT Pertamina Geothermal Energy Tbk (PGE), serta Genvia dari Perancis, menandatangani Nota Kesepahaman (MoU) untuk mengembangkan produksi hidrogen hijau melalui integrasi teknologi *advanced solid oxide electrolyzer* (SOEL) dengan sumber panas dari panas bumi. Perjanjian mencakup kajian teknis dan ekonomis penggunaan teknologi SOEL suhu tinggi milik Genvia untuk mengurangi konsumsi energi dalam produksi hidrogen hijau. Kajian akan dilakukan di salah satu lokasi panas bumi PGE.

Sustainable Aviation Fuel (SAF)

SAF is one of Pertamina's environmentally friendly products, which is one of the essential moves towards decarbonizing the aviation industry as it reduces carbon emissions by an average of 80% compared to conventional aviation fuels. Pertamina Group, in this case PT Pertamina Patra Niaga and PT Kilang Pertamina International, has been certified by International Sustainability and Carbon Certification (ISCC) for the Carbon Offsetting and Reduction Scheme for International Aviation (CORSA) program, and Renewable Energy Directive-European Union (RED-EU). Pertamina Group ensures SAF is safe to use because it meets international aviation fuel specification standards and is registered as Corsia Eligible Fuel (CEF) by the International Civil Aviation Organization (ICAO).

In 2024, Pertamina Group signed a Memorandum of Understanding (MoU) with Airbus to map raw materials available in Indonesia for SAF production to meet ICAO-CORSA and EU-RED requirements. Pertamina, through Subholding Commercial & Trading PT Pertamina Patra Niaga, expanded SAF distribution to the global network by promoting the use of SAF by international airlines, including Virgin Australia Airlines as the first international SAF user, Sayap Garuda Indah (SGI) and Bell Textron Inc. as the first Bell 407 helicopter operator to use SAF in Indonesia. The total volume of blended SAF that has had an agreement was 3,000 KL.

Green Hydrogen Production Development

Subholding Power & New Renewable Energy PT Pertamina Power Indonesia (Pertamina NRE), PT Pertamina Geothermal Energy Tbk (PGE), and Genvia of France, signed a Memorandum of Understanding (MoU) to develop green hydrogen production through the integration of advanced solid oxide electrolyzer (SOEL) technology with geothermal heat sources. The agreement includes a technical and economic study of the use of Genvia's high temperature SOEL technology to reduce energy consumption in green hydrogen production. The study will be conducted at one of PGE's geothermal sites.

Pengembangan produksi hidrogen hijau merupakan salah satu inisiatif transisi energi Pertamina Grup yang mendukung program bisnis hijau.

Uji Coba Bioetanol 100%

Pertamina Grup berkolaborasi dengan Toyota melakukan pengisian perdana dan uji jalan (*test drive*) penggunaan Bioetanol 100% (E100) dari batang tanaman sorgum (*sorghum bicolor*), sebagai bahan bakar alternatif pada kendaraan *Flex Fuel Vehicle* (FFV) Toyota. Proses produksi bahan bakar nabati tersebut menggunakan peralatan di fasilitas Laboratorium *Technology Innovation* milik Pertamina Grup. Dari uji coba, diketahui bahwa Bioetanol/E100 produksi Pertamina Grup menunjukkan peningkatan kinerja FFV Toyota dengan pembakaran lebih sempurna, kenaikan kinerja 4-5%, dan emisi lebih rendah dibandingkan dengan bahan bakar fosil. Sebagai tindak lanjut dari uji coba tersebut, Perseroan terus melakukan peningkatan produksi Bioetanol/E100 dari skala laboratorium ke skala yang lebih besar. Pertamina Grup juga menjajaki kemitraan untuk mendapatkan ketersediaan suplai sorgum dan bahan nabati lainnya.

Inovasi Bioetanol

Mengacu ke *roadmap* BUMN yang telah disusun di akhir 2023 lalu, Pertamina Power & NRE telah menyusun *roadmap* internal Pertamina Grup di September 2024. Pertamina Power & NRE telah melaksanakan inisiasi pengembangan proyek bioetanol, baik dengan *feedstock* tebu maupun non-tebu secara organik maupun anorganik. Pertamina melalui Pertamina NRE telah menyelesaikan *feasibility study* (FS) untuk proyek bioetanol berbasis tebu di Glenmore Jawa Timur dengan kapasitas 30.000 KL/tahun dan inisiasi *bioethanol plant* dengan baku jagung 180.000 KL/tahun.

Stasiun Energi Ramah Lingkungan

Kami terus mengembangkan stasiun energi ramah lingkungan/*green energy station* (GES). Hingga akhir 2024, Perseroan melalui Subholding Commercial & Trading PT Pertamina Patra Niaga telah membangun GES sebanyak 425 titik, sekaligus memperluas layanan *Battery Swapping Station* sejumlah 103 unit dan *Charging Station* sejumlah 9 unit untuk mendukung ekosistem kendaraan bermotor listrik berbasis baterai di Indonesia.

The development of green hydrogen production is one of Pertamina Group's energy transition initiatives that support green business programs.

Trial of Bioethanol 100%

Pertamina Group in collaboration with Toyota conducted the first filling and test drive of Bioethanol 100% (E100) from sorghum bicolor stems, as an alternative fuel in Toyota's Flex Fuel Vehicle (FFV). The biofuel production process utilizes equipment at Pertamina Group's Technology Innovation Laboratory facility. From the trial, it was found that Pertamina Group's Bioethanol/E100 showed performance improvement of Toyota's FFV with more complete combustion, 4-5% performance improvement, and lower emissions compared to fossil fuels. As a follow-up to the trial, the Company continues to increase the production of Bioethanol/E100 from laboratory scale to larger scale. Pertamina Group is also exploring partnerships to secure the supply of sorghum and other bio-based materials.

Bioethanol Innovation

Referring to the SOE roadmap that was prepared at the end of 2023, Pertamina Power & NRE has developed an internal Pertamina Group roadmap in September 2024. Pertamina Power & NRE has initiated the development of bioethanol projects, both with sugarcane and non-sugarcane feedstocks organically and inorganically. Pertamina through Pertamina NRE has completed a feasibility study (FS) for a sugarcane-based bioethanol project in Glenmore, East Java with a capacity of 30,000 KL/year and initiated a bioethanol plant with corn feedstock of 180,000 KL/year.

Green Energy Stations

We continue to develop green energy stations (GES). Until the end of 2024, the Company through Subholding Commercial & Trading PT Pertamina Patra Niaga has built 425 GES points, as well as expanded Battery Swapping Station services by 103 units and Charging Station by 9 units to support the battery electric vehicle ecosystem in Indonesia.

Biodiesel B35 dan B40

Pertamina Grup mengembangkan bahan bakar Biosolar, yang merupakan pencampuran bahan bakar destilasi jenis solar dengan bahan bakar nabati dari kelapa sawit. Kami memulai dengan Biosolar B20 pada awal 2019, dan terus ditingkatkan komposisinya secara bertahap menjadi B30, lalu B35 di 2023, hingga di awal 2025 menjadi B40. Pada pertengahan 2024, Pertamina Grup bersama Kementerian ESDM dan PT Kereta Api Indonesia (Persero), melakukan uji penggunaan Biodiesel B40 pada rangkaian kereta api.

Pada awal Januari 2025, Pertamina Grup melalui Subholding Refining & Petrochemical PT Kilang Pertamina Internasional (KPI) memproduksi Biodiesel B40. Produksi dilakukan di Refinery Unit (RU) III Plaju di Palembang dengan target 119.240 kiloliter (KL) per bulan, dan RU VII Kasim di Papua dengan target 15.898 KL per bulan. Pengembangan Biodiesel B40 di 2025 telah sesuai dengan Keputusan Menteri ESDM No 341.K/EK.01/MEM.E/2024.

Pemakaian Biodiesel B40 secara bertahap akan menggantikan Biodiesel B35, dengan estimasi pemakaian mencapai 16 juta KL pada 2025 dan potensi reduksi karbon dioksida (CO₂) sebesar 42,5 juta ton. Pencapaian tersebut lebih besar dari Biodiesel B35 sebesar 13,15 juta KL tahun 2024 dengan reduksi emisi CO₂ sebesar 34,9 juta ton CO₂e.

Biodiesel B35 and B40

Pertamina Group has been developing Biodiesel fuel, which is a blend of distillate diesel fuel with palm oil-based biofuel. We started with B20 biodiesel in early 2019, and continued to gradually increase its composition to B30, then B35 in 2023, until in early 2025 it became B40. In mid-2024, Pertamina Group, together with the Ministry of Energy and Mineral Resources and PT Kereta Api Indonesia (Persero), tested the use of Biodiesel B40 for trains.

In early January 2025, Pertamina Group through its Subholding Refining & Petrochemical PT Kilang Pertamina Internasional (KPI) produced Biodiesel B40. It is produced at Refinery Unit (RU) III Plaju in Palembang with a target of 119,240 kiloliters (KL) per month, and RU VII Kasim in Papua with a target of 15,898 KL per month. The development of Biodiesel B40 in 2025 is in line with Minister of Energy and Mineral Resources Decree No. 341.K/EK.01/MEM.E/2024.

The use of Biodiesel B40 will gradually replace Biodiesel B35, with an estimated use of 16 million KL in 2025 and a potential carbon dioxide (CO₂) reduction of 42.5 million tons. This achievement is greater than Biodiesel B35 of 13.15 million KL in 2024 with CO₂ emission reduction of 34.9 million tons CO₂e.

Annual Pertamina Quality Award (APQA)

Setiap tahun Pertamina Grup menyelenggarakan *Annual Pertamina Quality Award (APQA)*, sebagai ajang internal untuk menjaring inovasi dari pekerja Pertamina Grup. Penyelenggaraan APQA tahun 2024 mengusung tema *Innovate Endlessly for Excellent Sustainability* dan mencakup 10 kategori. Secara keseluruhan, terdapat 3 pemenang dari setiap kategori.

Every year Pertamina Group organizes the Annual Pertamina Quality Award (APQA), as an internal event to garner innovations from Pertamina Group employees. The 2024 APQA carried the theme *Innovate Endlessly for Excellent Sustainability* with 10 categories. Overall, there were 3 winners from each category.

Pengembangan Teknologi Informasi dan Perlindungan Data [GRI 418-1][SHS-7.C3]

Development of Information Technology and Data Protection

Pengembangan Infrastruktur Teknologi Informasi dan Digitalisasi

Development of Information Technology Infrastructure and Digitalization

Fungsi Enterprise IT terus melanjutkan transformasi digital pada seluruh proses bisnis Pertamina Grup. Kami senantiasa membangun ekosistem digital yang memungkinkan operasional perusahaan berjalan dengan lebih adaptif dan responsif terhadap perubahan teknologi. Pada 2024, Pertamina Grup memiliki 17 inisiatif transformasi digital yang terdiri dari 13 inisiatif holding dan 4 inisiatif subholding.

The Enterprise IT function continues the digital transformation of all Pertamina Group's business processes. We continue to build a digital ecosystem that allows company operations to be more adaptive and responsive to technological changes. By 2024, Pertamina Group has 17 digital transformation initiatives consisting of 13 holding initiatives and 4 subholding initiatives.

Beberapa Inisiatif Transformasi Digital Pertamina Grup Tahun 2024

Some of Pertamina Group's Digital Transformation Initiatives in 2024

No.	Inisiatif Initiative	Deskripsi Inisiatif Initiative Description
1	Data Surveillance	Rencana strategis Internal Audit dengan mengintegrasikan <i>Combine Assurance</i> dalam penyelesaian suatu risiko sebagai tindakan preventif maupun deteksi dalam satu aplikasi. Internal Audit strategic plan by integrating <i>Combine Assurance</i> in resolving a risk as a preventive or detection action in one application.
2	Integrated Plant Management System	Pemanfaatan fitur ERP SAP <i>Plant Maintenance</i> dan IPMS untuk mendukung pencatatan, pelaporan pemeliharaan, dan integritas aset Pertamina Grup secara keseluruhan. The use of ERP SAP <i>Plant Maintenance</i> and IPMS features to support the recording, reporting of maintenance, and asset integrity of Pertamina Group as a whole.
3	Digital Procurement	Ketersediaan data pengadaan yang transparan dan ketersediaan data pengadaan yang tersinkronisasi pada multi klien SAP Pertamina Grup. The availability of transparent procurement data and synchronized procurement data on multi-client SAP of Pertamina Group.
4	One Procure to Pay	<i>End to end source to payment process</i> , mulai dari perencanaan kebutuhan, pengadaan, hingga proses pembayaran secara terintegrasi, <i>streamlined</i> , sekuensial, dan digital menyeluruh. Penerapan aplikasi ini akan dapat menggantikan 127 aplikasi berbeda yang digunakan dari proses <i>source to payment</i> di holding dan seluruh subholding. End to end source to payment process, from needs planning, procurement, to payment process in an integrated, streamlined, sequential, and fully digital manner. The implementation of this application will be able to replace 127 different applications used from the source to payment process in the holding and all subholdings.
5	e-Catalog	Meningkatkan efisiensi serta transparansi proses pengadaan barang/jasa, memperoleh percepatan pengadaan barang/jasa, tersedianya <i>dashboard</i> transaksi di pusat data sehingga memudahkan proses pemantauan dan analisis. Increase the efficiency and transparency of the goods/services procurement process, obtain accelerated procurement of goods/services, the availability of a transaction dashboard in the data center to facilitate the monitoring and analysis process.

Selain 17 inisiatif tersebut, Perseroan juga mengoperasikan aplikasi digital web dan *dashboard* perizinan terintegrasi dengan nama Synergy (*Synchronize, Energize, & Digitalize*). *Dashboard* digitalisasi perizinan Pertamina Grup dimaksudkan untuk menampilkan data mutakhir terkait perizinan yang telah dimiliki secara terintegrasi, sebagai kesatuan grup usaha dalam *dashboard* status perizinan yang terpusat di *Integrated Enterprise Data & Command Center* (IEDCC). Keberadaan *dashboard* memberikan kemudahan kepada manajemen (Direksi) dalam mengambil keputusan dengan menyajikan data analisis status kelayakan operasi instalasi, status perizinan dasar juga data akurat posisi instalasi.

Dashboard juga ditujukan untuk membuat sistem peringatan otomatis via surel dan WhatsApp kepada petugas perizinan subholding, guna memastikan kegiatan pemenuhan perizinan berjalan sinambung dan terpantau. Dokumen perizinan yang akan didigitalisasi dan diunggah antara lain, Persetujuan Lingkungan (Parling), Kesesuaian Kegiatan Pemanfaatan Ruang (KKPR), Kesesuaian Kegiatan Pemanfaatan Ruang Laut (KKPRL), Daerah Terlarang Terbatas (DTT), dan Persetujuan Layak Operasi (PLO).

Pada periode pelaporan, Pertamina Grup juga menghadirkan *One Finance Integrated System (OFIS) Budget Planning & Control (BPC)*, sebuah sistem terintegrasi mulai dari *planning & budgeting, financial reporting* serta *management analytics*, dengan didukung *big data analytics*, yaitu *One Data* Pertamina. Penerapan OFIS BPC berhasil mendigitalisasi sekaligus mengintegrasikan kegiatan *planning* dan *budgeting* antara Holding, Subholding C&T, dan Subholding R&P. Dalam jangka panjang, sistem ini juga segera diterapkan di seluruh Pertamina Grup.

Kesungguhan Pertamina Grup menerapkan digitalisasi dan pembangunan infrastruktur TI mendapatkan apresiasi dari berbagai pihak, di antaranya penghargaan *Enterprise Innovation Awards 2024* dari ASEAN Innovation Business Platform (AIBP). Penghargaan diberikan untuk kategori Data dan *Artificial Intelligence (AI)*, berkat keberhasilan Pertamina Grup menerapkan digitalisasi di SPBU untuk mengolah 15 juta data transaksi BBM subsidi setiap hari sehingga proses menjadi lebih cepat, akurat, dan efisien.

In addition to these 17 initiatives, the Company also operates a digital web application and integrated licensing dashboard under the name Synergy (*Synchronize, Energize, & Digitalize*). Pertamina Group's licensing digitalization dashboard is intended to display the latest data related to licenses that have been obtained in an integrated manner, as a unified business group in a centralized licensing status dashboard at the Integrated Enterprise Data & Command Center (IEDCC). The dashboard makes it easy for management (Board of Directors) to make decisions by presenting data analysis of the feasibility status of installation operations, basic licensing status as well as accurate data on the position of the installation.

The dashboard is also intended to create an automatic alert system via email and WhatsApp to subholding licensing officers, to ensure that licensing fulfillment activities are running continuously and closely monitored. Licensing documents that will be digitalized and uploaded include Environmental Approval (Parling), Conformity of Space Utilization Activities (KKPR), Conformity of Marine Space Utilization Activities (KKPRL), Limited Prohibited Areas (DTT), and Approval of Operational Feasibility (PLO).

In the reporting period, Pertamina Group also presented *One Finance Integrated System (OFIS) Budget Planning & Control (BPC)*, an integrated system of planning & budgeting, financial reporting and management analytics, supported by big data analytics, namely *One Data* Pertamina. The implementation of OFIS BPC has successfully digitalize and integrate planning and budgeting activities between Holding, Subholding C&T, and Subholding R&P. In the long term, this system will soon be implemented throughout Pertamina Group.

Pertamina Group's seriousness in implementing digitalization and IT infrastructure development has gained appreciation from various parties, including the *Enterprise Innovation Awards 2024* from the ASEAN Innovation Business Platform (AIBP). The award was given for the Data and Artificial Intelligence (AI) category, as a result of Pertamina Group's success in implementing digitalization at gas stations to process 15 million subsidized fuel transaction data daily making the process faster, more accurate, and efficient.

Penguatan dan Sosialisasi Sistem Keamanan Siber

Cybersecurity System Strengthening and Dissemination

Pertamina Grup terus memperkuat sistem keamanan data dan informasi, dengan mengacu pada regulasi yang ditetapkan Pemerintah Republik Indonesia, di antaranya Peraturan Presiden Nomor 47 Tahun 2023 tentang Strategi Keamanan Siber Nasional dan Manajemen Krisis Siber, serta ISO 27001:2013 yang sudah diterapkan sejak 2014 menggunakan kerangka kerja ISO/IEC 27001:2013. Pada 2024, telah dilaksanakan kegiatan penerapan ISO 27001 dengan menggunakan *framework* ISO/IEC 27001:2022.

Pertamina Group continues to strengthen data and information security systems, with reference to regulations established by the Government of the Republic of Indonesia, including Presidential Regulation No. 47 of 2023 concerning National Cyber Security Strategy and Cyber Crisis Management, as well as ISO 27001:2013 which has been implemented since 2014 using the ISO/IEC 27001:2013 framework. In 2024, ISO 27001 implementation activities have been carried out using the ISO/IEC 27001 2022 framework.

Langkah lain yang dilakukan Perseroan adalah menerapkan praktik terbaik seperti NIST *Cyber Security Framework*, CIS *Controls*, serta mematuhi peraturan yang berlaku. Pada 2024, Pertamina Grup melakukan langkah strategis yakni menandatangani Komitmen Keamanan Informasi atau *Information Security*. Penandatanganan komitmen dilakukan seluruh Direksi Holding dan Direktur Utama Subholding, serta diteruskan sampai level terbawah.

The Company's other steps include adopting best practices such as the NIST Cyber Security Framework, CIS Controls, and complying with applicable regulations. In 2024, Pertamina Group took a strategic move by signing an Information Security Commitment. The signing of the commitment was held by all Holding Board of Directors and Subholding President Directors, and continued to the lowest level.

Pertamina Grup juga memiliki Pedoman Pengamanan *Operational Technology* (OT) No. A6.1-09/I40000/2023-S9. Inisiatif pengamanan OT yang sudah dilakukan antara lain:

Pertamina Group also has its own Operational Technology (OT) Security Guidelines No. A6.1-09/I40000/2023-S9. The OT security initiatives that have been carried out include:

Cyber Risk Management Initiative - OT

<p>We have created an OT Policy and three Pertamina Best Practice Standard that guide to secure OT in Refinery, Upstream, and Marketing.</p>	<p>We have conducted an OT cyber risk assessment based on Pertamina OT Standard in selected Refinery, Upstream, and Marketing.</p>	<p>We held OT Sharing Forum (OTSF), which we invite not only IT, but also OT person from Subholding Upstream, Subholding Refining & Petrochemical, and Subholding Commercial & Trading.</p>	<p>We held cyber wargames which scenario is OT Cyber Attack, which we invite IT Function from Subholding Refining & Petrochemical (IT and OT), Legal, Enterprise Risk Management, HSSE, Corporate Secretary, Finance, Procurement, and Disaster Recovery Team.</p>	<p>We have identified cyber risk on OT and plan mitigation action to reduce OT risk, we documented in our Risk Register. OT Risk Mitigation including Refine OT Policy and OT Practice/Standard and create Roadmap OT Security Journey.</p>	<p>Subholding Refining & Petrochemical conducted OT workshop which invite OT and IT Function.</p>	<p>Subholding Upstream has monitored their OT device from anomaly event.</p>
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Pendekatan *People*, Proses, dan Teknologi

Langkah Pertamina Grup dalam meningkatkan ketahanan keamanan siber menggunakan pendekatan dalam tiga perspektif yaitu *people*, proses, dan teknologi.

Aspek *People*

Security awareness diberikan kepada seluruh pekerja dari setiap tingkat jabatan secara rutin melalui berbagai media seperti *broadcast*, poster/*banner* dan kampanye *phishing*; serta melalui kegiatan luring seperti *IT Security Forum* dan *OT Security Forum*. Selain itu, kami juga memperkuat kompetensi pekerja dengan mengikutsertakan personil dalam sertifikasi yang relevan serta pelatihan *product base knowledge*.

Aspek Proses

Pertamina Grup telah memiliki Sistem Tata Kelola (STK) terkait pengamanan informasi. STK tersebut dilakukan tinjauan ulang secara berkala agar relevan dengan standar dan praktik terbaik serta ancaman siber yang sangat dinamis. Pertamina Grup telah memiliki kapabilitas mendeteksi dan menangani serangan siber melalui *Security Operation Center (SOC)* dan *Cyber Incident Response Team (CIRT)* yang terdaftar pada Badan Siber dan Sandi Negara (BSSN). Secara berkala, Pertamina Grup juga melakukan pengujian serta evaluasi pertahanan dan ketahanan siber berdasarkan risiko yang dihadapi dengan beberapa kegiatan, antara lain:

- *Penetration testing* terhadap aplikasi *internet facing* dan/atau aplikasi kritikal, yang dilaksanakan pihak independen eksternal tersertifikasi;
- *Cyber Security Drill* merupakan aktivitas simulasi penanganan insiden siber yang melibatkan unit kerja yang relevan sesuai tugas masing-masing. Pertamina Grup bekerja sama dengan konsultan bereputasi internasional dalam penyusunan skenario dan pelaksanaan aktivitas *Cyber Security Drill* guna mengadopsi tren serangan siber terkini serta praktik pengujian terbaik.
- Kampanye *Phishing*, merupakan aktivitas pengujian berupa simulasi serangan rekayasa sosial melalui email kepada seluruh pekerja dan mitra kerja Pertamina Grup. Aktivitas ini bertujuan untuk membantu pekerja dan mitra kerja Pertamina Grup dalam mengidentifikasi dan melaporkan apabila menerima *phishing email*.

People, Process, and Technology Approach

Pertamina Group's efforts to improve cybersecurity resilience use a three-perspective approach, namely *people*, process, and technology.

People Aspect

Security awareness is provided to all employees of every position level on a regular basis through various media such as broadcasts, posters/banners and anti-phishing campaigns; as well as through offline activities such as *IT Security Forum* and *OT Security Forum*. In addition, we also strengthen employee competencies by including personnel in relevant certifications and product base knowledge training.

Process Aspect

- Pertamina Group has a Governance System (GCS) on information security. The work system (STK) is periodically reviewed to be relevant to standards and best practices as well as the highly dynamic cyber threats. Pertamina Group has the capability to detect and handle cyber attacks through the *Security Operation Center (SOC)* and *Cyber Incident Response Team (CIRT)* registered with the National Cyber and Crypto Agency (BSSN). Periodically, Pertamina Group also conducts testing and evaluation of cyber defense and resilience based on the risks faced with several activities, among others:
- *Penetration testing* of internet facing applications and/or critical applications, carried out by certified external independent parties;
- *Cyber Security Drill* is a cyber incident handling simulation involving relevant work units according to their respective duties. Pertamina Group cooperates with internationally reputable consultants in the preparation of scenarios and implementation of *Cyber Security Drill* to adopt the latest cyber attack trends and testing best practices.
- *Phishing Campaign*, a testing activity in the form of simulation of social engineering attacks via email to all Pertamina Group employees and partners. This activity aims to assist Pertamina Group employees and partners in identifying and reporting if they receive phishing emails.

- Pelaksanaan penilaian oleh pihak independen eksternal yaitu BSSN untuk mengukur *Cyber Security Maturity (CSM)* secara berkala di Pertamina Grup. Berdasarkan hasil pengukuran tahun 2024, diperoleh hasil Pertamina Grup mendapatkan nilai 4,62 sehingga masuk dalam kategori Implementasi Optimal (level 5). Hasil pengukuran tersebut mengindikasikan bahwa penerapan keamanan siber di organisasi yang diukur prosesnya sudah terotomatisasi, terintegrasi dan membudaya.

Aspek Teknologi

Pertamina Grup secara proaktif melakukan pengamanan informasi berbasis risiko dari berbagai aspek seperti *endpoint security, network security, application security, data security, dan identity security*. Selain dari ancaman risiko yang berasal dari internal, Pertamina Grup juga menerapkan pemantauan untuk mendeteksi dan pencegahan ancaman yang informasinya terdapat di luar Pertamina Grup dengan *cyber threat intelligence*.

Secara berkala, Pertamina Grup juga melakukan evaluasi terhadap infrastruktur kritikal yang menggunakan sistem otomatis atau *remote*. Evaluasi yang dilakukan berupa pengecekan terhadap kerentanan sistem serta celah keamanan informasi yang berdampak fatal.

- Implementation of an assessment by an external independent party, BSSN, to measure Cyber Security Maturity (CSM) periodically at Pertamina Group. Based on the measurement results in 2024, Pertamina Group earned a score of 4.62 which was in the Optimal Implementation category (level 5). The measurement results indicated that the cybersecurity implementation in the organization measured by the process that has been automated, integrated and cultured.

Technology Aspect

Pertamina Group proactively secures risk-based information from various aspects such as endpoint security, network security, application security, data security, and identity security. Apart from internal risks, Pertamina Group also conducts monitoring to detect and prevent threats from information outside Pertamina Group with cyber threat intelligence.

Periodically, Pertamina Group also evaluates critical infrastructure that uses automated or remote systems. The evaluation is carried out by checking for system vulnerabilities and information security loopholes that may cause serious impact.

Permasalahan terhadap Penerapan Keberlanjutan

[OJK E.5]

Challenges in Sustainability Implementation

Komitmen Pertamina Grup dalam menerapkan keberlanjutan dihadapkan beberapa permasalahan dan tantangan, di antaranya:

- Dampak perubahan iklim, termasuk tantangan dalam berinovasi, berinvestasi dalam transisi energi, dan berkolaborasi dengan pemangku kepentingan untuk mengelola risiko iklim;
- Pengukuran jejak karbon menjadi tantangan karena termasuk indikator utama dalam krisis iklim;
- Pelestarian keanekaragaman hayati dan ekosistemnya akibat dampak operasional Pertamina Grup;

Pertamina Group's commitment to implementing sustainability is faced with several issues and challenges, including:

- Impacts of climate change, including challenges in innovating, investing in the energy transition, and collaborating with stakeholders to manage climate risks;
- Carbon footprint measurement is a challenge as it is a key indicator in the climate crisis;
- Preservation of biodiversity and its ecosystems due to the impact of Pertamina Group's operations;

- Risiko kecelakaan kerja serta tantangan dalam pengawasan terhadap area operasi;
- Tantangan dalam mengelola aspek sosial terutama mengenai isu keberagaman, kesetaraan, dan inklusi (*diversity, equity, & inclusion* atau DEI);
- Tantangan dalam menerapkan berbagai macam teknologi dan upaya memastikan bahwa teknologi yang diinvestasikan dapat membawa dampak signifikan pada upaya dekarbonisasi sekaligus layak secara bisnis;
- Pengelolaan aspek sosial terutama dalam hal membangun hubungan baik dengan masyarakat sekitar wilayah operasi;
- Penerapan tata kelola keamanan siber yang baik untuk mencegah terjadinya risiko gangguan pada operasional bisnis perusahaan yang menggunakan layanan IT; dan
- Penerapan tata kelola perusahaan yang baik (GCG) untuk menjaga reputasi publik dan kepercayaan pemangku kepentingan.

Pertamina Grup telah mengelola seluruh tantangan, risiko, maupun dampak operasional yang disampaikan dalam Bab Kinerja Ekonomi, Kinerja Pengelolaan Lingkungan, Kinerja Pengelolaan Sosial, serta Tata Kelola Keberlanjutan dalam Laporan ini.

- Risks of workplace accidents and challenges in supervising the area of operations;
- Challenges in managing social aspects, especially regarding diversity, equity, and inclusion (DEI) issues;
- Challenges in implementing various technologies and ensuring that the technologies invested in can have a significant impact on decarbonization efforts while being business viable;
- Management of social aspects, especially in building good relations with communities around the area of operations;
- Implementation of good cybersecurity governance to prevent the risk of disruption to the company's business operations that use IT services; and
- Implementation of good corporate governance (GCG) to maintain public reputation and stakeholder trust.

Pertamina Group has managed all operational challenges, risks and impacts presented in the Economic Performance, Environmental Management Performance, Social Management Performance and Sustainability Governance chapters of this Report.





Independent Assurance Statement [OJK G.1][GRI 2-5] The 2024 Sustainability Report PT Pertamina (Persero)

Number	: 14/000-758/V/2025/SRAI
Assurance Type	: Type 1 and Type 2 for the specific topic of Combating Climate Change, Reduce Environmental Footprint, and Occupational Health and Safety (OHS) and Large-Scale Incident Prevention.
Assurance Level	: Moderate
Reporting Standards	: GRI Universal Standard 2021 Consolidated, GRI 11 Oil and Gas Sector, SASB for the Oil and Gas: Exploration and Production Sector, SASB for Refining and Marketing Sector, SASB for Midstream Sector, SASB for Services Sector, and IPIECA Sustainability Reporting Guidance for the Oil and Gas Industry.
Reporting Regulation (Indonesia)	: Otoritas Jasa Keuangan Regulation (POJK) Number 51/POJK.03/2017 and SEOJK No. 16/SEOJK.04/2021

Dear stakeholders,

PT Sejahtera Rambah Asia or “SRAI” is issuing an **Independent Assurance Statement** (“the Statement”) of the **2024 Sustainability Report** (“the Report”) of **PT Pertamina (Persero)** (“the Company”). The Company is a state-owned company and operates in energy management sector. The Report presents the Company's commitment and efforts in managing its sustainability performance for the **January 1st to December 31st, 2024** reporting period. As agreed with Management, SRAI's responsibility is to make an assessment based on the data and content of the Report for the year.

Intended User and Purpose

The purpose of the Statement is to present our opinion, including the findings and recommendations based on the results of assurance work to the Company's stakeholders. The assessor team following specific procedures and a particular scope of work carried out the assessment. Except for the areas covered in the scope of the assurance, we encourage all NOT to solely interpret the Statement as the basis to conclude the Company's overall sustainability performance.

Responsibilities

Our obligations to the Management involve assessing the Report's content, generating findings, and recommendations, and issuing a Statement. Additionally, we are tasked with establishing conclusions and recommendations according to agreed-upon standards, methods, and approaches. Consequently, SRAI's evaluation is solely based on the most recent editorial and data received as of May 16th, 2025, regarding the final draft. SRAI's responsibility lies exclusively in providing assurance work, distinct from an audit, under the Non-Disclosure Agreement, the Assurance Engagement Agreement, Representation Letter, and Subsequent Event Testing. Management bears the sole responsibility for presenting data, information, and disclosures within the Report. Therefore, any parties relying on the Report and Statement must assume and manage their own risk.

Independence, Impartiality, and Competency

SRAI confirms that there are NO relationships between the assessor team and the clients that can influence their independence and impartiality in conducting the assessment and generating the statements. The assessor team is mandated to follow a particular assurance protocol and professional ethical code of conduct to ensure their objectivity and integrity. We carried out a pre-engagement assessment before the assurance work was taken to verify the risks of engagement as well as the

independence and impartiality of the team. The assessor team members have knowledge of ISO 26000, AA1000 AccountAbility standards and principles, and also have experience in sustainability report assessment based on various reporting regulations, and standards such as Regulation of Otoritas Jasa Keuangan No.51/POJK.03/2017 on Sustainable Finance, GRI Universal Standard, GRI 11 Oil and Gas Sector, SASB for the Oil and Gas: Exploration and Production Sector, SASB for Refining and Marketing Sector, SASB for Midstream Sector, SASB for Services Sector, and IPIECA Sustainability Reporting Guidance for the Oil and Gas Industry.

Type and Level of Assurance Service

1. **Type 1 assurance** on the Report content.
2. **Type 2 assurance** on Combating Climate Change, Reduce Environmental Footprint, and Occupational Health and Safety (OHS) and Large-Scale Incident Prevention.
3. **A moderate level of assurance** to the procedure on the Report content and evidence, where the risks of information and conclusions of the Report being error is reduced, but not to very low, but not zero.

Scope and Limitation of Assurance Service

1. Data and information in the Report for the period of **January 1st to December 31st, 2024**.
2. Material topics presented in the Report: **Combating Climate Change; Reduce Environmental Footprint; Water Management and Water Sources Conservation; Business Ethics, Human Rights and Good Governance; Occupational Health and Safety (OHS) and Large-Scale Incident Prevention; Innovation and Research; Biodiversity Conservation; Data and Cyber Security; Community Involvement, Impacts Management, and Rights of Indigenous People; and Recruitment, Development and Retention.**
3. Evaluation of publicly disclosed information, system, and process of the Company to ensure adherence of the Report content to the reporting principles.
4. SRAI does NOT include financial data, information, and figures in the Report content. We assumed that the Company, independent parties, or other parties associated with the Company have verified and/or audited financial statements, data, and information.
5. Adherence to the following reporting principles, standards, and regulations:
 - a) Regulation of Otoritas Jasa Keuangan (OJK) No.51/POJK.03/2017 regarding the Implementation of Sustainable Finance for Financial Service Institutions, Listed, and Public Companies (POJK 51) as well as OJK Circular Letter (SEOJK) 2022 No.16/SEOJK.04/2021.
 - b) Consolidated set of GRI Sustainability Reporting Standards 2021 (GRI Universal Standards) issued by Global Reporting Initiative.
 - c) GRI 11 Oil and Gas Sector (GRI 11 OG) issued by Global Reporting Initiative.
 - d) Sustainability Accounting Standard Board (SASB) for Oil and Gas Sector (Exploration and Production Sector EM-EP 2023, Refining and Marketing Sector EM-RM 2023, Midstream Sector EM-MD 2023, and Services Sector EM-SV 2023.
 - e) IPIECA Sustainability Reporting Guidance for the Oil and Gas Industry 4th edition 2020 (IPIECA).

Exclusion

1. The expression of opinion, belief, expectation, advertisement, and also forward-looking statements, including future planning of the Company as specified in the Report content.
2. Analysis or assessment against regulations, principles, standards, guidelines, and indicators other than those indicated in the Statement.
3. Topics, data, and information outside the reporting period, or in the public domain not covered in the reporting period.
4. Financial performance data and information as presented in the Company's financial statements and documents, other than those mentioned in the Report.



Methodology and Source Disclosure

1. Form an Assuror Team whose members are capable in sustainability report development and assurance.
2. Perform the pre-engagement phase to ensure the independence and impartiality of the Assuror Team.
3. Hold a kick-off meeting and initial analysis of the Report draft based on the SRAI Protocol on Assurance Analysis refers to the standards, principles, and indicators of AA1000AS v3, AA1000APS (2018), and standards/regulations used in the Report.
4. Discuss the results of the analysis online with management and data contributors.
5. Verify evidence and trace data and information as covered in the Report.
6. The Company incorporated our recommendations in the draft Report and released the final Report content.
7. Prepare the Statement and send it to AA1000 AccountAbility for review to get approval before submitting it to the Company.
8. Prepare a Management Letter detailing all aspects seen, recorded, and observed during the assurance work to the Management of the Company for further improvement of sustainability processes.

Adherence to AA1000AP (2018) and GRI Universal Standards

Inclusivity – The Company has taken initiatives to support achieving its sustainability goals by engaging stakeholders through various inclusive programs. These engagements are carried out based on identifying each stakeholder’s level of influence on the Company’s activities. Furthermore, the stakeholder identification process considers each party’s significance and strategic role in relation to the Company’s core business.

Materiality – From the findings obtained based on the Report, it is clear that the procedure to identify material topics was appropriately conducted. The chosen topics represent key sustainability matters closely tied to the Company’s core operations, bearing substantial effects on its performance and holding essential relevance to stakeholders.

Responsiveness – Based on our assessment, we conclude that the Company utilizes a variety of formal mechanisms to manage grievances and concerns raised by internal and external stakeholders. In 2024, several grievances and concerns were submitted, some of which have been resolved, while others remain in progress. The Company also engages independent external parties to support the management of its whistleblowing system.

Impact – The Company has contributed to national economic growth by providing inclusive energy products across all regions of Indonesia, thereby supporting the nation’s economic development by fulfilling energy needs. In addition, the Company also drives local industries’ development by allocating a large portion of its expenditure to domestic content through Local Content Requirement (TKDN), thereby strengthening local supplier networks. On the environmental aspect, the Company has actively reduced greenhouse gas emissions through operational improvements and has advanced its new and renewable energy initiatives, while also playing a major role in Indonesia’s carbon market through its dominant share in carbon trading. On the social aspect, the Company has expanded energy access across Indonesian villages through programs like One Village One Outlet and has empowered rural communities by developing energy self-sufficient villages under the Desa Energi Berdikari initiative, promoting clean energy use. In governance, the Company has undergone structural reforms by appointing new leadership through a ministerial decree and it has publicly disclosed ongoing legal processes, while ensuring service continuity and full cooperation with authorities.

SRAI Independent Assurance Statement, version 2025, page 3 of 4

Statement of Use: “In Accordance to the GRI Standards” – We evaluated the Report content in adherence to the GRI Universal Standards principles, disclosures, and requirements for reporting. The Company has referred to the nine requirements: apply the reporting principles, report the disclosures in GRI 2: General Disclosures 2021, determine material topics, report the disclosures in GRI 3: Material Topics 2021, report disclosures from the GRI Topic Standards for each material topic, provide reasons for omission for disclosures and requirements that the organization cannot comply with, publish a GRI content index, provide a statement of use, and notify GRI.

GRI Standards Principles – The report content sufficiently indicates its adherence to the Reporting principles (accuracy, balance, clarity, comparability, completeness, sustainability context, timeliness, and verifiability). The Management provided adequate support during the assurance work by submitting evidence/documents as requested.

Type 2 Assurance – As the assurance work was taken for the type 2 assurance, the material topic of Combating Climate Change reflects the Company’s commitment through established sustainability policies that address climate-related issues. The Company has aligned its corporate targets with the national objective of achieving net-zero emissions by 2060. Its Sustainability Strategy outlines efforts to reduce emissions across Scopes 1, 2, and 3. While the Company has initiated the inventory and reduction of Scope 3 emissions, we recommend that it begin setting specific reduction targets for Scope 3 emissions as part of its long-term strategic approach. Moreover, to reduce its environmental footprint, the Company employs life cycle assessments and conducts Environmental Impact Assessments (AMDAL) in compliance with regulations. Risk mitigation is overseen by the Board, and monitoring is reported via the SIMPLE system to the Ministry of Environment. For Occupational Health and Safety (OHS) and large-scale incident prevention, our team indicates that the Company has a SUPREME HSSE system based on international standards, which ensures compliance through regular audits. Digital tools, VR training, and AI-enabled CCTV enhance incident reporting, training, and site monitoring, reducing manual inspections. The Company maintains robust safety procedures.

Recommendation

1. To estimate cost savings achieved through reducing greenhouse gas emissions, thereby enhancing operational efficiency.
2. To develop a strategy to reduce scope 3 GHG emissions by setting specific reduction targets for mitigating environmental impact.
3. To ensure clear contractual obligations regarding human rights compliance, strengthen accountability, and mitigate potential risks associated with human rights violations. The Company needs to specifically include human rights clauses in contracts with contractors, vendors, and partners, despite the Company having conducted socialization of Pertamina Group’s Human Rights Policy to them.

The assurance provider,
Jakarta, May 16th 2025



Lim Hendra

Assurance Director

PT Sejahtera Rambah Asia (SRAI)



Referensi POJK No. 51/POJK.03/2017 dan SEOJK No. 16/SEOJK.04/2021 [OJK G.4]

POJK No. 51/POJK.03/2017 and SEOJK No. 16/SEOJK.04/2021 References

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			Persyaratan yang Tidak Dicantumkan Requirement(s) Omitted	Alasan Reason	Penjelasan Explanation	
Pernyataan Pergunaan Statement of Use	PT Pertamina (Persero) telah melaporkan informasi yang dikutip dalam indeks konten GRI untuk periode 1 Januari hingga 31 Desember 2024 sesuai dengan Standar GRI. PT Pertamina (Persero) has reported the information cited in this GRI content index for the period 1 January – 31 December 2024 in accordance with the GRI Standards.					
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	205-2 Komunikasi dan pelatihan tentang kebijakan dan prosedur anti-korupsi Communication and training about anti-corruption policies and procedures	237-239				11.20.3
	205-3 Insiden korupsi yang terbukti dan tindakan yang diambil Confirmed incidents of corruption and actions taken	237-239				11.20.4
GRI 206: Perilaku Antipersaingan 2016 GRI 206: Anti-competitive Behavior 2016	206-1 Langkah-langkah hukum untuk perilaku antipersaingan, praktik antipakat dan monopoli Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	56		Not Applicable	Informasi terkait perilaku antipersaingan tercantum pada Laporan Keberlanjutan masing-masing <i>Subholding</i> . Information regarding anti-competitive behavior is reported in each <i>Subholding's</i> Sustainability Report.	11.19.2
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	302-3 Intensitas energi Energy intensity	83				11.4
	302-4 Pengurangan konsumsi energi Reduction of energy consumption	88-94				
	302-5 Pengurangan pada energi yang dibutuhkan untuk produk dan jasa Reductions in energy requirements of products and services	93				
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	303-2 Manajemen dampak yang berkaitan dengan pembuangan air Management of water discharge-related impacts	103-105				11.6.3
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	303-4 Pembuangan air Water discharge	103-105				11.6.5
	303-5 Konsumsi air Water consumption	98-100				11.6.6
GRI 304: Keaneekaragaman Hayati 2016 GRI 304: Biodiversity 2016	304-1 Lokasi operasional yang dimiliki, disewa, dikelola, atau berdekatan dengan kawasan lindung dan kawasan dengan nilai keanekaragaman hayati tinggi di luar kawasan lindung Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	113-115				11.4.2
	304-2 Dampak signifikan dari kegiatan, produk, dan jasa pada keanekaragaman hayati Significant impacts of activities, products, and services on biodiversity	113-115				11.4.3

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	304-4 Spesies Daftar Merah IUCN dan spesies daftar konservasi nasional dengan habitat dalam wilayah yang terkena efek operasi IUCN Red List species and national conservation list species with habitats in areas affected by operations	115-120					11.4.5
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	305-7 Nitrogen oksida (NOx), sulfur oksida (SOx), dan emisi udara signifikan lainnya Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	95					11.3.2

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GRI 308: Penilaian Lingkungan Pemasok 2016 GRI 308: Supplier Environmental Assessment 2016	308-1 Seleksi pemasok baru dengan menggunakan kriteria lingkungan New suppliers that were screened using environmental criteria	203				
	308-2 Dampak lingkungan negatif dalam rantai pasokan dan tindakan yang telah diambil Negative environmental impacts in the supply chain and actions taken	203				
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	403-3 Layanan kesehatan kerja Occupational health services	131-133				
	403-4 Partisipasi, konsultasi, dan komunikasi pekerja tentang K3 Worker participation, consultation, and communication on occupational health and safety	135-136				
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	403-7 Pencegahan dan mitigasi dampak dari keselamatan dan kesehatan kerja yang secara langsung terkait hubungan bisnis Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	138				
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GRI 407: Kebebasan Berserikat dan Perlindungan Kolektif 2016 GRI 406: Freedom of Association and Collective Bargaining 2016	407-1 Operasi dan pemasok di mana hak atas kebebasan berserikat dan perundingan kolektif mungkin berisiko Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	176				11.3.2
GRI 408: Pekerja Anak 2016 GRI 406: Child Labor 2016	408-1 Operasi dan pemasok yang berisiko signifikan terhadap insiden pekerja anak Operations and suppliers at significant risk for incidents of child labor	176				

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GRI 409: Kerja Paksa atau Wajib Kerja 2016 GRI 406: Forced or Compulsory Labor 2016	409-1 Operasi dan pemasok yang berisiko signifikan terhadap insiden kerja paksa atau wajib kerja Operations and suppliers at significant risk for incidents of forced or compulsory labor	176				11.12.2
GRI 410: Kerja Paksa atau Wajib Kerja 2016 GRI 410: Forced or Compulsory Labor 2016	410-1 Petugas keamanan yang dilatih mengenai kebijakan atau prosedur hak asasi manusia Security personnel trained in human rights policies or procedures	176				11.18.2
GRI 411: Hak-hak Masyarakat Adat 2016 GRI 411: Rights of Indigenous People 2016	411-1 Insiden pelanggaran yang melibatkan hak-hak masyarakat adat Incidents of violations involving rights of indigenous peoples	198-199				11.17.2
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GRI 413: Masyarakat Lokal 2016 GRI 413: Local Communities 2016	413-2 Operasi yang secara aktual dan yang berpotensi memiliki dampak negatif signifikan terhadap masyarakat lokal Operations with significant actual and potential negative impacts on local communities	200				11.15.3
GRI 414: Penilaian Sosial Pemasok 2016 GRI 413: Supplier Social Assessment 2016	414-1 Seleksi pemasok baru dengan menggunakan kriteria sosial New suppliers that were screened using social criteria	203				11.10.8, 11.12.3
GRI 413: Supplier Social Assessment 2016	414-2 Dampak sosial negatif dalam rantai pasokan dan tindakan yang telah diambil Negative social impacts in the supply chain and actions taken	203				11.10.9
GRI 415: Kebijakan Publik 2016 GRI 415: Public Policy 2016	415-1 Kontribusi politik Political contributions	232				11.22.2

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GRI 416: Kesehatan dan Keselamatan Pelanggan 2016 GRI 416: Customer Health and Safety 2016	<p>416-1 Penilaian dampak kesehatan dan keselamatan dari berbagai kategori produk dan jasa Assessment of the health and safety impacts of product and service categories</p>	149-150			
	<p>416-2 Insiden ketidakpatuhan sehubungan dengan dampak kesehatan dan keselamatan dari produk dan jasa Incidents of non-compliance concerning the health and safety impacts of products and services</p>	149-150			
GRI 417: Pemasaran dan Pelabelan 2016 GRI 417: Marketing and Labeling 2016	<p>417-1 Persyaratan untuk pelabelan dan informasi produk dan jasa Requirements for product and service information and labeling</p>			Not applicable	Seluruh kegiatan terkait kegiatan pelabelan produk dan komunikasi pemasaran dijalankan oleh <i>Subholding</i> , sehingga informasi ini tercantum pada Laporan Keberlanjutan masing-masing <i>Subholding</i> .
	<p>417-2 Insiden ketidakpatuhan terkait pelabelan dan informasi produk dan jasa Incidents of non-compliance concerning product and service information and labeling</p>			Not applicable	All activities related to product labeling and marketing communication activities are carried out by the <i>Subholding</i> , so this information is reported in each <i>Subholding's</i> Sustainability Report.
	<p>417-3 Insiden ketidakpatuhan terkait komunikasi pemasaran Incidents of non-compliance concerning marketing communications</p>			Not applicable	
GRI 418: Privasi Pelanggan 2016 GRI 418: Customer Privacy 2016	<p>418-1 Pengaduan yang berdasar mengenai pelanggaran terhadap privasi pelanggan dan hilangnya data pelanggan Substantiated complaints concerning breaches of customer privacy and losses of customer data</p>	247-251			

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	<p>11.2.4 Jelaskan pendekatan organisasi terhadap pengembangan kebijakan publik dan lobi terhadap perubahan iklim</p> <p>Describe the organization's approach to public policy development and lobbying on climate change</p>	230-231				
Pengungkapan Sektor Tambahan Additional Sector Disclosures	<p>11.16.2 Cantumkan lokasi operasi yang menyebabkan atau berkontribusi pada pemukiman kembali secara paksa atau di mana pemukiman kembali tersebut sedang berlangsung. Untuk setiap lokasi, jelaskan bagaimana mata pencaharian dan hak asasi manusia masyarakat terdampak dan dipulihkan</p> <p>List the locations of operations that caused or contributed to involuntary resettlement or where such resettlement is ongoing. For each location, describe how peoples' livelihoods and human rights were affected and restored</p>	199				
	<p>11.17.3 Cantumkan lokasi-lokasi operasi di mana masyarakat adat berada atau terdampak oleh kegiatan organisasi</p> <p>List the locations of operations where indigenous peoples are present or affected by activities of the organization</p>	198-199				
	<p>11.17.4 Laporkan jika organisasi telah terlibat dalam proses meminta persetujuan atas dasar informasi di awal tanpa paksaan (FPIC) dari masyarakat adat untuk setiap kegiatan organisasi</p> <p>Report if the organization has been involved in a process of seeking free, prior and informed consent (FPIC) from indigenous peoples for any of the organization's activities</p>	199				

International Petroleum Industry Environmental Conservation Association (IPIECA)

Modul Modules	Isu Issues	Indikator Indicator	Pengungkapan Disclosure	Halaman Page
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		GOV-2	Sistem manajemen Management systems	43, 211, 215, 216, 222, 223, 232, 235, 243
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	GOV-4	Transparansi pembayaran kepada pemerintah Transparency of payments to host governments	53, 55, 240	
	GOV-5	Advokasi dan lobi publik Public advocacy and lobbying	36, 230	
Perubahan iklim dan energi Climate change and energy	Strategi dan risiko iklim Climate strategy and risk	CCE-1	Tata kelola dan strategi iklim Climate governance and strategy	58, 59, 68, 72
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	Teknologi Technology	CCE-3	Teknologi rendah karbon Lower-carbon technology	68, 72, 81, 87, 88, 91, 92
	Emisi Emissions	CCE-4	Emisi gas rumah kaca (GRK) Greenhouse gas (GHG) emissions	83, 85, 86
		CCE-5	Emisi metana Methane emissions	87, 88
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		ENV-4	Kawasan lindung dan prioritas untuk konservasi keanekaragaman hayati Protected and priority areas for biodiversity conservation	113, 115
	Emisi udara Air emissions	ENV-5	Emisi ke udara Emissions to air	94, 95
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		SHS-2	Kesehatan pekerja Workforce health	131, 132, 134
		SHS-3	Insiden cedera dan penyakit akibat kerja Occupational injury and illness incidents	125, 126, 129, 138-142
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	Risiko kesehatan, keselamatan, dan lingkungan produk Product health, safety and environmental risk	SHS-5	Pengelolaan produk Product stewardship	149, 150
	Keamanan proses Process safety	SHS-6	Keamanan proses Process safety	126, 129, 141, 142
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		SOC-5	Keragaman dan inklusi tenaga kerja Workforce diversity and inclusion	152, 155, 156, 165, 166, 169, 172, 174
		SOC-6	Keterlibatan tenaga kerja Workforce engagement	135, 154, 158
		SOC-7	Pelatihan dan pengembangan tenaga kerja Workforce training and development	136, 159, 160, 163, 165
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		SOC-9	Dampak dan keterlibatan masyarakat setempat Local community impacts and engagement	180, 188, 191
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		SOC-15	Praktik perekrutan lokal Local hiring practices	205, 207

Sustainability Accounting Standard Board (SASB)

Topik Topic	Kode Pengungkapan Disclosure Code	Metrik Metric	Halaman Page
Emisi Gas Rumah Kaca Greenhouse Gas Emissions	EM-EP-110a.1, EM-MD-110a.1, EM-RM-110a.1	Emisi Cakupan 1 global bruto, persentase metana, persentase yang tercakup dalam peraturan pembatasan emisi Gross global Scope 1 emissions, percentage methane, percentage covered under emissions-limiting regulations	88
	EM-EP-110a.2	Jumlah emisi Cakupan 1 global bruto dari: (1) hidrokarbon suar, (2) pembakaran lainnya, (3) emisi proses, (4) emisi lain yang dibuang melalui ventilasi, dan (5) emisi fugitif Amount of gross global Scope 1 emissions from: (1) flared hydrocarbons, (2) other combustion, (3) process emissions, (4) other vented emissions and (5) fugitive emissions	90
	EM-EP-110a.3, EM-MD-110a.2, EM-RM-110a.2	Pembahasan strategi atau rencana jangka panjang dan jangka pendek untuk mengelola emisi cakupan 1, target penurunan emisi, dan analisis kinerja terhadap target tersebut Discussion of long- and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	88
Layanan Pengurangan Emisi dan Manajemen Bahan Bakar Emissions Reduction Services & Fuels Management	EM-SV-110a.1	Total bahan bakar yang dikonsumsi, persentase terbarukan, persentase yang digunakan di: (1) peralatan dan kendaraan <i>on-road</i> dan (2) peralatan <i>off-road</i> Total fuel consumed, percentage renewable, percentage used in: (1) onroad equipment and vehicles and (2) offroad equipment	26
	EM-SV-110a.2	Pembahasan strategi atau rencana untuk mengatasi risiko terkait emisi udara Discussion of strategy or plans to address air emissions-related risks, opportunities and impacts	95
Kualitas Udara Air Quality	EM-EP-120a.1, EM-MD-120a.1	Emisi udara dari polutan berikut: (1) NO _x (tidak termasuk N ₂ O), (2) SO _x , (3) senyawa organik yang mudah menguap (VOC), dan (4) partikulat (PM ₁₀) Air emissions of the following pollutants: (1) NO _x (excluding N ₂ O), (2) SO _x , (3) volatile organic compounds (VOCs), and (4) particulate matter (PM ₁₀)	95
	EM-RM-120a.1	Emisi udara dari polutan berikut: (1) NO _x (tidak termasuk N ₂ O), (2) SO _x , (3) partikulat (PM ₁₀), (4) H ₂ S, dan (5) senyawa organik yang mudah menguap (VOC) Air emissions of the following pollutants: (1) NO _x (excluding N ₂ O), (2) SO _x , (3) particulate matter (PM ₁₀), (4) H ₂ S, and (5) volatile organic compounds (VOCs)	95

Topik Topic	Kode Pengungkapan Disclosure Code	Metrik Metric	Halaman Page
Manajemen Air Water Management	EM-EP-140a.1 EM-RM-140a.1	(1) Jumlah air bersih yang diambil, (2) jumlah air bersih yang dikonsumsi, persentase masing-masing di daerah dengan Stres air dengan <i>baseline</i> tinggi atau sangat tinggi (1) Total water withdrawn, (2) total water consumed; percentage of each in regions with High or Extremely High Baseline Water Stress	98
	EM-SV-140a.1	(1) Total volume air bersih yang ditangani dalam operasi, (2) persentase yang didaur ulang (1) Total volume of water handled in operations, (2) percentage recycled	98, 101
	EM-EP-140a.2	Volume air terproduksi dan aliran balik yang dibangkitkan; persentase (1) dibuang, (2) diinjeksikan, (3) didaur ulang; kandungan hidrokarbon dalam air yang dibuang Volume of produced water and flowback generated; percentage (1) discharged, (2) injected, (3) recycled; hydrocarbon content in discharged water	106
	EM-RM-140a.2	Jumlah insiden ketidakpatuhan yang terkait dengan izin, standar, dan peraturan kualitas air Number of incidents of non-compliance associated with water quality permits, standards, and regulations	101
Manajemen Bahan Berbahaya Hazardous Materials Management	EM-RM-150a.1	(1) Jumlah limbah berbahaya yang dihasilkan, (2) persentase yang didaur ulang (1) Amount of hazardous waste generated, (2) percentage recycled	108
Dampak Kenakeragaman Hayati Biodiversity Impacts	EM-EP-160a.1	Deskripsi kebijakan dan praktik manajemen lingkungan untuk situs aktif Description of environmental management policies and practices for active sites	40
	EM-EP-160a.2	(1) Jumlah dan (2) volume agregat tumpahan hidrokarbon, (3) volume di Arktik, (4) volume berdampak pada garis pantai dengan peringkat ESI 8-10, dan (5) volume yang dipulihkan (1) Number and (2) aggregate volume of hydrocarbon spills, (3) volume in Arctic, (4) volume impacting shorelines with ESI rankings 8-10, and (5) volume recovered	111
	EM-EP-160a.3	Persentase dari (1) cadangan terbukti dan (2) terduga di dalam atau dekat lokasi dengan status konservasi yang dilindungi atau habitat spesies yang terancam punah Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	113
Dampak Ekologis Ecological Impacts	EM-MD-160a.1	Deskripsi kebijakan dan praktik manajemen lingkungan untuk aktif operasi Description of environmental management policies and practices for active operations	40, 98
Keamanan, Hak Asasi Manusia dan Hak Masyarakat Adat Security, Human Rights & Rights of Indigenous Peoples	EM-EP-210a.1	Persentase dari (1) cadangan terbukti dan (2) cadangan di atau dekat wilayah konflik Percentage of (1) proved and (2) probable reserves in or near areas of conflict	199
	EM-EP-210a.3	Pembahasan proses keterlibatan dan praktik uji tuntas dengan penghormatan terhadap hak asasi manusia, hak masyarakat adat, dan operasi di wilayah konflik Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict	166, 168

Topik Topic	Kode Pengungkapan Disclosure Code	Metrik Metric	Halaman Page
Kesehatan dan Keselamatan Tenaga Kerja Workforce Health & Safety	EM-EP-320a.1, EM-RM-320a.1	(1) <i>Total recordable incident rate</i> (TRIR), (2) tingkat frekuensi kecelakaan kerja, (3) <i>near miss frequency rate</i> (NMFR), dan (4) rata-rata jam kesehatan, keselamatan, dan pelatihan tanggap darurat untuk (a) karyawan tetap, (b) karyawan kontrak (1) Total recordable incident rate (TRIR), (2) fatality rate, (3) near miss frequency rate (NMFR), and (4) average hours of health, safety, and emergency response training for (a) direct employees and (b) contract employees	138
	EM-SV-320a.1	(1) <i>Total recordable incident rate</i> (TRIR), (2) tingkat frekuensi kecelakaan kerja, (3) <i>near miss frequency rate</i> (NMFR), dan (4) rata-rata jam pelatihan kesehatan, keselamatan, dan tanggap darurat untuk (a) penuh waktu karyawan, dan (b) karyawan kontrak (1) Total recordable incident rate (TRIR), (2) fatality rate, (3) near miss frequency rate (NMFR), and (4) average hours of health, safety, and emergency response training for (a) direct employees, and (b) contract employees	138
Spesifikasi Produk & Campuran Bahan Bakar Bersih Product Specifications & Clean Fuel Blends	EM-RM-410a.2	Total pasar yang dapat dijangkau dan pangsa pasar untuk <i>advanced biofuel</i> dan infrastruktur terkait Total addressable market and share of market for advanced biofuels and associated infrastructure	221
Etika Bisnis dan Transparansi Pembayaran Business Ethics & Payments Transparency	EM-EP-510a.2	Uraian tentang sistem manajemen pencegahan korupsi dan penyuapan di seluruh rantai nilai Description of the management system for prevention of corruption and bribery throughout the value chain	237
	EM-SV-510a.2	Deskripsi sistem manajemen untuk pencegahan korupsi dan penyuapan di seluruh rantai nilai Description of the management system for prevention of corruption and bribery throughout the value chain	237
Manajemen Risiko Insiden Kritis Critical Incident Risk Management	EM-RM-540a.2	Tantangan terhadap tingkat indikator sistem keselamatan (Tier 3) Challenges to Safety Systems indicator rate (Tier 3)	142
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Metrik Aktivitas Activity Metrics	EM-EP-000.A	Produksi: (1) minyak, (2) gas alam, (3) minyak sintetis, dan (4) gas sintetis Production of: (1) oil, (2) natural gas, (3) synthetic oil, and (4) synthetic gas	24

Lembar Umpan Balik [OJK G.2]

Feedback Form

Terima kasih telah membaca Laporan Keberlanjutan PT Pertamina (Persero) tahun 2024. Kami mengharapkan masukan, saran, dan kritik dari bapak/ibu sekalian atas laporan keberlanjutan ini melalui e-mail atau formulir berikut. Seluruh masukan, saran, dan kritik sangat penting bagi kemajuan penyampaian Laporan Keberlanjutan Pertamina Grup ke depannya.

Thank you for reading PT Pertamina (Persero) 2024 Sustainability Report. We look forward to your feedback, suggestions, and criticisms on this sustainability report via e-mail or the following form. All your feedback, suggestions, and criticisms are very important for the progress of Pertamina Group's report deliveries in the future.

Profil Anda

Your Identity

Nama | Name :

Institusi | Institution :

Surel | E-mail :

Telp/Hp | Telephone/Mobile :

Golongan Pemangku Kepentingan

Stakeholder Group

- | | | | |
|---|--|---|---|
| <input type="radio"/> Pemegang Saham
Shareholders | <input type="radio"/> Pelanggan
Customers | <input type="radio"/> Pekerja
Employees | <input type="radio"/> Lembaga Swadaya Masyarakat (LSM)
Non-Governmental Organization (NGO) |
| <input type="radio"/> Media Massa
Mass Media | <input type="radio"/> Kontraktor
Contractors | <input type="radio"/> Investor
Investors | <input type="radio"/> Lembaga Penelitian dan Perguruan Tinggi
Research Institutes and Universities |
| <input type="radio"/> Regulator, Legislatif, dan Lembaga Pengawas
Regulators, Legislatures, and Supervisory Agency | <input type="radio"/> Masyarakat di Sekitar Wilayah Usaha Perseroan
Communitites Around the Company's Business Area | | |

Mohon berikan saran/usul/komentar Anda atas laporan ini

Please give Your advice/suggestions/comments on this report

.....

.....

.....

.....

.....

Mohon Pilih Jawaban yang Paling Sesuai

Please Choose the Most Appropriate Answer

1 Isi laporan mudah dipahami.

The content of the report is easy to understand.

- Setuju | Agree Netral | Neutral Tidak Setuju | Disagree

2 Laporan ini telah menggambarkan informasi positif dan negatif dari Perseroan.

This report has described positive and negative information of the Company

- Setuju | Agree Netral | Neutral Tidak Setuju | Disagree

3 Mohon berikan penilaian atas tingkat topik material di bawah (nilai 1 = paling signifikan s/d 4 = kurang signifikan)

Please provide an assessment of the level of materials topics below (value 1 = most significant to 4 = less significant)

- | | |
|--|---|
| <input type="radio"/> Memerangi Perubahan Iklim
Combating Climate Change | <input type="radio"/> Keselamatan dan Kesehatan Kerja (K3) dan Pencegahan Insiden Skala Besar
Occupational Health and Safety (OHS) and Large-Scale Incident Prevention |
| <input type="radio"/> Mengurangi Jejak Lingkungan
Reduce Environmental Footprint | <input type="radio"/> Riset dan Inovasi
Innovation and Research |
| <input type="radio"/> Pengelolaan Air dan Konservasi Sumber Daya Air
Water Management and Water Resources Conservation | <input type="radio"/> Konservasi Keanekaragaman Hayati
Biodiversity Conservation |
| <input type="radio"/> Etika Bisnis, Hak Asasi Manusia (HAM) dan Tata Kelola yang Baik
Business Ethics, Human Rights and Good Governance | <input type="radio"/> Keamanan Siber dan Data
Data and Cyber Security |
| <input type="radio"/> Rekrutmen, Pengembangan, dan Retensi
Recruitment, Development, and Retention | <input type="radio"/> Pelibatan Komunitas, Pengelolaan Dampak, dan Hak Penduduk Asli
Community Involvement, Impacts Management, and Rights of Indigenous People |
| | <input type="radio"/> Lainnya,
Others, |

Terima kasih atas partisipasi Anda. Mohon agar hasil lembar umpan balik ini dikirimkan kembali ke:

Thank you for Your participation. Please send the results of this feedback form back to:

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2024

Laporan Keberlanjutan
Sustainability Report



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