

20
22

Laporan
Keberlanjutan
Sustainability
Report



EXPLORING THE POTENTIALS
FOR **SUSTAINABLE FUTURE**

PT Pertamina Hulu Energi

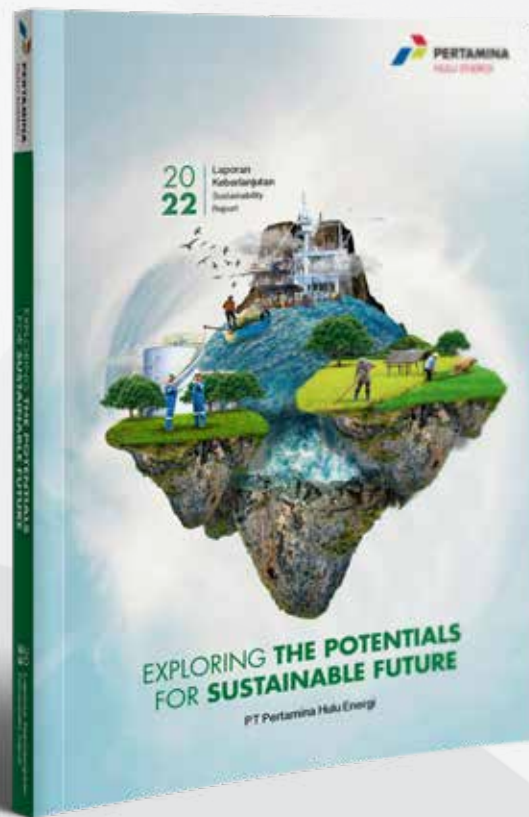
Pernyataan Disclaimer

Laporan Keberlanjutan ini berisikan pernyataan-pernyataan kinerja ekonomi, lingkungan, sosial, dan tata kelola, serta strategi Perusahaan, yang digolongkan sebagai pernyataan ke depan dalam pengertian perundang-undangan yang berlaku, kecuali hal-hal yang bersifat historis. Pernyataan-pernyataan tersebut bersifat prospektif yang memiliki risiko dan ketidakpastian, serta dapat mengakibatkan perkembangan aktual secara material berbeda dari yang tertulis dalam pernyataan-pernyataan tersebut.

Pernyataan prospektif dalam Laporan Keberlanjutan ini dibuat berdasarkan berbagai asumsi mengenai kondisi terkini dan kondisi mendatang dari Perusahaan, serta lingkungan bisnis, tempat Perusahaan menjalankan kegiatan usaha. Perusahaan tidak menjamin bahwa segala tindakan yang telah diambil untuk memastikan keabsahan dokumen ini akan membawa hasil-hasil tertentu sesuai harapan. Adapun penulisan angka-angka pada seluruh tabel dan grafik menggunakan notasi Bahasa Indonesia.

This Sustainability Report contains statements about the Company's economic, environmental, social, and governance performance and its strategy, which are classified as forward-looking statements under applicable laws and regulations, except for historical information. These are forward-looking statements that involve risks and uncertainties and may result in actual developments that differ materially from those stated in the statements.

The forward-looking statements in this Sustainability Report are based on a variety of assumptions regarding the Company's current and future operating conditions, as well as the business environment in which the Company operates. The Company makes no guarantee that any action taken to ensure the validity of this document will result in the expected results. In addition, all tables and graphs presenting numerical data use the Indonesian standard.



Exploring the Potentials, for Sustainable Future

Memelihara Nilai-nilai Keberlanjutan

PHE Subholding Upstream bersama-sama dengan entitas lain di bawahnya akan memelihara nilai-nilai keberlanjutan yang telah dikelola, yang mencakup aspek environmental, social, & governance (ESG). Secara terus-menerus, PHE Subholding Upstream akan mengeksplorasi potensi dan aspek ESG yang dapat memberikan dampak positif bagi Perusahaan, pemangku kepentingan, lingkungan hidup, serta bagi generasi mendatang.

PHE Subholding Upstream and its entities under it will maintain the sustainable values that it already manages, including environmental, social, and governance (ESG) aspects. PHE Subholding Upstream will periodically investigate ESG potentials and aspects that can positively impact the Company, its stakeholders, the environment, and future generations.



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Visi dan Misi ^[POJK51-3a]

Vision and Mission



Visi

Vision

Menjadi perusahaan minyak dan gas bumi kelas dunia.

To become a world-class oil and gas company.



Misi

Mission

Melaksanakan pengelolaan operasi dan portofolio usaha sektor hulu minyak dan gas bumi secara profesional, dan berdaya laba tinggi, serta memberikan nilai tambah bagi *stakeholders*.

To manage operations and business portfolios of the upstream oil and gas sector in a professional and high-profit manner and to provide added value to stakeholders.



Nilai - Nilai Inti

Core Values





Ikhtisar Kinerja Keberlanjutan dan Dukungan Pada Tujuan Pembangunan Berkelanjutan

Sustainability Performance Highlights and Support
for the Sustainable Development Goals

Komitmen Pada Pengelolaan Lingkungan [POJK51-2.b]

Commitment toward Environmental Management



PT Pertamina Hulu Energi Subholding Upstream PERTAMINA atau PHE Subholding Upstream, mulai mengimplementasikan teknologi penangkapan, pemanfaatan dan penyimpanan karbon atau *carbon capture storage (CCS)/carbon capture utilization and storage (CCUS)*. Implementasi teknologi CCUS oleh PHE Subholding Upstream merupakan yang pertama kali di lapangan migas di Indonesia. Perusahaan menggunakan teknologi CCUS perdana dengan injeksi CO₂ di Lapangan Jatibarang, Indramayu, Jawa Barat pada 26 Oktober 2022. Injeksi CO₂ di Lapangan Jatibarang merupakan realisasi kerja sama antara PT Pertamina (Persero), PT Pertamina EP; dan Japan Oil, Gas and Metals National Corporation (JOGMEC).

PT Pertamina Hulu Energi Subholding Upstream PERTAMINA or PHE Subholding Upstream has started implementing carbon capture, utilization, and storage (CCUS) technology. The implementation of CCUS technology by PHE GROUP is the first of its kind in the oil and gas field in Indonesia. The Company used CCUS technology for the first time with CO₂ injection at the Jatibarang Field, Indramayu, West Java, on 26 October 2022. The CO₂ injection in the Jatibarang Field is the result of cooperation between PT Pertamina (Persero), PT Pertamina EP, and Japan Oil, Gas, and Metals National Corporation (JOGMEC).

Notes:

- Total Emisi PT Badak NGL 2021: 648.941 Ton CO₂Eq (Dihitung secara prorata sejak PT Badak LNG bergabung dengan Subholding Upstream)
Emission total of Badak NGL in 2021: 648.941 Ton CO₂Eq (Count as prorata since Badak NGL joined the Subholding Upstream)
- Total Emisi PT Badak NGL 2022: 2.728.536,85 Ton CO₂Eq (full year)
Emission Total Badak NGL in 2022: 2.728.536,85 Ton CO₂Eq (full year)
- Intensitas emisi 2021 sebesar 0.0399 melingkupi PT Badak NGL
The 2021 emission intensity of 0.0399 includes PT Badak NGL
- Tanpa Badak NGL, intensitas emisi 2021 mencapai 0,0373 Ton CO₂Eq/BOE
Without Badak NGL, the 2021 emission intensity will reach 0.0373 Ton CO₂Eq/BOE
- Pada Tahun 2022 perhitungan intensitas emisi dilakukan tanpa Badak karena angka produksi Badak tidak dikonversikan menjadi BOE. Apabila memperhitungkan Emisi dari Badak, Intensitas Emisi 2022 akan menjadi 0.049 TonCO₂Eq/BOE
In 2022 the emission intensity calculation will be carried out without PT Badak NGL because PT Badak NGL's production figures are not converted to BOE. If taking into account the Emissions from PT Badak NGL, the 2022 Emission Intensity will be 0.049 TonCO₂Eq/BOE

PENGELOLAAN EMISI GRK

GHG EMISSIONS MANAGEMENT



Total pengukuran emisi GRK (Cakupan 1 dan 2) (Ton CO₂eq) - termasuk CH₄ dan N₂O

Total GHG emissions measurement (Scope 1 and 2) (Tons CO₂eq) – including CH₄ and N₂O

2022**

13.859.710,01

2021***	2020***
10.056.784,08	7.853.549,94



Realisasi penurunan emisi (Ton CO₂eq)

Emissions reduction realization (Tons CO₂eq)

2022**

341.986,50

2021 *****	2020***
209.954	-



Intensitas emisi (Ton CO₂eq/BOE)

Emissions intensity (Tons CO₂eq/BOE)

2022

0,0394

2021	2020****
0,0399	0,0333



PENGELOLAAN ENERGI ENERGY MANAGEMENT

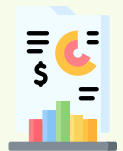


Pemanfaatan energi dari sumber EBT (GJ) Energy utilization from NRE sources (GJ)

2022**

4.719.876,23

2021	2020***
2.625.017,73	1.957.253,33



Total Konsumsi Energi (GJ/BOE) Total Energy Consumption (GJ/BOE)

2022**

138.662.096,63

2021**	2020*
92.880.161,58*****	34.229.312,93

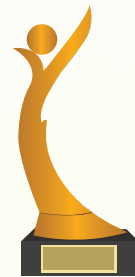


Intensitas Konsumsi Energi (GJ/BOE) Energy Consumption Intensity (GJ/BOE)

2022**

0,01

2021**	2020*
0,39	0,44



PERINGKAT PROPER PROPER RATING

PROPER Emas Gold PROPER

2022**

7

2021	2020***
9	6



PROPER Hijau GREEN PROPER

2022**

21

2021	2020***
24	23



Jumlah fauna dalam status terancam punah yang dilestarikan** Critically endangered fauna protected**

2022**

4

2021	2020***
4	0

Keterangan Note:

- * Cakupan PHE sebelum menjadi Subholding Upstream | PHE scope before becoming Subholding Upstream
- ** Cakupan PHE Subholding Upstream | PHE scope Subholding Upstream
- *** Cakupan PHE Subholding Upstream tanpa memperhitungkan sumber emisi cakupan 2 dari WK Rokan
Includes PHE Subholding Upstream without taking into account emission sources scope 2 from the Rokan WK
- **** Cakupan PHE Subholding Upstream tanpa memperhitungkan sumber emisi dari WK Rokan dan Badak NGL
Includes PHE Subholding Upstream without taking into account emission sources from the Rokan WK and Badak NGL
- ***** Terjadi integrasi PROPER, untuk Pertamina Hulu Mahakam dan Pertamina Hulu Sanga Sanga. Pertamina Hulu Mahakam dari 5 WK menjadi 1 WK dan Pertamina Hulu Sanga Sanga dari 4 WK menjadi 1 WK.
PROPER has been integrated for Pertamina Hulu Mahakam and Pertamina Hulu Sanga Sanga. Pertamina Hulu Mahakam decreased from 5 WK to 1 WK and Pertamina Hulu Sanga Sanga from 4 WK to 1 WK.
- ***** Penyajian Kembali
Restatement

Komitmen Pada Pengelolaan Sosial [POJK51-2.c]

Commitment toward Social Management



PHE Subholding Upstream mendukung ketersediaan akses energi yang lebih terjangkau, berkelanjutan, dan berbasis masyarakat melalui program Desa Energi Berdikari. Sepanjang tahun 2022, program Desa Energi Berdikari telah menghasilkan empat jenis energi listrik. Keempat jenis tersebut merupakan pemanfaatan pembangkit listrik tenaga surya dengan kapasitas 54,6 kW Peak, kemudian penggunaan biogas sebagai sumber energi sebesar 80 m³/tahun dan gas metana sebesar 583.000 m³/tahun, pemakaian biodiesel hingga 3.766,50 L/tahun, hingga pendayagunaan tenaga angin sebagai sumber energi dengan kapasitas 0,5 kW Peak. Program ini juga mengurangi emisi sebesar 296.104,90 CO₂eq. Nilai reduksi ini meningkat 56,43% bila dibandingkan nilai emisi pada tahun 2021 yang mencapai 189.202,61 Ton CO₂eq/tahun.

PHE Subholding Upstream supports the availability of more affordable, sustainable, and community-based energy access through the Desa Energi Berdikari program. Throughout 2022, the Desa Energi Berdikari program has produced four types of electrical energy. These four types are the use of solar power plants with a capacity of 54.6 kW Peak, the utilization of biogas as an energy source amounting to 80 m³/year and methane gas amounting to 583,000 m³/year, the use of biodiesel up to 3,766.50 L/year, and the utilization of wind power as an energy source with a capacity of 0.5 kW Peak. This program also reduces emissions by 296,104.90 CO₂eq. This reduction value has increased by 56.43% compared to the emission value in 2021, which reached 189,202.61 tons CO₂eq/year.



Anggaran Pemberdayaan Masyarakat (Juta USD)
Community Empowerment Budget (USD million)



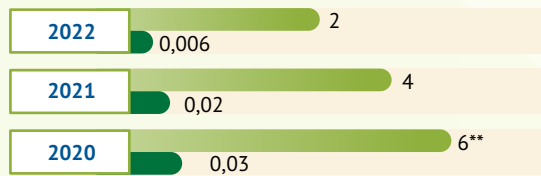


KESEHATAN DAN KESELAMATAN KECELAKAAN KERJA OCCUPATIONAL HEALTH AND SAFETY



Lost Time Injury Rate (LTIR)

Lost Time Injury Rate (LTIR)



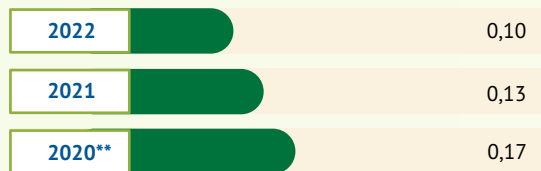
● Jumlah Kasus
Total Cases

● LTIR



Total Recordable Injury Rate (TRIR)

Total Recordable Injury Rate (TRIR)

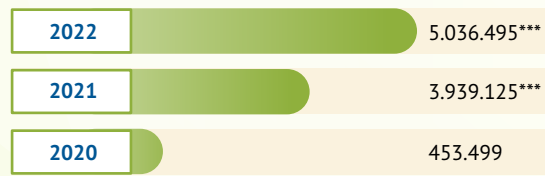


● Tingkat
Rate



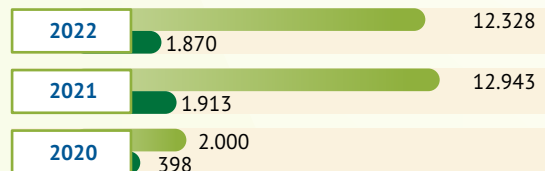
Jumlah Jam Pelatihan

Total Training Hours



Jumlah Karyawan

Total Employees



● Laki-laki
Male

● Perempuan
Female

Catatan | Note:

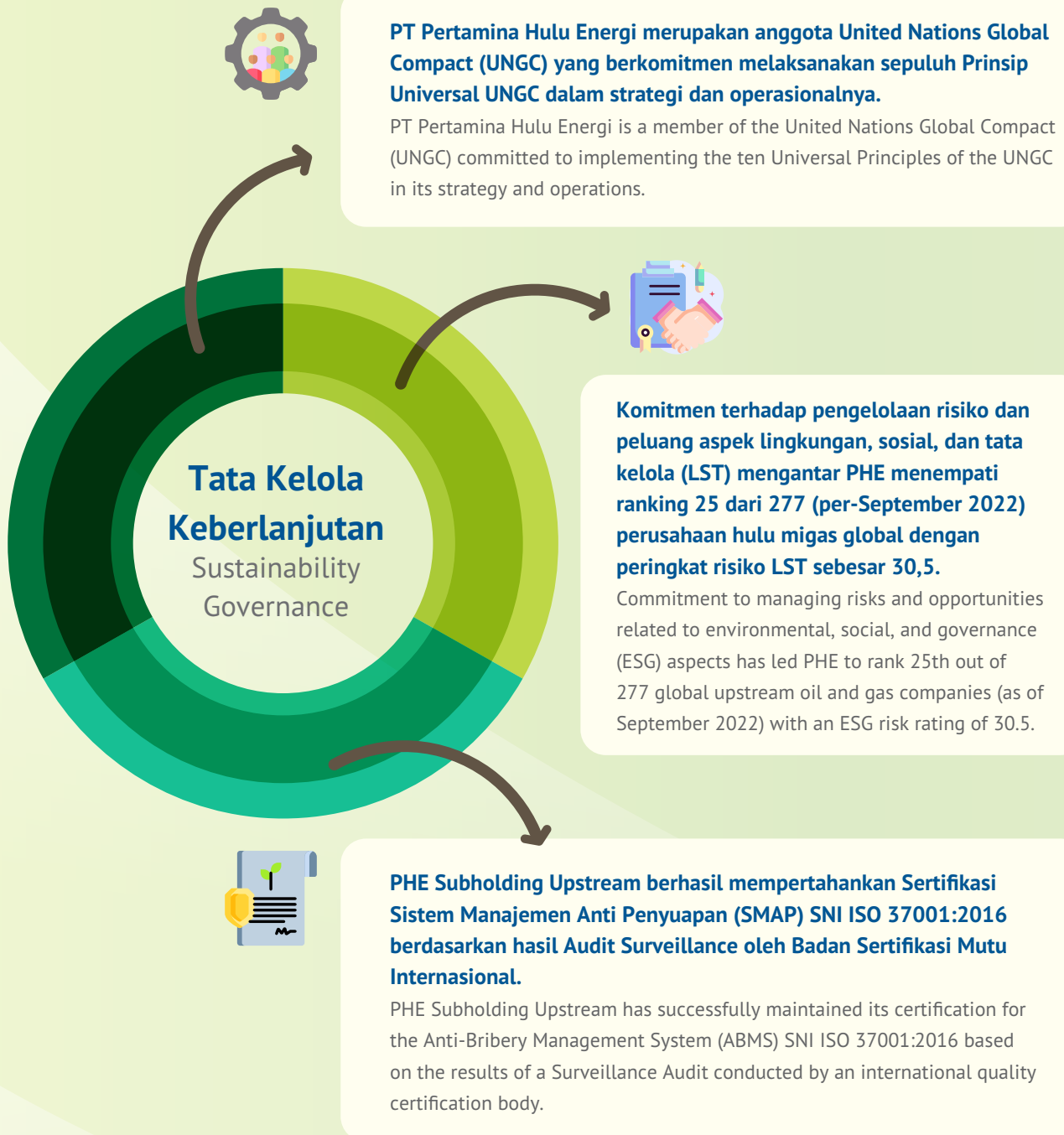
Cakupan data tahun 2020 adalah PHE sebelum menjadi Subholding Upstream

The data coverage for 2020 is PHE before becoming Subholding Upstream

Cakupan data tahun 2021 dan 2022 setelah menjadi PHE Subholding Upstream

2021 and 2022 data after becoming PHE as Subholding Upstream

- * Terdapat perbedaan metode perhitungan berdasarkan ruang lingkup mengacu pada panduan GRI 201 dan ISO 26000
There are different calculation methods based on the scope of reference to the GRI 201 and ISO 26000 guidelines
- ** Termasuk Blended Development Program, Formal Learning, Informal Learning
Including Blended Development Program, Formal Learning, Informal Learning

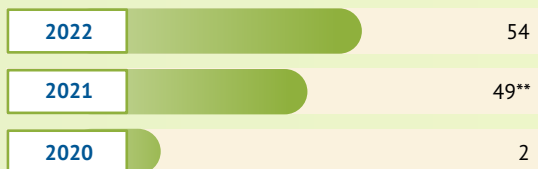




ANTIKORUPSI ANTI-CORRUPTION



Jumlah laporan whistleblowing system (WBS) Total whistleblowing system (WBS) reports



Realisasi penyampaian laporan kekayaan hasil penyelenggara negara (LHKPN) Realization of State Official Wealth Report (LHKPN) reports



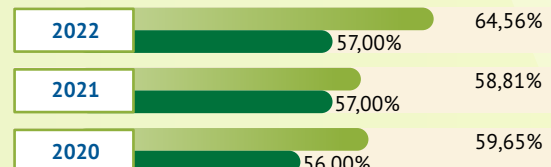
KEPATUHAN COMPLIANCE



Asesmen GCG GCG Assessment



Tingkat komponen dalam negeri (TKDN) Domestic Component Level (TKDN)



Realisasi
Realization



Target Pemerintah
Government target

Catatan | Note:

- Cakupan data tahun 2020 adalah PHE sebelum menjadi Subholding Upstream
The data coverage for 2020 is PHE before becoming Subholding Upstream
- Cakupan data tahun 2021 dan 2022 setelah menjadi PHE Subholding Upstream
2021 and 2022 data after becoming PHE Subholding Upstream

* Nilai peluang | Value of opportunity

**Pernyataan Kembali Informasi | Restatement





Harmoni Bersama Pekerja dan Masyarakat
Harmony with Employees and the Community



Tata Kelola Keberlanjutan
Sustainability Governance



TENTANG LAPORAN KEBERLANJUTAN

ABOUT THE SUSTAINABILITY REPORT

Dasar dan Acuan Penerbitan Laporan Keberlanjutan

Basis and Reference for Issuing the Sustainability Report

Laporan Keberlanjutan ini dibuat dengan merujuk pada:

This Sustainability Report is made with reference to:

Standar Global Reporting

Initiative (GRI) 2021:

'reference to'

Global Reporting Initiative

(GRI) Standards 2021:

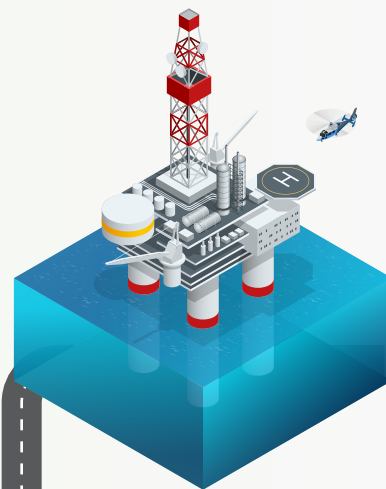
'reference to'

Peraturan Otoritas Jasa Keuangan (POJK) No.51/POJK.03/2017 tentang Penerapan Keuangan Berkelanjutan bagi Lembaga Jasa Keuangan, Emiten, dan Perusahaan Publik
Financial Services Authority (POJK) Regulation No.51/POJK.03/2017 concerning the Implementation of Sustainable Finance for Financial Services Institutions, Issuers, and Public Companies

Oil and Gas Sector Specific Disclosure (OGSS) (2021)

Sustainability Accounting Standard Board (SASB) Oil & Gas (Exploration & Production) Standard;

The Oil and Gas Industry Guidance on Voluntary Sustainability Reporting 4th edition 2020-International Petroleum Industry Environmental Conservation Association (IPIECA), American Petroleum Institute (API), dan International Association of Oil & Gas Producers (IOGP); serta
The Oil and Gas Industry Guidance on Voluntary Sustainability Reporting 4th edition 2020-International Petroleum Industry Environmental Conservation Association (IPIECA), American Petroleum Institute (API), and the International Association of Oil & Gas Producers (IOGP); and



Panduan Task Force on Climate-related Financial Disclosures (TCFD)
Guidance on the Task Force on Climate-related Financial Disclosures (TCFD)

Kami menerbitkan Laporan Keberlanjutan setiap tahun. Laporan periode sebelumnya diterbitkan pada Mei 2022. Informasi kinerja keuangan dan kinerja keberlanjutan meliputi seluruh kegiatan Perusahaan selama 1 Januari 2022 – 31 Desember 2022, termasuk pada entitas anak, kecuali untuk data dan informasi yang disebutkan khusus.

[2-2][2-3]

We publish a Sustainability Report every year. The previous period report was published in May 2022. Financial and sustainability performance information covers all of the Company's activities during the period of 1 January 2022 – 31 December 2022, including its subsidiaries, except for data and information specifically mentioned.

Kontak Terkait Laporan [2-3]

Report Contact

Arya Dwi Paramita

Sekretaris Perusahaan | Corporate Secretary

PHE Tower, Lantai 21-25, Jl. TB Simatupang Kav.99 Jakarta Selatan 12520-Indonesia

Telp : +62 21 2954 7000, 2952 9076

Surel/Email : arya.paramita@pertamina.com





Verifikasi Eksternal [POJK51-7] External Verification

Informasi keuangan konsolidasian telah diaudit kantor akuntan publik dan disajikan secara komprehensif di dalam Laporan Tahunan. Adapun informasi lainnya dalam Laporan Keberlanjutan telah melalui proses verifikasi oleh pihak eksternal independen, yakni SR Asia Indonesia. [2-5]

Terdapat pernyataan kembali terkait informasi pada periode pelaporan terdahulu dengan penyesuaian data kuantitatif penetapan PHE sebagai Subholding Upstream sehingga ada penambahan Anak Perusahaan yaitu PT Badak NGL. Penyajian data dan informasi dalam laporan ini telah mendapatkan persetujuan dari Direksi sebagai pejabat tata kelola yang bertanggung jawab. [2-4][2-14]

The consolidated financial information has been audited by a public accounting firm and comprehensively presented in the Annual Report. Other information contained in the Sustainability Report has been verified by an independent third party, SR Asia Indonesia.

There is a restatement of previous period information pertaining to the quantitative data adjustment for the designation of PHE as Subholding Upstream, resulting in the addition of PT Badak NGL as a subsidiary. The Board of Directors, as the responsible governance officer, has approved the presentation of data and information in this Report.

Tanggapan Umpan Balik Feedback Form

Kami menyediakan lembar umpan balik untuk menyampaikan masukan atas laporan keberlanjutan. Untuk laporan tahun 2021, kami menerima saran dari pemangku kepentingan agar meningkatkan penyampaian data kuantitatif yang lebih terpercaya, terutama pada upaya penurunan emisi gas rumah kaca (GRK). Atas masukan ini, pada laporan keberlanjutan 2022, kami menyampaikan informasi yang lebih komprehensif, terutama dengan mulai merujuk pada Kerangka Kerja TCFD.

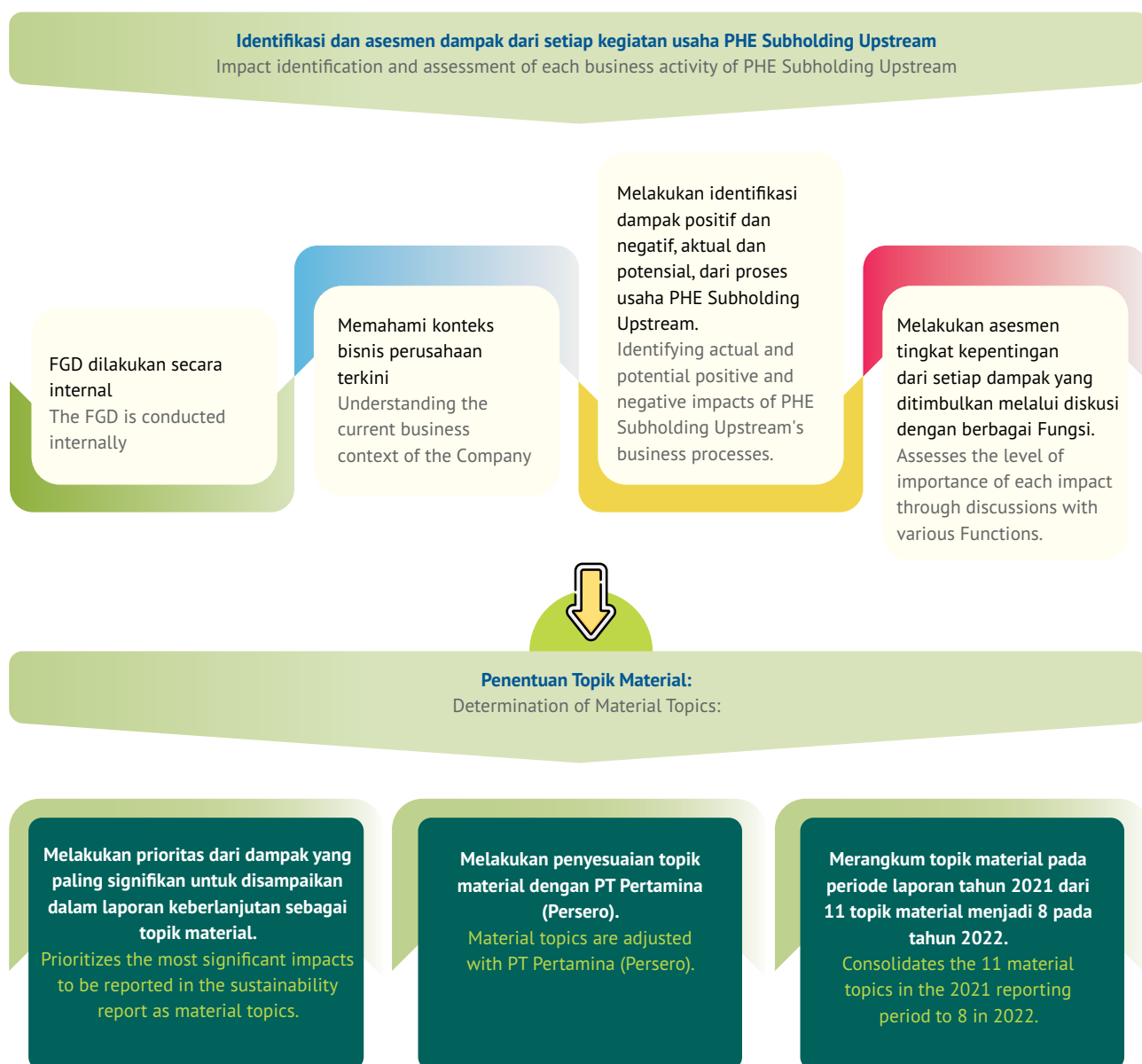
Stakeholders suggested that, for the 2021 report, we improve the delivery of more reliable quantitative data, particularly in efforts to reduce greenhouse gas (GHG) emissions. Based on this feedback, in the 2022 Sustainability Report, we provide more comprehensive information, particularly by referring to the TCFD Framework.

Topik Material

Material Topics

Topik material yang telah ditentukan tahun sebelumnya, ditelaah kembali melalui *focus group discussion* (FGD) pada 1 Desember 2022. Proses telaah topik material (*materiality test*) dilakukan melalui langkah: [3-1][3-2]

The previously determined material topics were reviewed through a focus group discussion (FGD) on 1 December 2022. The materiality test process was conducted through the following steps:



Setelah proses di atas, Perusahaan menentukan topik material dan melakukan analisis kegiatan yang sesuai dengan strategi dan dukungan pada Tujuan Pembangunan Keberlanjutan (TPB).

After the above process, the Company determines the material topics and analyzes activities that align with the strategy and support for the Sustainable Development Goals (SDGs).



Topik Material dan Dukungan pada TPB [3-3] Material Topics and Support for the SDGs



**MENGATASI
PERUBAHAN IKLIM**
ADDRESSING CLIMATE
CHANGE



**MELINDUNGI
KEANEKARAGAMAN HAYATI**
PROTECTING BIODIVERSITY



PENGELOLAAN AIR
WATER MANAGEMENT



PENGELOLAAN LIMBAH
WASTE MANAGEMENT

DAMPAK PADA PEMANGKU KEPENTINGAN IMPACT ON STAKEHOLDERS

Kegiatan eksplorasi dan produksi migas melepaskan emisi karbon yang dapat menimbulkan perubahan iklim. Inisiatif yang dilakukan untuk mengurangi dampak negatif emisi ini, antara lain menerapkan teknologi injeksi karbon. Pelaksanaan melibatkan pemerintah/regulator dan mitra kerja.

Exploration and production activities in the oil and gas sector release carbon emissions that can contribute to climate change. Initiatives to reduce the negative impact of these emissions include the implementation of carbon capture and injection technology. The implementation involves the participation of the government/regulators and business partners.

Area operasi Perusahaan berada di daratan dan lepas pantai, sehingga mempengaruhi keanekaragaman hayati di dalamnya. Inisiatif yang dilakukan adalah konservasi habitat spesies dilindungi maupun endemik, dengan melibatkan pekerja, masyarakat, pemerintah, dan kontraktor.

The Company's operational areas are located onshore and offshore, which can affect the biodiversity within them. Initiatives taken include conservation of habitats for protected and endemic species, involving employees, communities, the Government, and contractors.

Air diperoleh dari sumber air di sekitar area kegiatan operasi Perusahaan, sehingga berpotensi mempengaruhi sumber air yang ada. Inisiatif pengendalian dilakukan dengan kebijakan efisiensi, reduksi air baru, dan pemanfaatan air baru, yang melibatkan seluruh pemangku kepentingan.

The Company obtains water from sources in the vicinity of its operational areas, which can potentially impact existing water sources. Control initiatives are carried out through policies promoting water efficiency, reduction of new water intake, and the utilization of new water sources, involving all stakeholders.

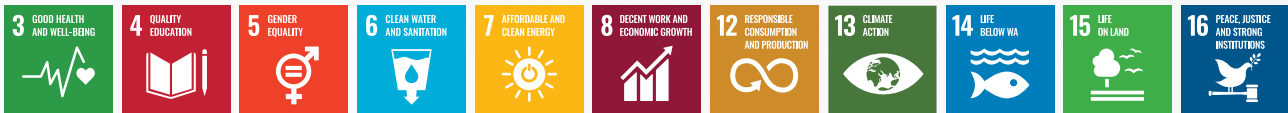
Limbah dari proses eksplorasi dan produksi berpotensi menimbulkan cemaran lingkungan, dan dikendalikan melalui inisiatif pengurangan dan pemanfaatan limbah B3, pengelolaan limbah non-B3, dengan melibatkan seluruh pemangku kepentingan.

The waste generated from exploration and production processes has the potential to pollute the environment and is controlled through initiatives to reduce and utilize hazardous waste and manage non-hazardous waste, with the participation of all stakeholders.



Perbedaan topik material pada tahun 2022 terjadi karena adanya penggabungan beberapa topik material pada tahun 2021, namun informasi yang disajikan tidak menghilangkan topik material yang sudah ada sebelumnya.

The difference in material topics in 2022 was caused by the merger of several material topics in 2021, but the information presented did not eliminate the previously existing material topics.



**KESEHATAN, KESELAMATAN,
DAN KEAMANAN**
OCCUPATIONAL HEALTH,
SAFETY, AND SECURITY



**PEREKRUTAN, PENGEMBANGAN
DAN RETENSI PEKERJA**
EMPLOYEE RECRUITMENT,
DEVELOPMENT, AND
RETENTION



**KETERLIBATAN DAN
DAMPAK KOMUNITAS**
COMMUNITY
ENGAGEMENT & IMPACT



ETIKA PERUSAHAAN
BUSINESS ETHICS

Kesehatan dan keselamatan kerja (K3) menjadi faktor penting bagi keunggulan operasi Perusahaan. Penerapan standar K3 maupun keselamatan proses berstandar internasional (ISO 45001: 2018, IOGP Related dan OSHA log 300) dengan melibatkan seluruh pemangku kepentingan. Inisiatif dilakukan, di antaranya meningkatkan kualitas sumber daya manusia (SDM) di bidang *Health Safety Security Environmental* (HSSE) melalui *Upstream Fire & Rescue Challenge* (UFRC).

Occupational Health and Safety (OHS) is a crucial factor in the operational excellence of the Company. The Company is committed to implementing international OHS standards, including ISO 45001:2018, IOGP Related, and OSHA log 300, involving all stakeholders in the process. To achieve this, the Company has taken several initiatives, such as improving the quality of its human resources in the Health Safety Security Environmental (HSSE) field through the Upstream Fire & Rescue Challenge (UFRC).

Pekerja unggul menjadi modal penting bagi bisnis Perusahaan dalam mencapai visi menjadi perusahaan migas kelas dunia. Strategi diterapkan, di antaranya meningkatkan *human capital* (SDM), melakukan inisiatif *managing value & energy, people analytics & digital tool*, dan *the social enterprise at work* yang pada tahun 2022 memasuki tahapan *enhanced phase*.

Excellent employees are an important asset for the Company in achieving its vision to become a world-class oil and gas company. Strategies were implemented, including enhancing human capital (HR), initiating value and energy management, utilizing people analytics & digital tools, and promoting the social enterprise at work, which entered the enhanced phase in 2022.

Dukungan dari komunitas menjadi faktor penting untuk menjaga kesinambungan Perusahaan. Inisiatif yang dilakukan, di antaranya pelibatan komunitas melalui pemberdayaan masyarakat, penghormatan pada hak asasi manusia (HAM), penyediaan akses energi bersih, serta pemberian bantuan.

Community support is an essential factor in maintaining the sustainability of the Company. The initiatives implemented included community involvement through community empowerment, respect for human rights, provision of clean energy access, and providing aid.

Penerapan praktik bisnis yang berintegritas dilakukan dengan mematuhi semua peraturan sebagai dasar pelaksanaan operasi usaha. Salah satu upaya dilakukan dengan mendukung penerapan Inisiatif Transparansi Industri Ekstraktif (EITI), sejalan dengan bergabungnya PT Pertamina (Persero) menjadi *supporting company* EITI.

Compliance with all applicable regulations serves as the foundation for the implementation of ethical business practices. One of the efforts made is to support the implementation of the Extractive Industries Transparency Initiative (EITI), consistent with PT Pertamina's (Persero) participation as an EITI supporting company.



Penjelasan Direksi [2-22a]

Message from the Board of Directors



Kami berkontribusi dalam pengembangan EBT dalam meningkatkan produksi gas bumi melalui pemanfaatan energi dari sumber EBT sebesar 4.705.051,23 GJ, atau tumbuh 76,71%.

We are contributing to the development of NRE sources by increasing natural gas production through the utilization 4,705,051.23 GJ from renewable energy sources, growing by 76.71%.

Wiko Migantoro

Direktur Utama
President Director



Para pemangku kepentingan yang terhormat,
Seperti kita ketahui bersama, saat ini dunia usaha di tataran nasional dan global dihadapkan pada kesadaran bersama untuk mengelola lingkungan, sosial dan tata kelola (LST) menjadi lebih baik. Tak terkecuali di sektor hulu minyak dan gas bumi (migas) yang diharapkan menerapkan praktik-praktik keberlanjutan dalam kegiatan yang dijalankan.

Kebijakan Untuk Merespon Tantangan Keberlanjutan

[D.1.a]

Kami merespon kondisi tersebut dengan meningkatkan praktik-praktik keberlanjutan melalui pengelolaan lingkungan, sosial dan tata kelola (LST/ESG), dengan mengedepankan pada tiga strategi yakni menjadi perusahaan hulu migas yang ramah lingkungan; memiliki tanggung jawab sosial; serta memiliki tata kelola keberlanjutan. Komitmen untuk menjadi perusahaan ramah lingkungan dilaksanakan dengan pendekatan pada ikhtiar mengurangi dampak perubahan iklim melalui pengendalian dan pengurangan emisi gas rumah kaca (GRK). PHE Subholding Upstream juga berupaya mengelola penggunaan energi, pengelolaan limbah dan pemakaian air, serta mendukung keanekaragaman hayati.

Komitmen untuk menjadi perusahaan yang memiliki tanggung jawab sosial, diwujudkan dengan berkontribusi pada pemenuhan kebutuhan setiap pemangku kepentingan. Pada periode pelaporan, kontribusi PHE Subholding Upstream antara lain pada keselamatan dan kesehatan kerja (K3) serta mendukung keselamatan proses. Selain itu kami memastikan tidak ada praktik-praktik diskriminasi terhadap pekerja termasuk dalam hal gender, serta memberdayakan masyarakat di sekitar wilayah operasi secara berkelanjutan

Komitmen PHE Subholding Upstream memiliki tata kelola keberlanjutan, dilaksanakan dengan mengedepankan kepatuhan serta penerapan praktik-praktik dan standar terbaik yang berlaku nasional maupun global. Kami juga berupaya menjalankan seluruh tahapan bisnis dengan beretika dan berintegritas. Kami juga melibatkan para pemangku kepentingan dalam melaksanakan setiap program dan kegiatan yang dijalankan Perusahaan.

Dear respected stakeholders,

As we are all aware, the national and international business world is currently confronted with a shared awareness of the need to better manage environment, social, and governance (ESG) factors. This includes the upstream oil and gas industry, which is expected to implement sustainable practices in its operations.

Policy to Respond to Sustainability Challenges

We respond to these challenges by enhancing our sustainability practices through environmental, social, and governance (ESG) management, with a focus on three strategies: becoming an environmentally-friendly upstream oil and gas company; having social responsibility; and having sustainable governance. Our commitment to being an environmentally-friendly company is carried out by approaching efforts to reduce the impact of climate change through control and reduction of greenhouse gas (GHG) emissions. PHE Subholding Upstream also strives to manage energy use, waste management and water usage, as well as support biodiversity.

PHE Subholding Upstream's commitment to being a socially responsible company is reflected in our contribution to fulfilling the needs of all stakeholders. During the reporting period, PHE Subholding Upstream's contributions include ensuring occupational health and safety (OHS) and supporting process safety. Furthermore, we ensure that there are no discriminatory practices towards employees, including in terms of gender, and empower communities around our operational areas in a sustainable manner.

PHE Subholding Upstream's commitment to sustainable governance is realized by prioritizing compliance and the implementation of national and global best practices and standards. The Company also strives to conduct all business stages ethically and with integrity. Furthermore, PHE Subholding Upstream engages stakeholders in implementing every program and activity carried out by the Company.

Penerapan dan Pencapaian Kinerja Keberlanjutan [D.1.b]

Para pemangku kepentingan yang terhormat.

Memasuki tahun 2022 kita patut bersyukur pandemi COVID-19 semakin terkendali, sehingga mendorong bergeraknya ekonomi baik nasional maupun global. Hal ini mempengaruhi pada tingkat permintaan migas dunia, yang berimbas pada kenaikan harga minyak dunia. Di sisi lain, PHE SHU juga dituntut untuk mengoptimalkan tingkat produksi dan *lifting* migas.

Selama tahun 2022 PHE SHU mencatatkan perolehan Laba Bersih mencapai USD4.674,16 juta, atau 172,62% dari Rencana Kerja dan Anggaran Perusahaan (RKAP) sebesar USD2.707,75 juta, dan tumbuh USD1.721,52 juta, atau 58,30% dari tahun 2021 sebesar USD2.952,64 juta. Dari sisi produksi, realisasi produksi migas tahun 2022 mencapai 967,27 MBOEPD atau 97% dari RKAP sebesar 992,17 MBOEPD. Untuk realisasi *lifting* migas, realisasi pada tahun 2022 tercatat sebesar 837,14 MBOEPD, atau 98% dari RKAP yang mencapai 850,54 MBOEPD.

Untuk pengelolaan lingkungan, kami memulai langkah besar dalam upaya mengendalikan emisi GRK dengan menerapkan teknologi *Carbon Capture Storage* (CCS)/*Carbon Capture Utilization and Storage* (CCUS). Implementasi teknologi CCUS oleh PHE GROUP merupakan yang pertama kali di lapangan migas di Indonesia, dan mampu mereduksi pelepasan CO₂ dengan diinjeksikan ke Lapangan Jatibarang, Indramayu, Jawa Barat. Berdasarkan pengukuran dan perhitungan yang dilakukan selama tahun 2022, volume penggunaan emisi GRK Cakupan 1 dan Cakupan 2 mencapai 13.859.710,01 ton CO₂eq. Untuk realisasi penurunan emisi GRK sebesar 341.986,50 ton CO₂eq terhadap *business as usual* (BAU) *scenario*.

Kami berkomitmen berkontribusi dalam pengembangan EBT dengan meningkatkan produksi gas bumi. Penggunaan gas bumi akan berpengaruh pada reduksi emisi GRK, mengingat gas bumi tidak melepaskan emisi GRK. Di tahun 2022 PHE Subholding Upstream memanfaatkan energi dari sumber EBT sebesar 4.705.051,23 GJ, atau tumbuh 76,71% dari capaian sebesar 2.625.017,73 GJ.

Para pemangku kepentingan yang terhormat.

Dalam pengelolaan sosial, langkah kami mengelola aspek-aspek K3 telah dapat mencegah terjadinya kecelakaan kerja fatal selama periode pelaporan, dengan total insiden ada 31 insiden tercatat (*recordable incident*), dan jumlah jam kerja selamat mencapai 317.569.904. Dalam hal kinerja keselamatan proses, sepanjang tahun 2022 ada 1.449 *process*

Sustainability Performance Implementation and Achievements

Dear respected stakeholders,

As we entered 2022, we were grateful that the COVID-19 pandemic had been increasingly under control, thus improving the national and global economy. This affected the world's demand for oil, resulting in an increase in the global oil price. On the other hand, PHE SHU was also required to optimize the level of oil production and *lifting*.

In 2022, PHE SHU recorded a Net Profit of USD 4,674.16 million, or 172.62% of the Company's Work Plan and Budget (RKAP) amounting to USD 2,707.75 million, and grew by USD 1,721.52 million, or 58.30% from 2021, which amounted to USD 2,952.64 million. On the production side, the realization of oil and gas production in 2022 reached 967.27 MBOEPD, or 97% of the RKAP of 992.17 MBOEPD. Meanwhile, the realization of oil and gas *lifting* in 2022 was recorded at 837.14 MBOEPD, or 98% of the RKAP which reached 850.54 MBOEPD.

In 2022, we took significant steps towards managing the environment by implementing Carbon Capture Storage (CCS)/Carbon Capture Utilization and Storage (CCUS) technology to control GHG emissions. PHE GROUP's implementation of CCUS technology was the first in the oil and gas field in Indonesia and has been successful in reducing CO₂ emissions by injecting it into the Jatibarang field in Indramayu, West Java. Based on measurements and calculations carried performed in 2022, the use of GHG emissions in Scope 1 and Scope 2 totaled 13,859,710.01 tons of CO₂eq. We were able to reduce GHG emissions by 341,986.50 tons of CO₂eq from the business-as-usual (BAU) *scenario*.

We are committed to contributing to the development of NRE sources by increasing natural gas production. The use of natural gas will have an impact on reducing GHG emissions, as natural gas does not emit GHG. In 2022, PHE Subholding Upstream utilized 4,705,051.23 GJ from renewable energy sources, growing by 76.71% from the previous year's achievement of 2,625,017.73 GJ.

Dear respected stakeholders,

In the management of social aspects, our steps in managing Health, Safety, and Environment (HSE) aspects have prevented fatal work accidents during the reporting period, with a total of 31 recordable incidents and 317,569,904 safe working hours. In terms of process safety performance, throughout 2022, there were 1,449 process safety events (PSE), consisting of 1 Tier



safety event (PSE), terdiri 1 peristiwa *Tier 1* dan 11 peristiwa *Tier 2*, serta ada 1.437 peristiwa *Tier 3*. Berdasarkan hasil audit SUPREME diketahui tidak ada entitas anak dalam PHE Group yang mendapatkan warna merah dan oranye.

Kami menindaklanjuti peristiwa PSE yang terjadi dengan melakukan berbagai upaya pencegahan. Salah satu pencapaian penting adalah *Go Live Asset Integrity Management System* (AIMS), yang akan meningkatkan keandalan dan integritas seluruh aset, menjamin keselamatan serta efisiensi operasional di seluruh wilayah operasi PHE Subholding Upstream. Integrasi AIMS ke dalam *dashboard Integrated Operation Center* (IOC) sebagai perangkat merupakan aplikasi pertama dalam pengelolaan fasilitas produksi yang terintegrasi ke semua regional untuk menuju operasi unggul. Penerapan AIMS sangat penting secara sistem untuk memantau secara waktu nyata (*real-time*) aset fasilitas produksi, dan bagian dari upaya pencegahan.

Kami juga menjamin kesetaraan kesempatan kepada setiap karyawan untuk berkembang dan berkarir. Dalam pengembangan kompetensi, pada tahun 2022 PHE Subholding Upstream merealisasikan rata-rata jumlah jam pelatihan sebesar 354,73 per karyawan per tahun. Pemberian kesempatan yang setara kepada karyawan termasuk dalam hal kesetaraan gender, telah menempatkan jumlah karyawan perempuan yang menduduki jabatan dalam manajemen mencapai 151 orang atau 1,06% dari total pejabat perusahaan.

Kami terus meningkatkan kontribusi kepada masyarakat, di antaranya dengan melibatkan pemasok lokal sebagai mitra kerja maupun memberdayakan UMKM. Sepanjang tahun 2022, kami melibatkan 3.880 mitra kerja dalam rantai pasok, bertambah dari tahun 2021 sebanyak 3.467. Dari jumlah tersebut, terdapat 3.572 atau 92,06% pemasok lokal. Jumlah tersebut meningkat 107,31% dari tahun 2021 sebanyak 1.723 perusahaan. Total nilai kontrak pengadaan bagi vendor/pemasok lokal tahun 2022 mencapai USD 3.855,00 juta, atau 86,28% dari total nilai kontrak pengadaan; dan bertambah USD 3.342,74 juta, atau 652,55% dari tahun 2021 sebesar USD 512,26 juta. [POJK51-2] [POJK51-3] [2-6] [204-1] [11.14.6]

Selain itu, Kami melaksanakan pemberdayaan UMKM bersama pemerintah setempat, lembaga mitra dan pemangku kepentingan terkait lain. Perusahaan memberikan kesempatan setara bagi semua UMKM untuk berdaya dan mandiri, termasuk pelaku usaha dari kelompok perempuan dan masyarakat adat. Hingga akhir tahun 2022 tercatat

1 event and 11 Tier 2 events, as well as 1,437 Tier 3 events. Based on the SUPREME audit results, none of the subsidiaries in the PHE Group received red and orange ratings.

We follow up on PSE incidents that occur by taking various preventive measures. One of the important achievements was the Go Live of Asset Integrity Management System (AIMS), which will improve the reliability and integrity of all assets, ensuring safety and operational efficiency throughout PHE Subholding Upstream's operating areas. The integration of AIMS into the Integrated Operation Center (IOC) dashboard as a tool is the first application in the management of production facilities that is integrated across all regions towards operational excellence. The implementation of AIMS is crucial in terms of the system to monitor production facility assets in real-time, and is part of our prevention efforts.

We guarantee equal opportunities for every employee to grow and develop their career. In competency development, PHE Subholding Upstream achieved an average of 354.73 training hours per employee per year in 2022. Providing equal opportunities to employees, including in terms of gender equality, has resulted in 151 female employees holding managerial positions, which accounts for 1.06% of the total company officials.

We continue to increase our contribution to society, including by involving local suppliers as partners and empowering MSMEs. Throughout 2022, the Company engaged 3,880 supply chain partners, an increase from 3,467 in 2021. Out of that number, 3,572 or 92.06% were local suppliers, a 107.31% increase from 1,723 in 2021. The total procurement contract value for local vendors/suppliers in 2022 reached USD 3,855.00 million, or 86.28% of the total procurement contract value, an increase of USD 3,342.74 million, or 652.55% from 2021's USD 512.26 million.

Moreover, we conduct MSME empowerment together with local government, partner institutions, and other relevant stakeholders. The Company provides equal opportunities for all MSMEs to become self-sufficient and productive, including business actors from women and indigenous communities. As of the end of 2022, there were 675 productive MSMEs, of

ada 675 UMKM binaan produktif, dimana sejumlah 448 merupakan UMKM perempuan, dan tersebar di seluruh WK PHE Subholding Upstream. [F.25]

Sejalan dengan pengembangan EBT, PHE Subholding Upstream juga menjalankan program Desa Energi Berdikari. Tujuan program ini adalah memberdayakan masyarakat melalui dukungan akses energi yang lebih terjangkau, dan berkelanjutan. Terdapat empat jenis energi listrik yang disediakan sepanjang tahun 2022, meliputi pemanfaatan pembangkit listrik tenaga surya dengan kapasitas mencapai 54,6 kW Peak, Pemanfaatan biogas 80 m³/tahun dan gas methana sebagai sumber energi dengan kapasitas 583.000 m³/tahun, pemanfaatan biodiesel dengan kapasitas mencapai 3.224 liter/tahun, dan pemanfaatan tenaga angin sebagai sumber energi dengan kapasitas 0,5 kW Peak. Program ini juga mereduksi emisi sebesar 296.104,90 ton CO₂eq.

Komitmen PHE Subholding pada pengelolaan sosial juga diwujudkan dengan menjunjung tinggi hak asasi manusia (HAM). Melalui sistem penilaian mandiri PRISMA menjadi bagian dari realisasi Prinsip-Prinsip Panduan Perserikatan Bangsa-Bangsa (PBB) untuk Bisnis dan Hak Asasi Manusia (United Nation on Guiding Principles on Business and Human Rights/UNGP) sebagaimana termaktub dalam Resolusi Dewan HAM PBB No.17/4 Tahun 2011, kami melakukan uji tuntas mandiri penerapan HAM di lingkungan Perusahaan. Berdasarkan penilaian mandiri PRISMA yang dilakukan pada tahun 2022 diperoleh hasil PHE Subholding Upstream mendapatkan Predikat Hijau dengan skor 111.

Dalam pengelolaan tata kelola, PHE Subholding Upstream mencapatakan pencapaian kinerja dengan mampu meraih pemenuhan Indikator Kinerja Utama (KPI) sebesar 105,8%. Kami juga merealisasikan nilai tingkat kandungan dalam negeri (TKDN), dengan capaian 64,56% terdiri dari TKDN barang dan jasa; lebih tinggi dari target Pemerintah sebesar 57%. Realisasi TKDN pada tahun 2022 meningkat dari tahun 2021 sebesar 58,81%.

Strategi Pencapaian Target Kinerja Keberlanjutan dan Prospek Usaha [D.1.c]

Para pemangku kepentingan yang terhormat.

Sejalan dengan Visi dan Misi PHE Subholding Upstream, kami berkomitmen meningkatkan pengelolaan LST/ESG pada seluruh kegiatan operasi dan bisnis yang dijalankan. Strategi yang dilakukan adalah dengan mengadopsi praktik-praktik terbaik dan standar yang berlaku di tataran global.

which 448 were women-owned, spread across PHE Subholding Upstream's WKs.

In line with the development of NRE, PHE Subholding Upstream also runs the Desa Energi Berdikari program, aimed to empower communities through more accessible and sustainable energy access. Four types of electricity were provided throughout 2022, including the use of solar power plants with a capacity of up to 54.6 kW Peak, the use of biogas as an energy source amounting to 80 m³/year and methane gas amounting to 583,000 m³/year, the use of biodiesel with a capacity of up to 3,224 liters/year, and the use of wind power as an energy source with a capacity of 0.5 kW Peak. The program also reduced emissions by 296,104.90 tons of CO₂eq.

PHE Subholding's commitment to social management is also manifested in upholding human rights. Through the PRISMA self-assessment system, which is part of the United Nations Guiding Principles on Business and Human Rights (UNGP) as stipulated in UNHRC Resolution No. 17/4, we conducted a thorough self-assessment of the implementation of human rights in the Company's environment. Based on the 2022 PRISMA self-assessment, PHE Subholding Upstream was awarded the Green rating with a score of 111.

In terms of governance management, PHE Subholding Upstream achieved a performance target of 105.8% in fulfilling Key Performance Indicators (KPIs). We also realized a domestic component level (TKDN) of 64.56%, which consists of TKDN of goods and services, higher than the government's target of 57%. The TKDN realization in 2022 increased from 58.81% in 2021.

Strategi Pencapaian Target Kinerja Keberlanjutan dan Prospek Usaha [D.1.c]

Dear respected stakeholders,

In line with the vision and mission of PHE Subholding Upstream, we are committed to improving our ESG management across all our operations and businesses. This is being achieved through the adoption of best practices and standards that are globally recognized.



Pada periode pelaporan PHE Subholding Upstream telah terdaftar dalam United Nations Global Compact (UNGC) sebagai partisipan/*member*. Kami berkomitmen pada Sepuluh Prinsip Universal dari UNGC, sebagai salah satu pedoman pengelolaan LST/ESG. Melalui keanggotaan UNGC, PHE Subholding berupaya meningkatkan pencapaian tahun 2022 yang menempati ranking 25 dari 277 perusahaan migas dunia dalam pengelolaan LST/ESG.

Pengelolaan LST/ESG yang semakin baik sangat diperlukan untuk menghadapi permintaan energi migas di masa depan yang bersumber dari kegiatan operasi berkelanjutan, meski di sisi yang lain berbagai sumber energi alternatif dan EBT terus dikembangkan. Tingginya permintaan migas mendorong Pemerintah meningkatkan produksi migas dengan target 1 juta barel per hari untuk minyak dan 12 BSCFD untuk gas bumi pada tahun 2030. Hal ini memberikan prospek usaha dan menjadi peluang bagi pengembangan bisnis PHE Subholding.

Sejalan dengan dinamika yang berkembang di tataran global, pengembangan usaha yang dilakukan PHE Subholding Upstream harus dapat meminimalkan dampak terhadap lingkungan dan sosial. Dengan demikian pemenuhan energi dapat dijalankan dengan berkelanjutan dan akan meningkatkan kepercayaan para pemangku kepentingan terhadap kemampuan kami mengelola risiko yang dihadapi di sektor hulu migas.

Penutup

Akhir PHE Subholding Upstream mengajak seluruh pemangku kepentingan untuk memperkuat kerja sama yang sudah terbangun selama ini. Dengan dukungan pemangku kepentingan, PHE Subholding Upstream dapat lebih mengoptimalkan pelestarian lingkungan, meningkatkan kesejahteraan masyarakat, memperkuat tata kelola yang baik, dan terus berkontribusi pada upaya pencapaian Tujuan Pembangunan Berkelanjutan (TPB/SDGs).

During the reporting period, PHE Subholding Upstream became a participant/member of the United Nations Global Compact (UNGC). We are committed to the UNGC's Ten Universal Principles as a guide to ESG management. Through our membership in the UNGC, PHE Subholding aims to improve our 2022 ranking of 25 out of 277 oil and gas companies worldwide in ESG management by.

Improved ESG management is essential to meet the future demand for oil and gas energy from sustainable operations, although various alternative energy and NRE sources are being developed. The high demand for oil and gas is driving the government to increase its production target to 1 million barrels per day for oil and 12 BSCFD for natural gas by 2030. This presents a business opportunity for the development of PHE Subholding's business.

In line with global dynamics, PHE Subholding Upstream's business development must minimize its impact on the environment and society. By doing so, the sustainable supply of energy can be achieved, and it will increase stakeholder confidence in the Company's ability to manage the risks faced in the upstream oil and gas sector.

Closing

Finally, PHE Subholding Upstream invites all stakeholders to strengthen the cooperation that has been built thus far. PHE Subholding Upstream can further optimize environmental conservation, improve community welfare, bolster good governance, and continue to contribute to efforts to achieve the Sustainable Development Goals (SDGs) with the support of its stakeholders.

Jakarta, Mei 2023 | Jakarta, May 2023

Atas Nama Direksi

On Behalf of the Board of Directors

SIGNED

Wiko Migantoro

Direktur Utama

President Director



Pernyataan Dewan Komisaris Tentang Tanggung Jawab atas Laporan Keberlanjutan 2022

Statement from the Board of Commissioners Regarding Responsibility for the 2022 Sustainability Report

Sesuai prinsip tata kelola perusahaan yang baik dan peraturan Perundang-undangan yang berlaku di Indonesia, PT Pertamina Hulu Energi menerbitkan Laporan Keberlanjutan 2022. Laporan menyajikan informasi perusahaan mengenai kinerja, penerapan tata kelola, pelaksanaan tanggung jawab sosial, laporan keuangan konsolidasian periode 1 Januari sampai 31 Desember 2022, serta informasi lain yang relevan dan signifikan bagi para pemangku kepentingan. Kami, segenap Direksi PT Pertamina Hulu Energi yang bertanda tangan di bawah ini menyatakan bertanggung jawab penuh atas kebenaran isi Laporan Keberlanjutan 2022 PT Pertamina Hulu Energi.

Demikian pernyataan ini dibuat dengan sebenarnya.

In accordance with good corporate governance principles and prevailing Laws in Indonesia, PT Pertamina Hulu Energi publishes the 2022 Sustainability Report. The report presents company's information on the performance, good corporate governance and corporate social responsibility implementation, consolidated financial statement for the period of 1 January until 31 December 2022, as well as other relevant and significant information to our stakeholders. We, the entire Board of Directors of PT Pertamina Hulu Energi who have signed below, hereby state our full responsibility for the validity of the content of PT Pertamina Hulu Energi 2022 Sustainability Report.

This statement is made truthfully.

Persetujuan Dewan Komisaris Approval of the Board of Commissioners

SIGNED

Rinaldi Firmansyah

Komisaris Utama dan Komisaris Independen
President Commissioner and Independent Commissioner
(13 Juni 2020 - 12 Juni 2023)
(13 June 2020 - 12 June 2023)

SIGNED

Tumpak Simanjuntak

Komisaris Independen
Independent Commissioner
(13 Juni 2020 - 12 Juni 2023)
(13 June 2020 - 12 June 2023)

SIGNED

Nanang Untung

Komisaris
Commissioner
(28 Januari 2020 - 27 Januari 2023)
(28 January 2020 - 27 January 2023)

SIGNED

Nugroho Bramantyo

Komisaris
Commissioner
(3 Desember 2020 - 2 Desember 2023)
(3 December 2020 - 2 December 2023)

SIGNED

Mufti Utomo

Komisaris
Commissioner
(2 April 2021 - 1 April 2024)
(2 April 2021 - 1 April 2024)

SIGNED

Tutuka Ariadji

Komisaris
Commissioner
(15 Februari 2021 - 14 Februari 2024)
(15 February 2021 - 14 February 2024)



Pernyataan Direksi Tentang Tanggung Jawab atas Laporan Keberlanjutan 2022

Statement from the Board of Directors Regarding Responsibility for the 2022 Sustainability Report

Sesuai prinsip tata kelola perusahaan yang baik dan peraturan Perundang-undangan yang berlaku di Indonesia, PT Pertamina Hulu Energi menerbitkan Laporan Keberlanjutan 2022. Laporan menyajikan informasi perusahaan mengenai kinerja, penerapan tata kelola, pelaksanaan tanggung jawab sosial, laporan keuangan konsolidasian periode 1 Januari sampai 31 Desember 2022, serta informasi lain yang relevan dan signifikan bagi para pemangku kepentingan. Kami, segenap Direksi PT Pertamina Hulu Energi yang bertanda tangan di bawah ini menyatakan bertanggung jawab penuh atas kebenaran isi Laporan Keberlanjutan 2022 PT Pertamina Hulu Energi.

Demikian pernyataan ini dibuat dengan sebenarnya.

In accordance with good corporate governance principles and prevailing Laws in Indonesia, PT Pertamina Hulu Energi publishes the 2022 Sustainability Report. The report presents company's information on the performance, good corporate governance and corporate social responsibility implementation, consolidated financial statement for the period of 1 January until 31 December 2022, as well as other relevant and significant information to our stakeholders. We, the entire Board of Directors of PT Pertamina Hulu Energi who have signed below, hereby state our full responsibility for the validity of the content of PT Pertamina Hulu Energi 2022 Sustainability Report.

This statement is made truthfully.

Persetujuan Direksi Approval of the Board of Directors

SIGNED

Budiman Parhusip

Direktur Utama

President Director

(13 Juni 2020 - 27 September 2022)

(13 June 2020 - 27 September 2022)

SIGNED

Wiko Migantoro

Direktur Utama

President Director

(27 September 2022 – 26 September 2025)

(27 September 2022 – 26 September 2025)

SIGNED

Danar Dojoadhi

Direktur Perencanaan Strategis dan
Pengembangan Bisnis

Director of Strategic Planning and Business
Development

(27 Oktober 2021- 26 Oktober 2024)

(27 October 2021- 26 October 2024)

SIGNED

Awang Lazuardi

Direktur Pengembangan dan Produksi

Director of Development and Production

(27 September 2022 – 26 September 2025)

(27 September 2022 – 26 September 2025)

SIGNED

Oto Gurnita

Direktur SDM dan Penunjang Bisnis
Support
Director of Human Capital and Business

(5 Mei 2021 - 4 Mei 2024)

(5 May 2021 - 4 May 2024)

SIGNED

Medy Kurniawan

Direktur Eksplorasi

Director of Exploration

(13 Juni 2020 - 27 September 2022)

(13 June 2020 - 27 September 2022)

SIGNED

Muharram J. Panguriseng

Direktur Eksplorasi

Director of Exploration

(27 September 2022 – 26 September 2025)

(27 September 2022 – 26 September 2025)

SIGNED

Harry M. Zen

Direktur Keuangan

Director of Finance

(16 Juli 2020 - 15 Juli 2023)

(16 July 2020 - 15 July 2023)



Tentang Perusahaan [POJK51-3]

About the Company

Sekilas Perusahaan [POJK51-3b]

Company Overview

Selama tahun 2022 ada beberapa perubahan signifikan:

[POJK51-3.f]

PT Pertamina (Persero) dan PT Pertamina Pedeve Indonesia selaku pemegang saham PT Pertamina Hulu Energi Subholding Upstream, telah melakukan perubahan susunan Direksi PT Pertamina Hulu Energi, sebagai berikut :

- Mengangkat Wiko Migantoro sebagai Direktur Utama PT Pertamina Hulu Energi (PHE), dan memberhentikan dengan hormat Budiman Parhusip
- Mengangkat Awang Lazuardi sebagai Direktur Pengembangan & Produksi
- Mengangkat Muharram Jaya Panguriseng sebagai Direktur Eksplorasi, dan memberhentikan dengan hormat Medi Kurniawan dari jabatan sebagai Direktur Eksplorasi.

Several significant changes were made throughout 2022:

PT Pertamina (Persero) and PT Pertamina Pedeve Indonesia, as shareholders of PT Pertamina Hulu Energi Subholding Upstream, made changes to the Board of Directors of PT Pertamina Hulu Energi, as follows:

- Appointed Wiko Migantoro as the President Director of PT Pertamina Hulu Energi (PHE) and honorably discharged Budiman Parhusip from the position.
- Appointed Awang Lazuardi as Director of Development & Production.
- Appointed Muharram Jaya Panguriseng as the Director of Exploration and honorably discharged Medi Kurniawan from the position.



Nama Perusahaan [2-1]

Company Name

Sesuai akta: PT Pertamina Hulu Energi (PHE)

As stated in the deed: PT Pertamina Hulu Energi (PHE)

Nama lain: PHE Subholding Upstream PERTAMINA

Other names: PHE Subholding Upstream PERTAMINA

Wilayah Operasi [POJK51-3.c.4][2-1]

Operational Area

Indonesia, Irak, Algeria, Malaysia.



Lokasi dan alamat kantor pusat [2-1]

Head office location and address.

PHE Tower

Jl. TB. Simatupang Kav 99

Jakarta Selatan 12520 Indonesia

Telepon/Telephone : +62 21 2954 7000

Faks/Fax : +62 21 2952 9076

Surel/Email : pcc135@pertamina.com

Situs/Website : phe.pertamina.com

Informasi kantor Anak Perusahaan disampaikan dalam Laporan Tahunan 2022 PT Pertamina Hulu Energi

Information regarding Subsidiary offices is conveyed in the PT Pertamina Hulu Energi 2022 Annual Report.



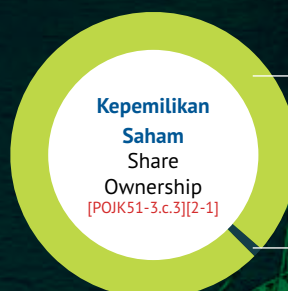
Status Badan Hukum: [2-1]

Legal Entity Status:

Perusahaan Terbatas Terbuka

Limited Liability / Public

Company



PT Pertamina (Persero)

99,9968%

PT Pertamina Pedeve Indonesia

0,0032%



Kegiatan Usaha, Produk dan Jasa [POJK51-3.d][2-6]

Business Activities, Products and Services

Berdasarkan Anggaran Dasar Perusahaan tertanggal 3 November 2022, kegiatan usaha Perusahaan mencakup tanggung jawab dan peran sebagai Subholding Upstream. Pengungkapan informasi lengkap disampaikan dalam Laporan Tahunan 2022.

Perusahaan menjalankan kegiatan usaha yakni mengelola Wilayah Kerja (WK) berdasarkan lima Regional. Sampai akhir tahun 2022, PT PHE memiliki 68 Anak Perusahaan, dan 6 perusahaan joint venture, dengan WK sebagai berikut:

- WK domestik 40, terdiri dari 23 blok operator dan 17 blok nonoperator.
- WK internasional 25, 1 operator, 2 nonoperator yang dikelola pada 3 Negara (meliputi Malaysia, Irak, Algeria), dan penyertaan modal pada 22 lapangan migas mancanegara.

Based on the Company's Articles of Association dated 3 November 2022, the business activities of the Company include responsibilities and roles as Subholding Upstream. Full disclosure of information is provided in the 2022 Annual Report.

The Company's business activities involve managing Work Areas (WK) based on five Regionals. As of the end of 2022, PT PHE had 68 Subsidiaries and 6 joint venture companies, with the following WKs:

- 40 domestic WKs, consisting of 23 operator blocks and 17 non-operator blocks.
- 25 international WKs, consisting of 1 operator and 2 non-operator blocks managed across 3 countries (including Malaysia, Iraq, Algeria), and equity participation in 22 foreign oil and gas fields.

Kegiatan, Rantai Pasok, TKDN, dan Hubungan Bisnis Lain yang Relevan [2-6]

Activities, Supply Chain, TKDN, and Other Relevant Business Relationships

Sepanjang tahun 2022, kami melibatkan 3.880 mitra kerja dalam rantai pasok, bertambah dari tahun 2021 sebanyak 3.467. Dari jumlah tersebut, terdapat 3.572 atau 92,06% pemasok lokal. Jumlah tersebut meningkat 107,31% dari tahun 2021 sebanyak 1.723 perusahaan. Total nilai kontrak pengadaan bagi vendor/pemasok lokal tahun 2022 mencapai USD 3.855,00 juta, atau 86,28% dari total nilai kontrak pengadaan; dan bertambah USD 3.342,74 juta, atau 652,55% dari tahun 2021 sebesar USD 512,26 juta. [POJK51-2]

[POJK51-3] [2-6] [204-1] [11.14.6]

PHE Subholding Upstream berupaya menaikkan tingkat kandungan dalam negeri (TKDN). Pada tahun 2022 realisasi TKDN mencapai 64,56%, terdiri dari TKDN barang dan jasa; lebih tinggi dari target Pemerintah sebesar 57%. Realisasi TKDN pada tahun 2022 meningkat dari tahun 2021 sebesar 58,81%. Selain itu, Perusahaan juga memberikan akses kepada UMKM melalui kegiatan pengadaan barang dan jasa lewat Pasar Digital (PaDi) UMKM Indonesia. Total transaksi melalui PaDi mencapai Rp89,77 miliar, meningkat 703,67% dari tahun 2021 sebesar Rp11,17 miliar. [F.25]

We engaged 3,880 partners throughout the supply chain in 2022, an increase from 3,467 in 2021. Out of this number, there were 3,572 or 92.06% local suppliers. This figure increased by 107.31% from 1,723 companies in 2021. The total procurement contract value for local vendors/suppliers in 2022 reached USD 3,855.00 million, or 86.28% of the total procurement contract value, and increased by USD 3,342.74 million, or 652.55% from USD 512.26 million in 2021.

PHE Subholding Upstream made efforts to increase the domestic component level (TKDN). The TKDN realization rate for goods and services reached 64.56% in 2022, exceeding the Government's target of 57%. Compared to 2021, the TKDN realization in 2022 increased by 58.81%. The TKDN realization in 2022 increased by 58.81% compared to 2021. Additionally, the Company provided access to micro, small, and medium enterprises (MSMEs) through the procurement of goods and services via the Indonesia MSME Digital Market (PaDi). The total transactions through PaDi reached Rp89.77 billion, an increase of 703.67% from 2021's Rp11.17 billion.

Para Pekerja [POJK51-3.c.2] [2-7]

Our Employees

Berdasarkan data administrasi kepegawaian per 31 Desember 2022 yang dikelola Fungsi Human Capital (HC), diketahui total pekerja PHE Subholding Upstream berjumlah 14.198 orang. Mereka terdiri dari 12.328 laki-laki, atau 86,83%; dan 1.870 perempuan, atau 13,17%. Sebanyak 14.155 orang, atau 99,70% pekerja kami ditempatkan di Indonesia, selebihnya tersebar di Algeria, Irak, dan Malaysia. Perusahaan tidak mempekerjakan pekerja paruh waktu dan pekerja borongan (*non-guaranteed hours employees*).

Karyawan Perusahaan seluruhnya merupakan pekerja lokal, yakni mereka yang merupakan Warga Negara Indonesia (WNI). Demikian pula untuk WK internasional, mayoritas pekerja merupakan warga negara setempat yakni Algeria, Irak dan Malaysia. Detail mengenai jumlah pekerja dapat dilihat pada Lampiran di dalam laporan ini. [202-2] [11.4.3]

Kegiatan operasi Perusahaan juga didukung tenaga kerja jasa penunjang (TKJP) dari pihak ketiga, yakni Perusahaan Jasa Penunjang (PJP). Umumnya jenis pekerjaan TKJP adalah pada bagian administrasi. Pada akhir tahun 2022, jumlah TKJP berjumlah 25.311 orang, bertambah 968 orang, atau 3,98% dari tahun 2021 sebanyak 24.343 orang. [2-8]

Based on personnel administration data managed by the Human Capital (HC) Function as of 31 December 2022, there were 14,198 PHE Subholding Upstream employees. They comprised 12,328 males, or 86.83%, and 1,870 females, or 13.17%. A total of 14,155 individuals, or 99.70% of our employees, were located in Indonesia, while the rest were spread across Algeria, Iraq, and Malaysia. The Company did not employ part-time workers and non-guaranteed hours employees.

All of the Company's employees are locals, specifically Indonesian citizens. Similarly, the majority of international WKs are local citizens, primarily in Algeria, Iraq, and Malaysia. Details regarding the total employees can be seen in the Appendix of this Report.

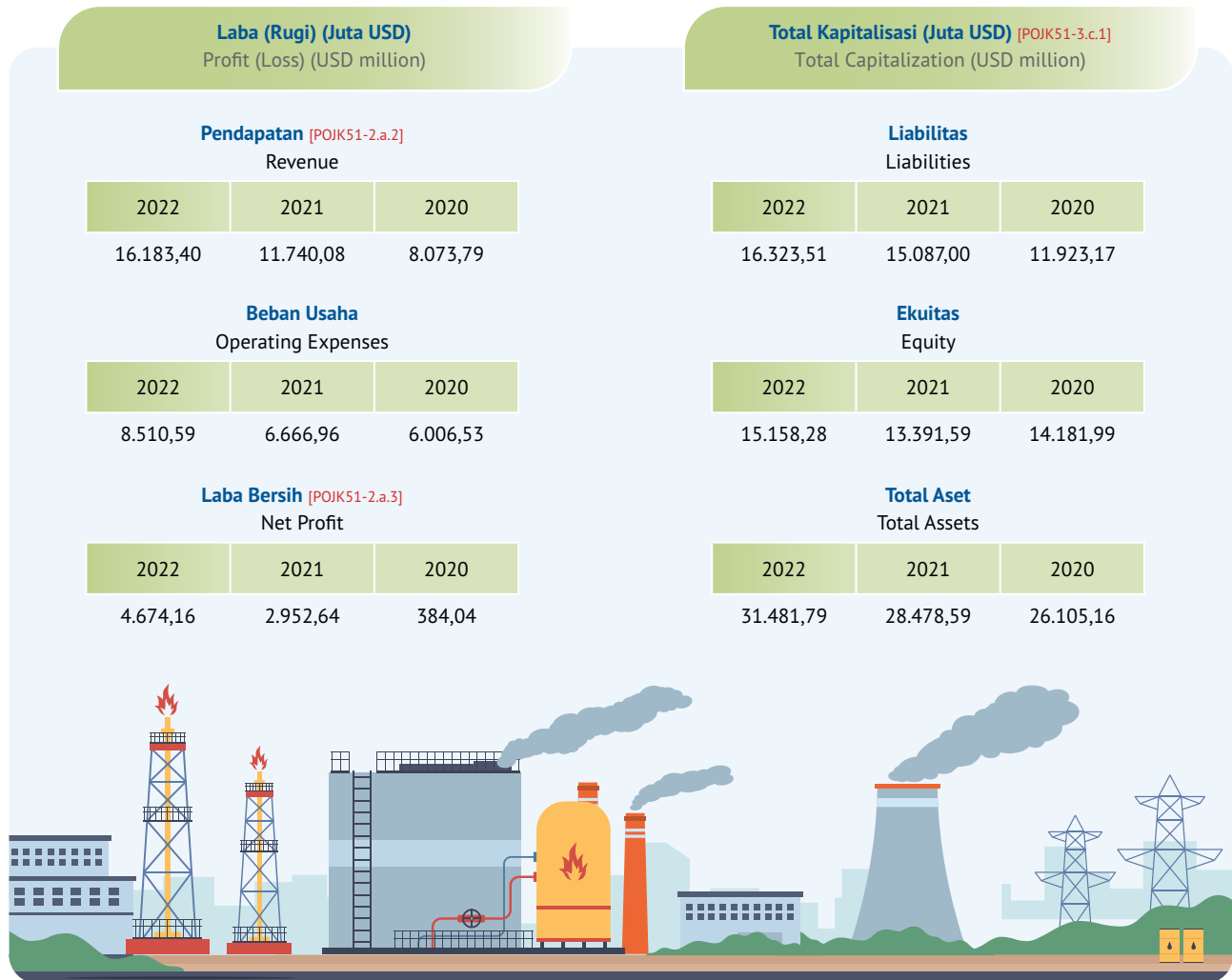
The Company's operational activities are also assisted by support service employees (TKJP) from Support Services Companies (PJP). Typically, the types of work performed by these contract employees are in the administrative area. As of the end of 2022, there were 25,311 TKJP, an increase of 968 people, or 3.98% from the end of 2021, when there were 24,343 TKJP.





Skala Usaha

Organizational Scale



Keterangan | Note:

- Sebagai PHE Subholding Upstream di tahun 2021.
Operates as PHE Subholding Upstream in 2021.
- Penyajian kembali atas perubahan struktur tata kelola dari PHE menjadi PHE Subholding Upstream. Ekuitas grup pada tanggal 31 Desember 2020 dan 1 Januari 2020 disajikan sebagai ekuitas unit bisnis yang menggabungkan diri dalam ekuitas grup sesuai dengan PSAK 38.
Restatement of the governance structure change from PHE to PHE Subholding Upstream. Group equity as of 31 December 2020 and 1 January 2020 is reported as the equity of the merging business units within the group equity, in accordance with PSAK 38.

Penjelasan lengkap mengenai kenaikan skala usaha selama tahun 2022 disampaikan dalam Laporan Tahunan 2022 PT PHE Subholding Upstream.

A comprehensive explanation regarding the increase in organizational scale during 2022 is presented in the 2022 Annual Report of PT PHE Subholding Upstream.

Keanggotaan Prakarsa Internasional dan Asosiasi [POJK51-3.e][2-28]

International Initiatives and Association Membership

PHE Subholding Upstream turut serta dalam keanggotaan prakarsa internasional:

- Anggota dalam UN Global Compact (UNGC) sejak 16 Juni 2022.
- Mendukung kepesertaan PT Pertamina (Persero) sebagai Supporting Company Extractive Industry Transparency Initiatives (EITI)/Inisiatif Transparansi Industri Ekstraktif.

Selain itu PT PHE juga sudah menjadi bagian dari Woman Empowerment Principles (WePs), yakni seperangkat prinsip yang menawarkan panduan untuk kalangan bisnis dalam mendukung pemberdayaan perempuan di lingkungan kerja, pasar, dan masyarakat.

PHE Subholding Upstream participates in international initiative memberships:

- Member of the UN Global Compact (UNGC) since 16 June 2022.
- Supports the participation of PT Pertamina (Persero) as a Supporting Company of the Extractive Industry Transparency Initiatives (EITI).

In addition, PT PHE has also become part of the Women's Empowerment Principles (WePs), a set of principles that offer guidance for businesses in supporting the empowerment of women in the workplace, marketplace, and community.



Penghargaan Eksternal

External Awards

Pada tahun 2022 PHE Subholding Upstream memperoleh berbagai penghargaan dari pihak eksternal, yang kami sajikan pada lampiran laporan ini.

In 2022, PHE Subholding Upstream received several awards from external parties, which are presented in the Appendix of this Report.



Penghargaan dan Apresiasi Tahun 2022
Awards and Appreciations in 2022

12

Penghargaan Subroto
Subroto Award

141

Penghargaan
Awards

34

PROPER
Emas 7 | Hijau 21 | Biru 6
7 Gold | 21 Green | 6 Blue







Harmoni Bersama Pekerja dan Masyarakat
Harmony with Employees and the Community



Tata Kelola Keberlanjutan
Sustainability Governance



BERSAMA MENJAGA LINGKUNGAN

TOGETHER PROTECTING
THE ENVIRONMENT



Sejalan dengan target net zero emission (NZE) Pemerintah pada tahun 2060, PHE Subholding Upstream memiliki strategi dekarbonisasi yang meliputi efisiensi energi, penggunaan low carbon power dan low carbon heat, pengurangan routine emission, serta penerapan teknologi Carbon Capture Utilization & Storage (CCUS) dan Carbon Capture Storage (CCS).

In line with the Government's target of achieving net zero emissions (NZE) by 2060, PHE Subholding Upstream has a decarbonization strategy that includes energy efficiency, the use of low-carbon power and low-carbon heat, reduction of routine emissions, as well as the adoption of Carbon Capture Utilization & Storage (CCUS) and Carbon Capture Storage (CCS) technologies.

Penerapan Kerangka Pelaporan TCFD

Implementation of the TCFD Reporting Framework

PHE Subholding Upstream mendukung upaya penurunan emisi karbon dengan memetakan strategi dan kegiatan menggunakan kerangka pelaporan yang dikeluarkan Task Force on Climate-related Financial Disclosures (TCFD). Upaya ini menjadi bagian dari mitigasi dampak negatif perubahan iklim dan cuaca yang ekstrem.

PHE Subholding Upstream supports efforts to reduce carbon emissions by mapping out its strategies and activities using the reporting framework issued by the Task Force on Climate-related Financial Disclosures (TCFD). These efforts are part of the Company's mitigation measures to address the negative impacts of climate change and extreme weather events.

Kerangka Pelaporan TCFD

TCFD Reporting Framework



Tata Kelola
Governance

PHE membentuk Komite Keberlanjutan sesuai SK Direksi No. Kpts-033/PHE00000/2022-S0. Tugas Komite Keberlanjutan ini di antaranya melakukan program kerja dekarbonisasi CCS ataupun CCUS. Komite Keberlanjutan bertanggung jawab secara langsung kepada Direktur SDM dan Penunjang Bisnis, Direktur Pengembangan dan Produksi, Direktur Keuangan, dan Direktur Perencanaan Strategis dan Pengembangan Bisnis.

PHE has established a Sustainability Committee under Board of Directors Decree No. Kpts-033/PHE00000/2022-S0. The Sustainability Committee is responsible for carrying out decarbonization programs such as CCS or CCUS. It reports directly to the Director of HC and Business Support, Director of Development and Production, Director of Finance, and Director of Strategic Planning and Business Development.



Strategi
Strategy

PHE Subholding Upstream memiliki target penurunan emisi cakupan 1 dan 2 yaitu mencapai NZE di 2060 dengan interim target reduksi emisi sebesar 32% di tahun 2030 sesuai dengan *enhanced* Nationally Determined Contribution (NDC). Upaya pencapaian target tersebut salah satunya melalui strategi dekarbonisasi.

PHE Subholding Upstream has set a target to reduce Scope 1 and 2 emissions, aiming to achieve NZE by 2060 with an interim target of reducing emissions by 32% by 2030, in line with the enhanced Nationally Determined Contribution (NDC). One of the measures taken to achieve this target is through decarbonization strategies.



Manajemen Risiko Risk Management

PHE Subholding Upstream menerapkan ISO 31000:2018 Risk Management – Principles & Guidelines dalam mengelola risiko. Dari beberapa risiko utama yang teridentifikasi, diketahui risiko iklim dapat berdampak pada risiko operasional, yang berlanjut pada risiko iklim. Upaya Perusahaan dalam menurunkan risiko tersebut melalui penyusunan standar dan struktur tata kelola terkait pengelolaan risiko HSSE.

PHE Subholding Upstream implements ISO 31000:2018 Risk Management – Principles & Guidelines in managing risks. Among the identified major risks, climate risks can impact operational risks, which can in turn cause climate risks. The Company's efforts to reduce these risks are through the development of standards and governance structures related to HSSE risk management.



Metrik dan Target Metrics and Targets

Mendukung target *Net Zero Emission* (NZE) Pemerintah dan Persero pada tahun 2060 dan melalui program dekarbonisasi secara bertahap. Penetapan target dekarbonisasi dilakukan setelah Tahun 2022. Pada Tahun 2022 PHE berkontribusi sebesar 341,986.50 Ton CO₂eq.

Supporting the Government's and Company's Net Zero Emissions (NZE) target by 2060 through a gradual decarbonization program. The decarbonization target is set after 2022. PHE contributed 341,986.50 tons CO₂eq to the decarbonization effort in 2022.



Kebijakan dan Target Pengelolaan Lingkungan

Environmental Management Policy and Target

Kebijakan dan Struktur Organisasi Pengelolaan Lingkungan [EM-EP-160a.1]

Environmental Management Policy and Organizational Structure

Pengelolaan lingkungan menjadi tanggung jawab semua fungsi di Subholding Upstream berdasarkan Kebijakan Health, Safety, Security, and Environment (HSSE) yang disusun oleh Fungsi HSSE yang bertanggung jawab terhadap pengelolaan lingkungan dan keselamatan, keamanan, dan kesehatan kerja.

VP HSSE bertanggung jawab kepada Direktur Utama dan dibantu Senior Manager HSSE Performance, Assurance & ERCM; Senior Manager Safety; Manager Health; Manager Security; Manager Environment; serta Ast. Manager Planning, Management System & Risk Management.

Environmental management is the responsibility of all functions at Subholding Upstream, in accordance with the Health, Safety, Security, and Environment (HSSE) Policy developed by the HSSE Function. This policy serves as a means of upholding the Company's responsibility for environmental management and occupational health, safety, and security.

The VP of HSSE reports to the President Director and is assisted by the Senior Manager of HSSE Performance, Assurance, and ERCM; the Senior Manager of Safety; the Health Manager; the Security Manager; the Environment Manager; and the Asst. Manager of Planning, Management System, and Risk Management.

Standardisasi sistem dan evaluasi dilakukan Fungsi HSSE PHE sebagai Subholding Upstream, sedangkan pelaksanaan dilakukan HSSE di Regional maupun Anak Perusahaan pada wilayah kerja masing-masing dengan menerapkan standardisasi internasional (ISO). Sebanyak 95% Wilayah Kerja PHE Subholding Upstream memiliki ISO 14001:2015.

The standardization of systems and evaluations is conducted by the PHE HSSE Function as Subholding Upstream, while HSSE in Regionals and Subsidiaries implements it in their respective Work Areas by applying international standards (ISO). As many as 95% of PHE Subholding Upstream's Work Areas have implemented the ISO 14001:2015 standard.



Penerapan Standardisasi Internasional oleh WK dan AP Services PHE Subholding Upstream Tahun 2022

Implementation of International Standards by WKs and AP Services of PHE Subholding Upstream in 2022

ISO 14001:2015 Sistem Manajemen Lingkungan Environmental Management System ISO 14001:2015	38
ISO 50001:2018 Sistem Manajemen Energi Energy Management System ISO 50001:2018	10
ISO 45001:2018 Sistem Kesehatan dan Keselamatan Kerja Occupational Health And Safety System ISO 45001:2018	(kinerja) (performance)





Biaya Pengelolaan Lingkungan dan Pencapaian PROPER

Environmental Management Costs and PROPER Achievement

Sepanjang tahun 2022 PHE Subholding Upstream mengelola lingkungan dengan biaya sebesar Rp 872,71 miliar (belum termasuk regional 2 dan AP Services). Biaya ini digunakan untuk mengurangi emisi, mengelola limbah, dan menjaga keanekaragaman hayati.

Throughout 2022, PHE Subholding Upstream managed the environment at a cost of Rp 872.71 billion (excluding Regional 2 and AP Services). This budget was allocated towards reducing emissions, managing waste, and preserving biodiversity.



Biaya Pengelolaan Lingkungan (Rp Miliar)
Environmental Management Cost (Rp Billion)

1.076,26
Tahun 2022
In 2022

888,23
Tahun 2021
In 2021

1.193,85
Tahun 2020
In 2020

Komitmen Perusahaan mengelola lingkungan dengan sebaik-baiknya mendapatkan apresiasi PROPER Emas di tahun 2022 dari Kementerian Lingkungan Hidup dan Kehutanan (KLHK). Penghargaan diberikan kepada tujuh Anak Perusahaan PHE Subholding Upstream termasuk PT Badak NGL. Terdapat dua anak perusahaan yang melakukan integrasi penilaian PROPER dari sembilan wilayah kerja menjadi dua wilayah kerja, yakni PT Pertamina Hulu Mahakam (dari 5 wilayah kerja menjadi 1 wilayah kerja) dan PT Pertamina Hulu Sanga Sanga (dari 4 wilayah kerja menjadi satu wilayah kerja).

In 2022, the Ministry of Environment and Forestry (KLHK) presented the Company with the Gold PROPER award for its commitment to managing the environment with the utmost care. The award was given to seven PHE Subholding Upstream Subsidiaries, including PT Badak NGL. Two subsidiaries integrated the PROPER assessment of nine work areas into two work areas, namely PT Pertamina Hulu Mahakam (from 5 work areas to 1 work area) and PT Pertamina Hulu Sanga Sanga (from 4 work areas to 1 work area).

Perolehan PROPER PHE Subholding Upstream

PROPER Achievement of PHE Subholding Upstream

PROPER Emas Gold PROPER

2022	2021	2020
7	9	7

PROPER Hijau Green PROPER

2022	2021	2020
21	24	19

PROPER Biru Blue PROPER

2022	2021	2020
6	7	11

PT Pertamina Hulu Kalimantan Timur Daerah Operasi Bagian Selatan (DOBS) PT Pertamina Hulu Kalimantan Timur of the Southern Operating Area (DOBS)





Turut Serta Mengatasi Perubahan Iklim

Participating in Addressing Climate Change

PHE Subholding Upstream mempunyai strategi dekarbonisasi sebagai bentuk kontribusi kepada Pemerintah untuk mencapai *net zero emission* (NZE). Strategi dekarbonisasi meliputi pengembangan gas sebagai energi rendah emisi, efisiensi penggunaan energi, pergantian penggunaan bahan bakar ke bahan bakar yang rendah emisi, CCUS dan CCS Hub.

PHE Subholding Upstream has a decarbonization strategy to support the government in achieving net zero emissions (NZE). The decarbonization strategy includes the development of gas as a low-emission energy source, the efficient use of energy, the substitution of high-emission fuels with low-emission fuels, CCUS, and CCS Hub.

Pengendalian Emisi GRK [CCE-4][EM-EP-110a.1]

Controlling GHG Emissions

Perhitungan emisi mengacu pada International GHG Standard Protocol, dan menggunakan *control approach*. Penghitungan hanya dilakukan untuk emisi dari cadangan yang sudah dieksploitasi maupun yang terproduksi, meliputi sumber emisi tidak bergerak dan sumber emisi bergerak. Pengukuran Cakupan 1 berasal dari produksi migas dan konsumsi bahan bakar, sedangkan Cakupan 2 berasal dari pemakaian listrik dari pihak ketiga pada seluruh Anak Perusahaan. Metode perhitungan: *Tier 1*, *Tier 2* (2a dan 2B), *Tier 3* (3b), dan *Tier 4*. Parameter pengukuran dan perhitungan mengacu pada Standar Pertamina Nomor PS-S-017-100-2021 perihal Penghitungan Emisi sesuai PermenLH No. 12 tahun 2012 tentang Pedoman Penghitungan Beban Emisi Kegiatan Industri Minyak dan Gas Bumi yang dinyatakan dalam ton CO₂eq. [305-1][305-2][EM-EP-420a.2][OGSS-11.2.2][OGSS-11.1.5][OGSS-11.1.6]

Emissions calculation refers to the International GHG Standard Protocol and utilizes the control approach. The calculation is only done for emissions from exploited and produced reserves, including stationary and mobile emission sources. Scope 1 measurement comes from oil and gas production and fuel consumption, while Scope 2 measurement comes from third-party electricity use at all Subsidiaries. The calculation method used is Tier 1, Tier 2 (2a and 2B), Tier 3 (3b), and Tier 4. Measurement and calculation parameters refer to Pertamina Standard No. PS-S-017-100-2021 on Emission Calculation according to Ministerial Regulation No. 12 of 2012 concerning Guidelines for Calculating Emission Loads from Oil and Gas Industry Activities, expressed in tons CO₂eq.

Selama tahun 2022 PHE Subholding Upstream telah menjalankan dan mempresentasikan *cost benefit analysis* (CBA) dalam kegiatan reduksi emisi GRK. Namun program tersebut masih memerlukan kajian lebih lanjut, sejalan dengan langkah awal yang baru direpresentasikan di beberapa WK. [EM-EP-420a.4]

Throughout 2022, PHE Subholding Upstream conducted and presented a cost-benefit analysis (CBA) in its greenhouse gas (GHG) emissions reduction activities. However, the program still requires further study, in line with preliminary steps that have been recently presented in some WK.

Emisi karbon biogenik sudah masuk di dalam cakupan perhitungan emisi GRK yang berasal dari kegiatan pembakaran dalam dan luar, suar bakar, *fugitive*, kegiatan proses produksi dan proses pengolahan limbah cair. Berdasarkan pengukuran dan perhitungan selama tahun

Biogenic carbon emissions have been included in the calculation of GHG emissions from internal and external combustion activities, exhaust fumes, fugitive emissions, production processes, and wastewater treatment processes. Based on measurements and calculations in 2022, the



2022, volume penggunaan emisi GRK cakupan 1 dan cakupan 2 mencapai 13.859.710,01 ton CO₂eq dengan penurunan emisi GRK sebesar 341.986,50 ton CO₂eq terhadap *business as usual* (BAU) *scenario*. Kami belum melakukan penghitungan emisi GRK dari cakupan 3 yang berasal dari kegiatan rantai pasok. Meningkatnya emisi rata-rata di tahun 2022 disebabkan oleh penambahan perhitungan emisi yang dihasilkan dari beberapa Anak Perusahaan yang belum terhitung pada periode pelaporan 2021. Pada tahun 2021, terdapat perubahan angka realisasi total emisi GRK menjadi 10.056.784 ton CO₂eq sebagai hasil penyesuaian perhitungan emisi cakupan 2 dari beberapa Anak Perusahaan. [305-1][305-2][305-3][OGSS 11-11.1.7]

Intensitas Emisi GRK

Penghitungan intensitas emisi GRK dinyatakan sebagai setara karbon (CO₂eq) sesuai total emisi GRK cakupan 1 dan cakupan 2, termasuk di dalamnya penghitungan CH₄ dan N₂O. Metode penghitungan mengacu pada Standar Pertamina Nomor PS-S-017-100-2021 perihal Penghitungan Emisi yang juga mengacu pada Permen LH No. 12 tahun 2012 tentang Pedoman Penghitungan Beban Emisi Kegiatan Industri Minyak dan Gas Bumi yang dinyatakan dalam ton CO₂eq/BOE. [305-4][OGSS-11.1.8]

volume of GHG emissions from scope 1 and scope 2 activities reached 13,859,710.01 tons CO₂eq, with a decrease of 341,986.50 tons CO₂eq compared to the business as usual (BAU) scenario. The calculation of GHG emissions from scope 3 activities, which come from the supply chain, has not been performed yet. The increase in average emissions in 2022 was caused by the addition of emissions calculations generated from several subsidiaries that were not included in the 2021 reporting period. In 2021, there was a change in the total realized emissions to 10,056,784 tons CO₂eq as a result of adjusting the scope 2 emissions calculations from several Subsidiaries.

GHG Emissions Intensity

The calculation of GHG emissions intensity is expressed as carbon equivalent (CO₂eq) based on the total scope 1 and scope 2 GHG emissions, including CH₄ and N₂O calculations. The calculation method refers to the Pertamina Standard Number PS-S-017-100-2021 regarding Emission Calculation, which also refers to the Minister of Environment and Forestry Regulation No. 12 of 2012 concerning Guidelines for Calculating Emission Loads of Oil and Gas Industry Activities expressed in tons CO₂eq/BOE.

Intensitas Emisi GRK

GHG Emissions Intensity



Total Produksi Migas (BOE)*

Total Oil and Gas Production (BOE)

2022

282.326.988,99

2021

252.112.906



Total Emisi GRK (Ton CO₂eq)**

Total GHG Emissions (Ton CO₂eq)

2022

13.859.710,01

2021

10.056.784,08



Intensitas Emisi GRK (Ton CO₂eq/BOE)

GHG Emissions Intensity (Ton CO₂eq/BOE)

2022***

0,0394

2021****

0,0399

* Untuk menghitung intensitas emisi PHE menggunakan pendekatan operational control approach sehingga total produksi yang digunakan adalah total produksi dari perusahaan yang berada pada *organization boundary operational control approach*.

To calculate the emission intensity, PHE use the operational control approach hence the total production used is the total production of companies that are within the organization boundary of the operational control approach.

** Total Emisi GRK merupakan total emisi *Scope 1* dan *Scope 2* termasuk PT Badak NGL.
Total GHG emissions are the total emissions of Scope 1 and Scope 2 including PT Badak NGL.

*** Tanpa Badak NGL
Exclude Badak NGL

**** Intensitas emisi 2021 sebesar 0.0399 melingkupi PT Badak NGL
The 2021 emission intensity of 0.0399 includes PT Badak NGL

• Total Emisi PT Badak NGL 2021: 648.941 Ton CO₂ Eq (Dihitung secara prorata sejak PT Badak LNG bergabung dengan Subholding Upstream)
Emission total of Badak NGL in 2021: 648.941 Ton CO₂ Eq (Count as prorata since Badak NGL joined the Subholding Upstream)

• Total Emisi PT Badak NGL 2022: 2.728.536,85 Ton CO₂ Eq (*full year*)
Emission Total Badak NGL in 2022: 2.728.536,85 Ton CO₂ Eq (*full year*)

• Intensitas emisi 2021 sebesar 0,0399 melingkupi termasuk PT Badak NGL
The 2021 emission intensity of 0.0399 includes PT Badak NGL

• Tanpa Badak NGL, intensitas emisi 2021 mencapai 0,0373 Ton CO₂eq/BOE
Without Badak NGL, the 2021 emission intensity will reach 0.0373 Ton CO₂eq/BOE

• Pada Tahun 2022 perhitungan intensitas emisi dilakukan tanpa Badak karena angka produksi Badak tidak dikonversikan menjadi BOE. Apabila memperhitungkan Emisi dari Badak, Intensitas Emisi 2022 akan menjadi 0.049 TonCO₂Eq/BOE
In 2022 the emission intensity calculation will be carried out without PT Badak NGL because PT Badak NGL's production figures are not converted to BOE. If taking into account the Emissions from PT Badak NGL, the 2022 Emission Intensity will be 0.049 TonCO₂Eq/BOE

Reduksi Emisi GRK [OGSS-11.2.3][EM-EP-110a.3]

Upaya yang dilakukan untuk mengurangi emisi karbon dan capaian selama tahun 2022, di antaranya:

1. Injeksi CO₂ Dalam Penerapan CCUS

Injeksi perdana CO₂ ke Sumur JTB-161 di Lapangan Jatibarang pada 27 Oktober 2022, sebagai tahap awal penerapan CO₂-EOR dan CCS/CCUS di lapangan migas. Injeksi CO₂ dilaksanakan tanggal 25 hingga 29 Oktober 2022 menggunakan metode huff & puff. Upaya injeksi CO₂ ke dalam sumur migas ini merupakan pertama kali dilakukan di lapangan migas di Indonesia. Injeksi CO₂ dalam penerapan CCUS merupakan akselerasi untuk mendukung target produksi migas nasional 1 juta barel dan 12 BSCFD tahun 2030, serta Net Zero Emission (NZE) tahun 2060.

2. Pengendalian dan Pemanfaatan Gas Suar/Flaring [CCE-7][EM-EP-110a.3]

PHE Subholding Upstream berupaya mengurangi pembakaran gas suar dengan melakukan inovasi pemanfaatan dan pengurangan emisi GRK, mengacu pada ketentuan Peraturan Menteri ESDM Nomor 17 Tahun 2021 tentang Pelaksanaan Pengelolaan Gas Suar pada Kegiatan Usaha Minyak dan Gas Bumi; serta Kebijakan Zero Routine Flaring 2030.

GHG Emissions Reduction

Efforts to reduce carbon emissions and our achievements in 2022 include:

1. CO₂ Injection in CCUS Implementation

The first CO₂ injection into Well JTB-161 at Jatibarang Field occurred on 27 October 2022 as the first step in the implementation of CO₂-EOR and CCS/CCUS at the oil and gas field. From 25 to 29 October 2022, CO₂ was injected using the huff and puff method. The attempt to inject CO₂ into an oil well was the first of its kind in an Indonesian oil and gas field. CO₂ injection during the implementation of CCUS is an acceleration designed to support the national oil production goal of 1 million barrels and 12 BSCFD in 2030, as well as Net Zero Emission (NZE) in 2060.

2. Flaring Control and Utilization [CCE-7][EM-EP-110a.3]

PHE Subholding Upstream strives to reduce gas flaring by innovating the utilization and reduction of GHG emissions in accordance with the provisions of Minister of Energy and Mineral Resources Regulation No. 17 of 2021 concerning the Implementation of Gas Flaring Management in Oil and Gas Business Activities; and the Zero Routine Flaring 2030 Policy.



Upaya Tahun 2022 dan Pencapaian

Efforts and Achievements in 2022

1 Regional 1 SUMATERA

Monetisasi gas flaring struktur SOPA Pendopo Field untuk fuel gas GEG dengan relokasi well head kompresor dari PHSS ke SPU SOPA dan kompresor dari SPU Dewa ke SKG 12 Benuang untuk menurunkan flare gas

Monetization of the gas flaring structure of the SOPA Pendopo Field for GEG fuel gas by relocating the compressor well head from PHSS to SPU SOPA and the compressor from SPU Dewa to SKG 12 Benuang to reduce gas flares

2 Regional 2 JAWA | JAVA

Ejector Mounting di PHE ONWJ
Ejector Mounting at PHE ONWJ

3 Regional 3 KALIMANTAN

Optimasi sistem pembakaran gas pada unit flare CPU 1 di Pertamina Hulu Mahakam
Optimization of the gas combustion system in the CPU 1 flare unit at Pertamina Hulu Mahakam

4 Regional 4 INDONESIA TIMUR | EAST INDONESIA

Program Inovasi Black Smoke Eraser (Teknologi steam assist turunan opasitas dengan cara menginjeksikan steam atomizing ke ujung flare tip sehingga dapat membantu proses pembakaran di flare menjadi lebih sempurna) di JOB Tomori
Black Smoke Eraser Innovation Program (Steam assist technology to reduce opacity by injecting steam atomizing into the flare tip to improve the combustion process in the flare) at JOB Tomori

5 Regional 5 INTERNASIONAL | INTERNATIONAL

Sudah tidak memiliki routine flaring
Zero routine flaring



3. *Blue Carbon Initiative*

PT Pertamina Hulu Mahakam (PHM) dan Pertamina Foundation menandatangani perjanjian kerja sama tentang *Blue Carbon Initiative* di Areal Persetujuan Penggunaan Kawasan Hutan Blok Mahakam pada Kawasan Hutan Produksi Tetap. Penandatanganan PKS ini merupakan bentuk sinergi di lingkungan PERTAMINA Group untuk melakukan konservasi dan rehabilitasi Delta Mahakam sebagai upaya mendukung program PERTAMINA mewujudkan *Net Zero Emission*. Kerja sama yang dilaksanakan berupa penyediaan lahan untuk konservasi hutan mangrove seluas 8.000 ha dan rehabilitasi seluas 1.000 ha dalam waktu lima tahun, dengan estimasi pengurangan emisi gas rumah kaca sebesar 470 ribu ton CO₂ selama 10 tahun. Selain penyerapan karbon, kerja sama juga mencakup konservasi keanekaragaman hayati, seperti hewan endemik Kalimantan Bekantan, peningkatan energi bersih melalui Desa Energi dan air bersih melalui peningkatan infrastruktur. Delta Mahakam merupakan delta terbesar di Indonesia yang didominasi oleh ekosistem mangrove dengan cakupan luasan 13.553 ha dari total 150.000 ha. Namun, kondisinya mengalami deforestasi hingga 50% sehingga perlu langkah penyelamatan.

Inisiatif lain adalah Program Hutan Pertamina yang merupakan program PT Pertamina (Persero) dengan PHE Subholding Upstream sebagai salah satu pelaksananya. Lokasi kegiatan mencakup area seluas 2.000 Ha di wilayah operasi Badak LNG di Kota Bontang, Kalimantan Timur. Pada lokasi tersebut akan ditanami 400.000 bibit mangrove jenis *Avicennia*, *Rhizophora*, dan *Sonneratia*. Sampai dengan akhir tahun 2022 realisasi penanaman mencapai 398.415 bibit dengan luasan lebih dari 21.5 hektar. Pelaksanaan Program Hutan Pertamina Badak LNG diestimasi mampu mereduksi 202.872 Ton CO₂eq selama sepuluh tahun.

4. Pemanfaatan Material Ramah Lingkungan

PHE Subholding Upstream terus melanjutkan pemanfaatan material dan juga teknologi ramah lingkungan pada beberapa kegiatan yang dijalankan Anak Perusahaan:

3. Blue Carbon Initiative

PT Pertamina Hulu Mahakam (PHM) and Pertamina Foundation have signed a memorandum of understanding on the Blue Carbon Initiative within the Forest Use Agreement Area of the Mahakam Block in the Permanent Production Forest Area. The signing of this MoU represents a synergistic effort within the PERTAMINA Group to conserve and rehabilitate the Mahakam Delta as part of PERTAMINA's Net Zero Emissions program. The collaboration involves land provision for mangrove forest conservation covering an area of 8,000 ha and rehabilitation of an additional 1,000 ha over a period of five years, with an estimated reduction in greenhouse gas emissions of 470,000 tons CO₂ over a period of 10 years. In addition to carbon absorption, the collaboration also includes biodiversity conservation, such as the endemic Kalimantan Bekantan animal, clean energy enhancement through the Desa Energi program, and clean water provision through infrastructure improvement. The Mahakam Delta is Indonesia's largest delta, dominated by a mangrove ecosystem covering an area of 13,553 ha out of a total of 150,000 ha. However, it has experienced deforestation up to 50%, thus necessitating conservation efforts.

Another initiative is the Pertamina Badak LNG Forest Program, initiated by PT Pertamina (Persero) in which PHE Subholding Upstream is one of executors. The program's activities cover an area of 2,000 ha within the operational area of Badak LNG in the city of Bontang, East Kalimantan. In that location, 400,000 mangrove seedlings of the *Avicennia*, *Rhizophora*, and *Sonneratia* species will be planted. As of the end of 2022, the planting realization had reached 398,415 seedlings, covering an area of more than 21.5 ha. The implementation of the Pertamina Badak LNG Forest Program is estimated to reduce 202,872 tons CO₂eq emissions over a period of ten years.

4. Use of Environmentally Friendly Materials

PHE Subholding Upstream continues to utilize environmentally friendly materials and technologies in several activities carried out by its Subsidiaries:

- PT Pertamina Hulu Mahakam (PHM) yang termasuk dalam Zona 8 Regional Kalimantan Subholding Upstream memanfaatkan bahan bakar gas (*liquified natural gas*/LNG) dalam konversi mesin diesel di kapal kru menjadi *dual diesel fuel* (DDF). Dengan pemanfaatan LNG maka akan emisi karbon dari pemakaian bahan bakar fosil dapat dikurangi. Konversi ini juga berpotensi mengurangi ketergantungan bahan bakar diesel sebesar 6,020 kiloliter solar per tahun untuk 10 kapal kru, dengan potensi pengurangan biaya sebesar USD4,1 juta.
- PT Badak NGL memanfaatkan limbah aluminium dan polyurethane hasil pengolahan perusahaan sebagai bahan baku pakai ulang untuk pembuatan ingot, baling-baling & anoda, *cool box*, maupun kapal *polyurethane*. Dengan pemanfaatan berbagai limbah ini sebanyak 1.737,6 kg limbah non B3 aluminium dan 171 kg limbah non B3 polyurethane dapat dimanfaatkan kembali menjadi produk handal tepat guna, serta menciptakan pasar dan bisnis model baru. Selain itu pengolahan limbah tepat guna ini mereduksi 210 ton CO₂eq.
- PT Pertamina Hulu Mahakam (PHM), which is part of Zone 8 in the Kalimantan Regional of Subholding Upstream, utilizes liquified natural gas (LNG) as a fuel in converting diesel engines on crew boats to dual diesel fuel (DDF). The use of LNG can reduce carbon emissions from the use of fossil fuels. This conversion also has the potential to reduce diesel fuel dependency by 6,020 kiloliters of solar per year for 10 crew boats, with a potential cost reduction of USD4.1 million.
- PT Badak NGL utilizes aluminum and polyurethane waste generated from its processing activities as raw materials for recycling to produce ingots, propellers & anodes, cool boxes, and polyurethane boats. By utilizing various wastes, 1,737.6 kg of non-hazardous aluminum waste and 171 kg of non-hazardous polyurethane waste can be reused to create reliable and useful products, as well as creating new markets and business models. Additionally, this proper waste processing reduces 210 tons CO₂eq per year.

Pengelolaan dan Efisiensi Energi [POJK51-6.d.3]

Energy Management and Efficiency

Perhitungan konsumsi energi mencakup volume pemakaian energi di dalam Perusahaan yang berasal dari pemakaian bahan bakar, termasuk energi tidak terbarukan dan gas alam cair (*liquefied natural gas* atau LNG) yang termasuk energi baru terbarukan (EBT), serta pasokan listrik dari PLN. Perhitungan konsumsi energi diperoleh dari volume pemakaian bahan bakar, LNG dan listrik yang dikonversi ke dalam satuan energi: GigaJoule (GJ) sesuai konversi International Energy Agency (IEA). Kami belum menghitung konsumsi energi di luar Perusahaan, termasuk oleh kontraktor/vendor/pemasok. Total konsumsi energi tahun 2022 mencapai 138.662.096,63 GJ, naik 45.781.935,05 GJ atau 49% dari tahun 2021 sebesar 92.880.161,58 GJ. [OGSS-11.1.2][302-1] [302-2]

The energy consumption calculation includes the energy usage volume within the Company, which comes from the use of fuel, including non-renewable energy; and liquefied natural gas (LNG), which is classified as a new and renewable energy source; as well as the supply of electricity from PLN. The energy consumption calculation is obtained from the volume of fuel, LNG, and electricity usage, which are converted into Gigajoules (GJ) in accordance with the International Energy Agency (IEA) conversion rate. Energy consumption outside the Company, including that by contractors/vendors/suppliers, has not been taken into account. The total energy consumption in 2022 reached 138,662,096.63 GJ, an increase of 45,781,935.05 GJ or 49% from 2021, which was 92,880,161.58 GJ.



Volume Pemakaian Energi PHE Subholding Upstream (GJ)
PHE Subholding Upstream Energy Consumption Volume (GJ)



Pemakaian Bahan Bakar Tidak Terbarukan
Non-Renewable Fuel Consumption

2022

125.314.126,58

2021	2020
85.508.355,85	32.161.832,91



Pemakaian Bahan Bakar Terbarukan
Renewable Fuel Consumption

2022

4.719.876,23

2021	2020
2.625.017,73	1.957.253,33



Pemakaian Listrik dari PLN
Electricity Consumption from PLN

2022

8.642.918,82

2021	2020
4.746.788,00	110.226,69



Total Pemakaian Energi
Total Energy Consumption

2022

138.662.096,63

2021	2020
92.880.160,58	34.229.312,93

Total produksi migas PHE Subholding Upstream tahun 2022 mencapai 2.158.544,24 juta GJ, berdasarkan konversi 1 BOE setara dengan 6.112,728 GJ. Jumlah tersebut meningkat 7,90% dari tahun 2021 sebesar 2.000.547,45 juta GJ. Produksi migas dijual kepada PT Pertamina (Persero) dan/atau afiliasinya, serta pelanggan lain di dalam maupun luar negeri. PHE Subholding Upstream sudah mengidentifikasi cadangan terbukti dan belum terbukti, mengikuti standar internasional perhitungan cadangan, yaitu Petroleum Resources Management System (PRMS). Laporan ini tidak menyampaikan informasi mengenai cadangan, termasuk persentase cadangan terbukti dan cadangan terkira yang dekat, atau berada di wilayah hutan konservasi/hutan lindung/habitat spesies dilindungi, area konflik, dan wilayah masyarakat adat, mengingat informasi tersebut tidak diperuntukkan bagi keperluan publik.

[302-1][EM-EP-420a.1][EM-EP-160a.3] [EM-EP-210a.1] [EM-EP-210a.2]

Based on a conversion rate of 1 BOE to 6,112.728 GJ, total oil and gas production from PHE Subholding Upstream in 2022 was 2,158,544.24 billion GJ. This amount increased by 7.90% from 2021, which was 2,000,547.45 billion GJ. The oil and gas produced are sold to PT Pertamina (Persero) and/or its affiliates, as well as other domestic and international customers. PHE Subholding Upstream identified proven and unproven reserves in accordance with the international Petroleum Resources Management System (PRMS) standard. This Report does not include information on reserves, such as the percentage of proven reserves, possible reserves in close proximity, or reserves located in conservation forests/protected forests/habitat of protected species, conflict areas, and indigenous people's territories, as such data is not intended for public use.

Volume total pemakaian energi di dalam perusahaan [302-1][CCE-6 C1]

Total Energy Consumption Volume within the Company



Tak Terbarukan

Non-Renewable

2022	125.314.126,58	90,37 %
2021	85.508.355,85	93,06 %
2020	32.161.832,91	93,96 %



Energi Baru Terbarukan (Biodiesel & Solar Cell)

Renewable (Biodiesel & Solar Cell)

2022	4.719.876,23	3,40 %
2021	2.625.017,73	2,83 %
2020	1.957.253,33	5,72 %



Listrik PT PLN (Persero)

PT PLN (Persero) Electricity

2022	8.642.918,82	6,23 %
2021	4.746.788,00	5,11 %
2020	110.226,69	0,32 %

Jumlah

Total

2022	2021	2020
138.662.096,63	92.880.161,58	34.229.312,93

Catatan | Note:

- Cakupan data tahun 2020 adalah PHE sebelum menjadi Subholding Upstream
The data coverage for 2020 is PHE before becoming Subholding Upstream
- Cakupan data tahun 2021 dan 2022 setelah menjadi PHE Subholding Upstream
2021 and 2022 data after becoming PHE as Subholding Upstream

Pengungkapan informasi besaran intensitas energi dalam Laporan ini mencakup pada kegiatan produksi migas. Laporan ini tidak menyertakan penghitungan intensitas energi dari Anak Perusahaan Services, serta penghitungan dari penggunaan energi di luar Perusahaan.

Intensitas energi dihitung sebagai energi yang dibutuhkan per GJ untuk produksi migas per *barrel oil equivalent* (BOE). Nilai Intensitas Energi tahun 2022 mencapai 45.647.094,51 MWh atau 164.329.527 GJ/BOE. [302-3][OGSS-11.1.4]

The information disclosure on energy intensity in this rReport pertains to oil and gas production activities. The Report does not include energy intensity calculations from Subsidiary Services (AP Services), as well as energy use outside of the Company.

Energy intensity is calculated as the energy required per GJ for oil and gas production per barrel of oil equivalent (BOE). The Energy Intensity value for the 2022 totaled 45,647,094.51 MWh or 164.329.527 GJ/BOE.

Hasil Pengukuran Intensitas Energi (GJ/BOE)

Energy Intensity Measurement Results (GJ/BOE)



2022

0,46

2021	2020
0,39*	0,44**

Keterangan / Note:

- Data tahun 2021 sudah mencakup Regional 1-5, Elnusa, dan WK Rokan (Agustus-Desember), PT Badak NGL (Oktober-Desember)
Data for 2021 already includes Regionals 1-5, Elnusa, and the Rokan WK (August-December), PT Badak NGL (October-December)
- Data Tahun 2020 adalah untuk Wilayah Kerja PHE sebelum pembentukan Subholding Upstream
Data for 2020 were for the PHE Work Area before the establishment of Subholding Upstream



Reduksi dan Efisiensi Konsumsi Energi

Secara keseluruhan pada tahun 2022 pencapaian penghematan energi di seluruh WK PHE Subholding Upstream mencapai 29.524.268,66 GJ. Perhitungan efisiensi energi mencakup setiap regional dengan basis periode satu tahun, berdasarkan selisih antara jumlah energi terpakai aktual dengan program penghematan energi, dibandingkan estimasi energi terpakai tanpa program penghematan energi. Penghitungan belum dipilah untuk produk atau jasa tertentu. [302-4] [302-5]

Energy Consumption Reduction and Efficiency

Overall, in 2022, energy savings achievements across PHE Subholding Upstream's entire WKs reached 29,524,268.66 GJ. Energy efficiency calculations include each Regional on a yearly basis, based on the difference between actual energy usage and energy-saving programs, compared to estimated energy usage without energy-saving programs. The calculations have not been separated for specific products or services.

Upaya efisiensi energi yang dilakukan oleh PHE Subholding Upstream dan pencapaiannya selama tahun 2022, di antaranya: [CCE-6 C2]

- Optimasi Treatment Sumur Injeksi Migas melalui Inovasi Auto-Suction Chemical Pump PT Pertamina EP Region 2 Zona 7 Field Subang. Inovasi ini telah memberikan penghematan energi sebesar 1.304,3 GJ.
- Konversi Gas Buang H₂S untuk Menghasilkan Listrik di dalam WSA Plant JOB Pertamina-Medco E&P Tomori Sulawesi dimana penghematan energi bagi pengguna energi terbesar dalam kurun waktu tahun 2018-2020 telah berhasil diturunkan rata-rata 25,4% dari baseline atau kumulatif sebesar 1347261 MMBTU setara dengan penghematan biaya sebesar USD6.022.258.
- Efisiensi Energi pada *Gas Engine Generator* (GEG) *Power Plant* Talang Jimar menggunakan metoda *Re-Engineering Breather Line* PT Pertamina Hulu Rokan Zona 4 Prabumulih Field. Penurunan *ambient temperature* terbukti efektif mampu mengurangi penggunaan *fuel gas consumption* pada GEG dan berdampak pada penghematan energi sebesar 0,16 MMSCFD atau setara dengan 93.667,86 GJ/Tahun, penurunan beban pencemaran udara sebesar 3.794,9 CO₂eq/tahun dan penurunan timbunan Limbah B3 sebesar 2.616 ton. Secara keseluruhan perusahaan mampu melakukan penghematan sebesar Rp5,24 miliar.

Efforts to improve energy efficiency conducted by PHE Subholding Upstream and its achievements in 2022 include:

- Optimization of Oil Injection Well Treatment through the Auto-Suction Chemical Pump Innovation by PT Pertamina EP Region 2 Zona 7 Field Subang. This innovation has resulted in energy savings of 1,304.3 GJ.
- Conversion of H₂S Flue Gas to Generate Electricity within the WSA Plant of JOB Pertamina-Medco E&P Tomori Sulawesi, where energy savings for the largest energy user within the period of 2018-2020 have successfully been reduced by an average of 25.4% from the baseline or cumulatively by 1,347,261 MMBTU, equivalent to cost savings of USD6,022,258.
- Energy efficiency in the Gas Engine Generator (GEG) of Talang Jimar Power Plant, using the Re-Engineering Breather Line method by PT Pertamina Hulu Rokan Zone 4 Prabumulih Field. The proven effective decrease in ambient temperature was able to reduce fuel gas consumption in GEG, resulting in energy savings of 0.16 MMSCFD or equivalent to 93,667.86 GJ/year, a decrease in air pollution load of 3,794.9 CO₂eq/year, and a decrease in Hazardous and Toxic Waste generation by 2,616 tons. Overall, the company was able to achieve savings of Rp5,24 million.

Kontribusi pada Pengembangan EBT

Kami berkontribusi dalam pengembangan EBT dengan meningkatkan produksi gas bumi. Di tahun 2022 PHE Subholding Upstream memanfaatkan energi dari sumber EBT sebesar 4.719.876,23 GJ, atau 3,40%. Jumlah tersebut meningkat dari tahun 2021 yang mencapai 2.625.017,73 GJ.

Sebagai bentuk dukungan terhadap agenda transisi energi, PHE Subholding Upstream melakukan penandatanganan Perjanjian Pokok (*Heads of Agreement* - HOA) Kerja Sama Perdagangan Karbon Internal Pertamina Group antara PT PHE dan/atau afliasinya (Pertamina Hulu Energi) sebagai pembeli dengan PT Pertamina Power Indonesia (PPI) sebagai penjual pada tanggal 18 Oktober 2022. Poin utama HOA yang disepakati adalah mengenai indikasi volume karbon kredit yang tersedia dan yang berpotensi akan ditawarkan oleh PPI kepada PHE dan/atau afliasinya di lingkungan Subholding Upstream. Untuk memastikan pelaksanaan komitmen tersebut, Manajemen baik dari PHE maupun PPI sepakat membentuk Tim Task Force Perdagangan Karbon Kredit.

Contribution to NRE Development

We contribute to renewable energy development of by increasing natural gas production. In 2022, PHE Subholding Upstream utilized 4,719,876.23 GJ or 3.40% in energy from renewable sources. This amount increased from 2021, which totaled 2,625,017.73 GJ.

As a form of support for the energy transition agenda, PHE Subholding Upstream signed a Heads of Agreement (HOA) for Internal Carbon Trading Cooperation within Pertamina Group between PT PHE and/or its affiliates (Pertamina Hulu Energi) as the buyer and PT Pertamina Power Indonesia (PPI) as the seller on 18 October 2022. The main point of the agreed HOA is the indication of the available carbon credit volume and the potential offer from PPI to PHE and/or its affiliates within the Subholding Upstream. To ensure the implementation of this commitment, both PHE and PPI management have agreed to establish a Carbon Trading Task Force Team.





Dukungan Pada Keanekaragaman Hayati

Support for Biodiversity

Dampak Operasi Terhadap Keanekaragaman Hayati

The Impact of Operations on Biodiversity

Kegiatan eksplorasi dan produksi migas, secara langsung maupun tidak langsung, memberikan dampak terhadap ekosistem sekitar beserta spesies-spesies yang ada di dalamnya. Mitigasi yang dilakukan adalah melakukan identifikasi spesies dilindungi maupun spesies endemik sebelum kegiatan operasi dilaksanakan. Seluruh tahapan kegiatan dijalankan dengan melibatkan pihak-pihak berwenang, termasuk Balai Konservasi dan Sumber Daya Alam (BKSDA) maupun Dinas Lingkungan Hidup setempat dan disertai pelaporan berkala. [OGSS-11.4.3][ENV-4 C2]

Oil and gas exploration and production activities directly and indirectly impact the surrounding ecosystem and its species. Mitigation measures are taken by identifying protected and endemic species prior to the commencement of operational activities. All stages of activities are carried out in collaboration with authorized parties, including the Conservation and Natural Resources Agency (BKSDA) and the local Environmental Agency, and are accompanied by regular reporting.

Kebijakan Terkait Keanekaragaman Hayati [ENV-3 C1]

Biodiversity Policy

Beberapa WK di Indonesia berada dan/atau berdampingan dengan kawasan dilindungi maupun kawasan dengan keanekaragaman hayati tinggi. Untuk wilayah operasi di mancanegara, tidak ada yang berada di dalam kawasan dilindungi berdasarkan regulasi internasional termasuk di kawasan arctic. PHE Subholding Upstream memiliki kebijakan, setiap kegiatan di WK di Indonesia yang berada di dalam maupun berdekatan dengan kawasan dilindungi dan/atau kawasan dengan keanekaragaman hayati tinggi, telah dilengkapi dokumen perizinan dari Kementerian Lingkungan Hidup dan Kehutanan (KLHK). Seluruh proses operasi dan produksi dilaksanakan dengan penuh kehati-hatian sesuai regulasi yang berlaku, guna meminimalkan dampak terhadap keanekaragaman hayati yang ada. [304-1]

[OGSS-11.4.2][ENV-4. C1]

Several of the WKs in Indonesia are located and/or adjacent to protected areas or areas with high biodiversity. In overseas operational areas, there are no areas located within protected areas based on international regulations, including the Arctic region. PHE Subholding Upstream has a policy whereby every activity performed within or adjacent to protected areas or areas with high biodiversity in Indonesian WKs is equipped with permits from the Ministry of Environment and Forestry (KLHK). All operational and production processes are carried out with caution and in accordance with applicable regulations to minimize impacts on existing biodiversity.

Lokasi WK PHE Subholding Upstream di Indonesia yang Berada dan/atau Berdekatan dengan Kawasan Dilindungi [ENV-4 C1]

Locations of PHE Upstream Subholding WKs in Indonesia that are In and/or Adjacent to Protected Areas

WK Blok Offshore Northwest Java (ONWJ) Offshore Northwest Java (ONWJ) Block	AP Pengelola Subsidiary Manager PT PHE ONWJ	Seluas 324 km2 dari WK di perairan Kabupaten Kepulauan Seribu berada di kawasan Taman Nasional Kepulauan Seribu, DKI Jakarta. An area of 324 km2 of the WK located in the waters of the Kepulauan Seribu Regency is situated within the Kepulauan Seribu National Park area in DKI Jakarta.
		Wilayah kerja terluar PHE ONWJ di perairan Kabupaten Indramayu, berdekatan dengan Kepulauan Biawak yang berstatus Kawasan Konservasi Laut Daerah (KKLD) Kabupaten Indramayu, dengan jarak terdekat sekitar 9 kilometer. The furthest working area of PHE ONWJ in the waters of Indramayu Regency is situated adjacent to the Biawak Islands, which hold the status of a Local Marine Conservation Area (KKLD) under the jurisdiction of Indramayu Regency, with the nearest distance being approximately 9 kilometers.
WK Blok Offshore Southeast Sumatera (OSES) Offshore Southeast Sumatera (OSES) Block	AP Pengelola Subsidiary Manager PT PHE OSES	Wilayah kerja terluar PHE OSES di perairan Laut Jawa, berbatasan dengan Taman Nasional Kepulauan Seribu di Tenggara dan Taman Nasional Way Kambas di Barat The furthest working area of PHE OSES in the waters of the Java Sea is bordered by the Kepulauan Seribu National Park to the southeast and the Way Kambas National Park to the west
WK Jambi Merang	AP Pengelola Subsidiary Manager PT PHE Jambi Merang	Wilayah Kerja PHE Jambi Merang beririsan dengan kawasan Taman Nasional Sembilang. The PHE Jambi Merang WK intersects with the Sembilang National Park area.
WK Donggi Matindok	AP Pengelola Subsidiary Manager PT Pertamina EP	Wilayah Kerja PEP Field Donggi Matindok berbatasan dengan Taman Keanekaragaman Hayati Kokolombi, Banggai Kepulauan, Sulawesi Tengah. The PEP Field Donggi Matindok WK is bordered by the Kokolombi Biodiversity Reserve in the Banggai Islands, Central Sulawesi.
WK Sanga-sanga	AP Pengelola Subsidiary Manager PT Pertamina EP	Wilayah Kerja PEP Field Sanga Sanga area Samboja berbatasan dengan Taman Nasional Bukit Soeharto The PEP Field Sanga Sanga WK in the Samboja area is bordered by the Bukit Soeharto National Park.
WK WK Rokan	AP Pengelola Subsidiary Manager PT Pertamina Hulu Rokan	Wilayah Kerja Rokan beririsan dengan Taman Hutan Raya Sultan Syarif Hasyim pada Wilayah Operasi Minas Siak dan beririsan dengan Suaka Margasatwa Balairaja pada wilayah operasi Bekasap Rokan The Rokan WK intersects with the Sultan Syarif Hasyim Grand Forest Park in the Minas Siak Operation Area and intersects with the Balairaja Wildlife Sanctuary in the Bekasap Rokan Operation Area.

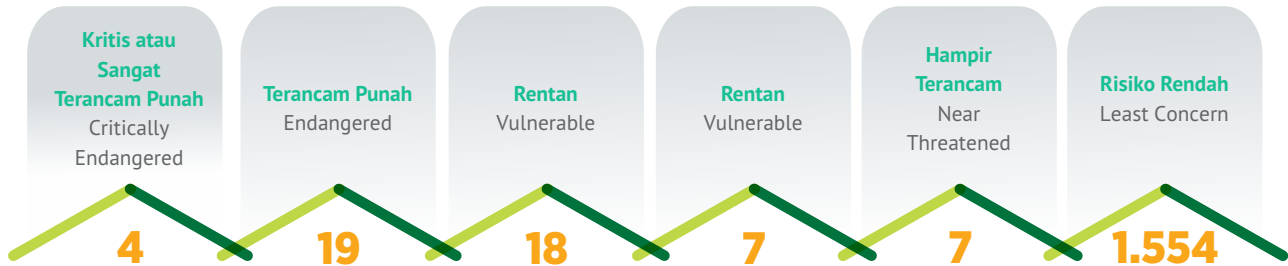
Dari identifikasi yang dilakukan sampai dengan tahun 2022, diketahui ada beberapa spesies fauna yang berstatus dilindungi menurut Daftar Merah The International Union for Conservation of Nature (IUCN); Undang-Undang (UU) No. 5 Tahun 1990 tentang Konservasi Sumber Daya Alam; serta Peraturan Pemerintah No. 7 Tahun 1999 tentang Pengawetan Jenis Tumbuhan dan Satwa. [304-1]

Based on the identification conducted until 2022, it is known that there are several species of fauna that have protected status in accordance with the International Union for Conservation of Nature (IUCN) Red List, Law No. 5 of 1990 concerning the Conservation of Natural Resources, and Government Regulation No. 7 of 1999 concerning the Preservation of Plant and Animal Species.



Jumlah Spesies Fauna Dilindungi dan Tingkat Kepunahan Berdasarkan Daftar Merah IUCN Tahun 2022 [304-4]

Total Protected Fauna Species and Extinction Rates in 2022 According to the IUCN Red List



Selama tahun 2022, beberapa WK telah menetapkan wilayah konservasi untuk spesies dilindungi maupun spesies endemik, di antaranya: [304-2]

1. PT Pertamina Hulu Kalimantan Timur (PHKT) yang merupakan bagian dari Zona 10 Regional Kalimantan menjalankan program perlindungan keanekaragaman hayati (kehati) di wilayah operasi meliputi Daerah Operasi Bagian Utara (DOBU) dan Daerah Operasi Bagian Selatan (DOBS). Program kehati DOBU mencakup area konservasi seluas 430,45 Ha dan DOBS memiliki program kehati dengan area konservasi seluas 195,02 Ha.
2. Pemulihan Hulu Dan Hilir Sungai Kuang adalah program konservasi ikan Belida (*Chitala lopis*) yang merupakan ikan endemik khas Sumatera dengan cara menangkarkan 500 ekor anakan ikan Belida di kolam seluas 600m2 di Kawasan Desa SP 7 yang masih merupakan desa binaan pemberdayaan masyarakat PHE Ogan Komering dan masih masuk sebagai kawasan area konservasi.
3. Program inovasi pembibitan dan penanaman pohon pakan Bekantan (*Nasalis larvatus*) yaitu pohon *Sonneratia caseolaris* dilakukan melalui kerjasama dengan Balitek KSDA Samboja. Pohon yang dibibitkan sebanyak 4.000 bibit dan sudah dilakukan penanaman pada tahun 2020 sebanyak 300 pohon di sepanjang bibir pantai Tanjung Una. Pengelolaan di Pertamina EP Sanga Sanga membantu meningkatkan populasi Bekantan menjadi 58 ekor.

Throughout 2022, several WKs have designated conservation areas for protected and endemic species, including:

1. PT Pertamina Hulu Kalimantan Timur (PHKT), part of Zone 10 of the Kalimantan Regional, implements a biodiversity protection program in its operational areas, including the North Operating Area (NOA) and the South Operating Area (SOA). The DOBU biodiversity program includes a conservation area covering 430.45 hectares, while DOBS has a biodiversity program with a conservation area covering 195.02 hectares.
2. The Upstream and Downstream Kuang River Restoration is a conservation program for the Belida fish (*Chitala lopis*), an endemic fish species found in Sumatra. The program involves breeding 500 juvenile Belida fish in a 600 square meter pond located in the SP 7 Village area, which is still a community empowerment development village under PHE Ogan Komering and is also part of a conservation area.
3. The Bekantan (*Nasalis larvatus*) Feed Tree Breeding and Planting Innovation Program involves a partnership with Balitek KSDA Samboja to breed and plant *Sonneratia caseolaris* trees, a food source for Bekantan monkeys. A total of 4,000 seedlings were bred and 300 trees were planted along the Tanjung Una coast in 2020. The management of Pertamina EP Sanga Sanga has helped increase the Bekantan population to 58 individuals.

Perlindungan dan Pemulihan Habitat di Daerah Operasi [ENV-4]

Habitat Recovery and Protection in Operational Areas

Selama tahun 2022 PHE Subholding Upstream melalui Anak Perusahaan melakukan upaya perlindungan dan pemulihan habitat di WK masing-masing. Beberapa kegiatan yang dijalankan, di antaranya:

- PT Pertamina EP Subang Field pada 5 Juli 2022 melepasliarkan owa jawa (*Hylobates moloch*). Owa jawa masuk ke dalam daftar merah IUCN dengan status *critically endangered* atau kritis sangat terancam punah. Tercatat ada 7 ekor owa jawa yang dilepasliarkan dari Pusat Penyelamatan dan Rehabilitasi Javan Gibbon Center, Taman Nasional Gunung Gede Pangrango (TNGGP). Secara keseluruhan ada 37 ekor owa jawa yang sudah dilepasliarkan di kawasan hutan lindung Malabar sejak tahun 2013. Untuk menunjang keberhasilan terhadap konservasi owa jawa, PT PEP Subang Field juga melakukan kegiatan-kegiatan pendukung lainnya, seperti edukasi ke sekolah-sekolah, hingga pemberdayaan masyarakat di sekitar kawasan habitat melalui Program Melintang (Masyarakat Peduli Alam Puntang). Program ini merangkul masyarakat pemburu owa jawa menjadi pelaku kegiatan usaha kopi dan wisata, sehingga mampu meningkatkan perekonomian mereka dan meninggalkan kebiasaan lama berburu owa jawa.
- PT Pertamina Hulu Indonesia (PHI) yang juga merupakan Regional Kalimantan mendukung konservasi orangutan dengan status *critically endangered* atau kritis sangat terancam punah melalui program rehabilitasi orangutan di Samboja Lestari, Kalimantan Timur. Pelaksanaan program bekerja sama dengan Borneo Orangutan Survival Foundation (BOS Foundation). Pada tahun 2022, PHI melakukan adopsi kepada tiga orangutan yang dipersiapkan untuk dilepasliarkan kembali kepada habitatnya. Sebagai satwa yang dilindungi dengan status kritis, upaya pelestarian orangutan tidak hanya menjadi perhatian bersama di tingkat nasional tapi juga internasional.

In 2022, PHE Subholding Upstream through its Subsidiaries conducted various efforts to protect and restore habitats in their respective WKs. Some of the activities conducted include:

- On 5 July 2022, PT Pertamina EP Subang Field released Javan gibbons (*Hylobates moloch*) into the wild. Javan gibbons are listed as critically endangered on the IUCN Red List, indicating that they are at high risk of extinction. Seven Javan gibbons were released from the Javan Gibbon Center Rehabilitation and Rescue Center, located in Gunung Gede Pangrango National Park (TNGGP). Overall, 37 Javan gibbons have been released into the protected forest area of Malabar since 2013. To support the conservation of Javan gibbons, PT PEP Subang Field also conducts other supportive activities, such as providing education to schools and empowering communities around the habitat area through the "Melintang Program" (Community Concern for Puntang Nature). This program involves engaging local communities who used to hunt Javan gibbons in the coffee and tourism industries, thus improving their economic condition and leaving behind their old hunting habits.
- PT Pertamina Hulu Indonesia (PHI), which also operates in the Kalimantan region, supports the conservation of critically endangered orangutans through a rehabilitation program in Samboja Lestari, East Kalimantan. The program is conducted in cooperation with the Borneo Orangutan Survival Foundation (BOS Foundation). In 2022, PHI adopted three orangutans that were being prepared to be released back into their natural habitat. As a protected species that is critically endangered, the conservation of orangutans is not only a national concern but also an international one.



- PT Pertamina Hulu Energi NSO melakukan konservasi 6 Ekor Penyu Lekang (*Lepidochelys olivacea*) dengan status vulnerable atau rentan di wilayah Konservasi Penyu di Pesisir Desa Bantayan, Kecamatan Seunuddon, Kabupaten Aceh Utara. Penangkaran Penyu di Pantai Bantayan seluas 560m² di di Desa Bantayan, Kecamatan Seunudon, Kabupaten Aceh Utara. Sebagai wujud komitmen PT Pertamina Hulu Energi NSO terkait konservasi fauna, maka ditetapkan Surat Keputusan No. 324/PHR62330/2022-SO tentang penetapan area perlindungan keanekaragaman hayati konservasi flora & fauna. Meliputi Konservasi Penyu Lekang yang termasuk didalamnya sebagai aksi nyata perlindungan keanekaragaman hayati serta kegiatan pendidikan dan penelitian.
- PT PHE Kampar melakukan konservasi 6 ekor Bangau Tongtong (*Leptoptilos javanicus*) dan 8 ekor Kukang Sumatera (*Nycticebous coucang*) di Kawasan Konservasi Balai Taman Nasional Bukit Tiga Puluh, Riau. Upaya perlindungan Kukang Sumatera dilakukan dengan pembuatan penangkaran kukang yang bertujuan sebagai tempat beradaptasi dan mating (perkawinan) proses pemaduan dan penggabungan sifat-sifat genetika untuk mewariskan ciri-ciri suatu spesies agar tetap lestari. Tindak lanjut kedepannya dari penangkaran Kukang Sumatera yakni pembuatan tempat ekosistem seperti habitat asli agar nantinya anak dari Kukang Sumatera yang dikembangkan dapat dilepas liarkan dan bisa hidup beradaptasi di alam liarnya.

Selain konservasi fauna, kegiatan juga mencakup penanaman kembali 1.669.429 pohon dari beragam jenis termasuk spesies endemik. Lokasi kegiatan meliputi WK PHE Subholding Upstream yang tersebar di seluruh Indonesia. Kegiatan pemulihan habitat maupun pemulihan lahan, serta konservasi, dilaksanakan dengan melibatkan akademisi/perguruan tinggi dan organisasi independen untuk studi dan penelitian, masyarakat untuk penanaman dan pemeliharaan, serta pihak berwenang di KLHK, termasuk BKSDA setempat dan Dinas Lingkungan Hidup.

[304-3] [OGSS-11.4.5]

- PT Pertamina Hulu Energi NSO conserved 6 vulnerable Olive Ridley sea turtles (*Lepidochelys Olivacea*) in the Turtle Conservation Area in the coastal village of Bantayan, Seunuddon District, North Aceh Regency. The turtle breeding facility covers an area of 560 square meters in Bantayan Village, Seunudon District, North Aceh Regency. As a demonstration of PT Pertamina Hulu Energi NSO's commitment to fauna conservation, Decision Letter No. 324/PHR62330/2022-SO was issued, designating the protected area for biodiversity conservation of flora and fauna, including the Olive Ridley sea turtle conservation program. This program is a concrete action to protect biodiversity and includes educational and research activities.
- PT PHE Kampar conserved 6 Javanese storks (*Leptoptilos javanicus*) and 8 Sumatran slow lorises (*Nycticebous coucang*) in the Conservation Area of Bukit Tiga Puluh National Park Office, Riau. The protection of the Sumatran slow loris is carried out by establishing a breeding facility for them, aimed to provide a place for adaptation and mating processes of combining and merging genetic characteristics to pass on the traits of a species to ensure their survival. The next step for the Sumatran slow loris breeding program is to create an ecosystem environment similar to their natural habitat, so that their offspring can be released and can adapt to their natural environment.

In addition to fauna conservation, the activities also include the planting of 1,669,429 trees of various types including endemic species. The location of the activities covers PHE Subholding Upstream WKs which is spread throughout Indonesia. Habitat restoration and land rehabilitation activities, as well as conservation efforts, are conducted by involving academics/universities and independent organizations for research and study, communities for planting and maintenance, as well as authorities in the Ministry of Environment and Forestry, including the local Natural Resources Conservation Agency (BKSDA) and the Environmental Agency.

Pengelolaan Keanekaragaman Hayati Pasca insiden Minyak Sumur YYA-1

[304-2][OGSS11-11.4.3] [OGSS11-11.4.4] [EM-EP-160a.2]

Pada tahun 2022 PHE Subholding Upstream telah menyelesaikan semua tahapan untuk mengatasi dampak tumpahan minyak yang terjadi di tahun 2020, termasuk proses rehabilitasi lingkungan sesuai dengan Rencana Pemulihan Fungsi Lingkungan Hidup (RPFLH) yang telah disetujui KLHK. Sebagai bagian dari pelaksanaan program restorasi lingkungan, Perseroan telah melakukan studi terhadap ekosistem dan biota di dalam dan di sekitar area yang terkena dampak. Evaluasi dilakukan oleh pihak ketiga yang independen, dengan hasil, di antaranya pengkayaan 5 spesies mangrove dan 2 jenis tanaman asosisasi mangrove, serta melakukan konservasi habitat bagi 76 spesies satwa burung/avifauna, berdasarkan status perlindungannya.

Post-Incident Biodiversity Management of the YYA-1 Oil Well

[304-2][OGSS11-11.4.3] [OGSS11-11.4.4] [EM-EP-160a.2]

In 2022, PHE Subholding Upstream completed all stages of the oil spill response plan that was initiated in 2020, including environmental rehabilitation processes in accordance with the approved Environmental Function Restoration Plan (RPFLH) by KLHK. As part of the environmental restoration program implementation, the Company conducted a study of the ecosystem and biota within and around the affected area. The evaluation was performed by an independent third party, resulting in the enrichment of five mangrove species and two associated mangrove plant species, as well as the conservation of habitats for 76 bird/avifauna species, based on their protection status.





Offshore Well-Management

Offshore Well-Management

Kegiatan eksplorasi dan produksi migas PHE Subholding Upstream juga dilakukan di lepas pantai. Keberadaan sumur dan anjungan di lepas pantai juga berdampak kepada wilayah perairan di sekitarnya. Untuk meminimalkan dampak yang ditimbulkan dan meminimalkan jejak lingkungan, pengelolaan sumur lepas pantai dilakukan sejak perencanaan hingga setelah selesai beroperasi.

The oil and gas exploration and production activities of PHE Subholding Upstream are also conducted offshore. The presence of offshore wells and platforms also affects the surrounding waters. To minimize the impacts and reduce the environmental footprint, offshore well management is carried out from planning until after completion of operations.



Pengelolaan sumur lepas pantai dalam kegiatan praoperasional, operasional dan pascaoperasional mengacu pada Pedoman Pengelolaan *Well Integrity*, yang diberlakukan sejak Januari 2021. Pengelolaan sumur lepas pantai dilakukan di bawah koordinasi Fungsi Produksi sebagai pemilik aset dan Fungsi Drilling Well Intervention.

The offshore well management in pre-operational, operational, and post-operational activities refers to the *Well Integrity* Management Guidelines, which have been in effect since January 2021. The offshore well management is carried out under the coordination of the Production Function as the asset owner and the Drilling Well Intervention Function.

Pengelolaan Wilayah Operasi Nonaktif

Non-active Operational Area Management

Selama periode pelaporan, PHE Subholding Upstream mengelola fasilitas anjungan nonaktif melalui perawatan secara periodik untuk memastikan kepatuhan pada aspek keselamatan dan lindungan lingkungan. Perencanaan untuk Kegiatan Pasca-operasi (KPO) dilakukan bersama dengan regulator, baik SKK MIGAS, Ditjen Migas, dan para pemangku kepentingan yang mengatur perizinan, dengan tetap mengedepankan aspek LST.

Pengelolaan kegiatan pascaoperasi mengacu kepada aturan PTK 040 SKK Migas Tahun 2018 dan Permen ESDM Nomor 15 Tahun 2018, dan PMK No. 140/PMK.06/2020 tentang Pengelolaan Barang Milik Negara Hulu Minyak dan Gas Bumi. Di tahun 2022, terdapat *feasibility study* KPO di beberapa wilayah kerja sebagai hasil kolaborasi dengan Pusat Riset Kelautan, Kementerian Kelautan dan Perikanan, serta akademisi di luar negeri dalam melakukan upaya kajian perencanaan *decommissioning* dan pemanfaatan anjungan lepas pantai nonaktif. Saat ini masih berlangsung inisiasi kegiatan serupa untuk wilayah kerja yang lain.

During the reporting period, PHE Subholding Upstream managed inactive platform facilities through periodic maintenance to ensure compliance with safety and environmental protection aspects. Post-Operational Activities (KPO) planning was performed in collaboration with regulators, including SKK MIGAS, Oil and Gas Directorate (Ditjen Migas), and stakeholders who regulate licensing, while prioritizing ESG aspects.

The management of post-operational activities refers to the regulations of PTK 040 SKK Migas of 2018, ESDM Ministerial Regulation No. 15 of 2018, and PMK No. 140/PMK.06/2020 regarding the management of state-owned oil and gas upstream assets. In 2022, there was a feasibility study for KPO in several WKs resulting from collaboration with the Marine Research Center, the Ministry of Marine Affairs and Fisheries, and academics from abroad in conducting studies on decommissioning planning and the utilization of inactive offshore platforms. Currently, similar initiatives are underway for other WKs.





Pengelolaan dan Pengolahan Limbah [OGSS-11.5.3][OGSS-11.5.2]

Waste Management and Treatment

Timbulan limbah dari kegiatan eksplorasi dan produksi migas terdiri dari limbah yang mengandung bahan beracun dan berbahaya (B3) serta limbah non-B3. Pengelolaan limbah dilakukan sesuai prinsip 3R, *reduce, reuse dan recycle*. Pada limbah B3, pengolahan limbah dilaksanakan sesuai izin yang dimiliki setiap Anak Perusahaan untuk masing-masing jenis limbah. Limbah yang diinsinerasi dan *di-landfilling* dilakukan oleh pihak ketiga. [306-2]

Pengelolaan limbah B3 dilakukan dengan prinsip *cradle to grave*. Perusahaan merencanakan jenis pengolahan dari masing-masing limbah dengan proses eliminasi, substitusi, *engineering*, dan administratif. Seluruh proses pengelolaan dan pengolahan limbah dipantau dan diawasi oleh Fungsi HSSE dan fungsi terkait pada masing-masing Anak Perusahaan, serta dilaporkan secara berkala kepada pihak-pihak berwenang. [306-1][306-2]

Berdasarkan bentuknya, total volume timbulan limbah padatan selama tahun 2022 di seluruh WK PHE Subholding Upstream mencapai 38.687,11 ton, dan timbulan limbah cairan sebanyak 15.430 ton. Berdasarkan kandungan di dalamnya, total volume timbulan limbah B3 di seluruh WK PHE Subholding Upstream mencapai 54.117,11 ton, dan timbulan limbah non-B3 sebanyak 19.550,12 ton. Data volume timbulan limbah pada tahun 2022 diperoleh dari masing-masing Anak Perusahaan, yang dilaporkan berkala kepada Regional, serta kepada PHE sebagai Subholding Upstream. Secara umum volume timbulan limbah pada tahun 2022 memperlihatkan peningkatan dari tahun 2021, sejalan dengan meningkatnya kegiatan eksplorasi dan produksi migas. [306-3]

The waste generated from oil and gas exploration and production activities consists of both hazardous and non-hazardous waste. Waste is managed in accordance with the principles of 3R: reduce, reuse, and recycle. For hazardous waste, waste treatment is conducted in accordance with the permits held by each Subsidiary for each type of waste. Waste that is incinerated and landfill is carried out by third-party companies.

Hazardous and toxic (B3) waste management is carried out based on the cradle to grave principle. The Company plans the type of treatment for each waste through elimination, substitution, engineering, and administrative processes. The entire waste management and treatment processes are monitored and supervised by the HSSE Function and related functions in each Subsidiary, and are reported regularly to the relevant authorities.

Based on their form, the total volume of solid waste generated throughout the PHE Subholding Upstream operating areas in 2022 reached 38,687.11 tons, while the volume of liquid waste generated was 15,430 tons. Based on their contents, the total volume of B3 waste generated throughout the PHE Subholding Upstream operating areas in 2022 reached 54,117.11 tons, while the volume of non-B3 waste generated was 19,550.12 tons. Waste generation volume data in 2022 was obtained from each Subsidiary, which reported it periodically to the Regionals and to PHE as Subholding Upstream. Overall, the waste generation volume in 2022 showed an increase compared to 2021, in line with the increased oil and gas exploration and production activities.

Volume Timbulan Limbah Berdasarkan Jenisnya Dari Seluruh WK PHE Subholding Upstream

Waste Generation Volume by Type from All PHE Subholding Upstream Operating Areas

Berdasarkan Jenisnya

Based on Type



Limbah Padatan (Ton)
Solid Waste (Ton)



Cairan (Ton)
Liquid (Ton)



Berdasarkan Kandungan Materi

Based on Material Content



Limbah B3 (Ton)
B3 Waste (Ton)



Limbah Non-B3 (Ton)
Non-B3 Waste (Ton)



*Penyampaian kembali/restatement

Total volume timbulan limbah B3 selama tahun 2022 di dalam cakupan WK PHE Subholding Upstream yang diangkut pihak ketiga untuk diolah lanjut di tempat lain mencapai 65.772,77 ton. Dalam proses pengelolaan, tidak ada tumpahan dari material limbah yang membahayakan lingkungan. Kegiatan eksplorasi dan produksi PHE Subholding Upstream tidak menimbulkan *tailings* dan Perusahaan tidak memiliki fasilitas *tailings* terkait proses tier 1 & tier 2 di seluruh Regional dan Anak Perusahaan. [306-2][306-3][306-4][306-5] [OGSS11-11.5] [OGSS11-11.5.3][OGSS11-11.5.4][OGSS11-11.8.4]

The total B3 waste volume generated in the PHE Subholding Upstream operating areas in 2022 and transported by third parties for further processing elsewhere was 65,772.77 tons. There were no spills of hazardous waste materials that could have harmed the environment during the waste management process. PHE Subholding Upstream's exploration and production activities produced no tailings, and the Company has no tailings facilities related to tier 1 and tier 2 processes in any of its Regional or Subsidiary operations.

Tantangan dalam Penerapan Keberlanjutan

Challenges in Sustainability Implementation

Dalam menerapkan keberlanjutan, kami berupaya meminimalisir emisi yang dihasilkan dari peningkatan produksi. Hal ini menjadi tantangan tersendiri karena setiap kegiatan produksi menghasilkan emisi, sehingga tingkat efisiensi perlu selalu dipantau.

We put our best efforts in minimizing emissions resulting from increased production, as part of sustainability implementation. This is a challenge because every production activity produces emissions, so the level of efficiency needs to be constantly monitored.



Pemanfaatan Air Dan Pengelolaan Efluen

Water Use and Effluent Management

Air dibutuhkan untuk kegiatan operasi, produksi, dan pendukung. Wilayah Kerja PHE Subholding Upstream berada di daratan dan di lepas pantai. Kebutuhan air dipenuhi dari sumber air permukaan, baik sungai, danau, maupun laut. Beberapa sumber air permukaan juga digunakan dan dimanfaatkan masyarakat setempat sehingga pengambilan dan pemanfaatan air oleh Perusahaan memberikan dampak terhadap mereka. Seluruh proses pengambilan air, pemanfaatan air, serta pengolahan efluen dan pelepasannya ke badan air dipantau berkala oleh Fungsi HSSE dan *Operation* di masing-masing Anak Perusahaan, serta dilaporkan berkala kepada pihak-pihak berwenang.

[303-1][303-2] [EM-EP-210b.1]

PHE Subholding Upstream berkomitmen melakukan efisiensi pemakaian air dan mendukung konservasi sumber daya air di WK setiap Anak Perusahaan. Seluruh air yang diambil dari setiap sumber air langsung digunakan dan tidak ada yang ditempatkan di kolam penampungan. Total volume pemakaian air selama tahun 2022 di seluruh WK PT PHE mencapai 12.877.708,38 meter kubik (m³) atau setara 12.877,71 megaliter. Jumlah air yang berasal dari pembelian sebanyak 28.800.589,23 m³ dan air tanah sebanyak 12.381.952,10 m³. Total pemakaian air tersebut meningkat 12.701.679,70 m³ atau 7.216% dari tahun 2021 sebanyak 176.028,68 m³ atau setara 1.760,29 megaliter yang disebabkan oleh bergabungnya WK Rokan dan PT Badak NGL di pertengahan tahun 2022 sehingga kebutuhan air untuk aktivitas *drilling* lebih tinggi. [303-3][303-

4][303-5][OGSS-11.6.1]

Kami melibatkan pemangku kepentingan dalam pengelolaan sumber air, terutama masyarakat yang menggunakan sumber air, para pekerja, serta pemangku kepentingan lain.

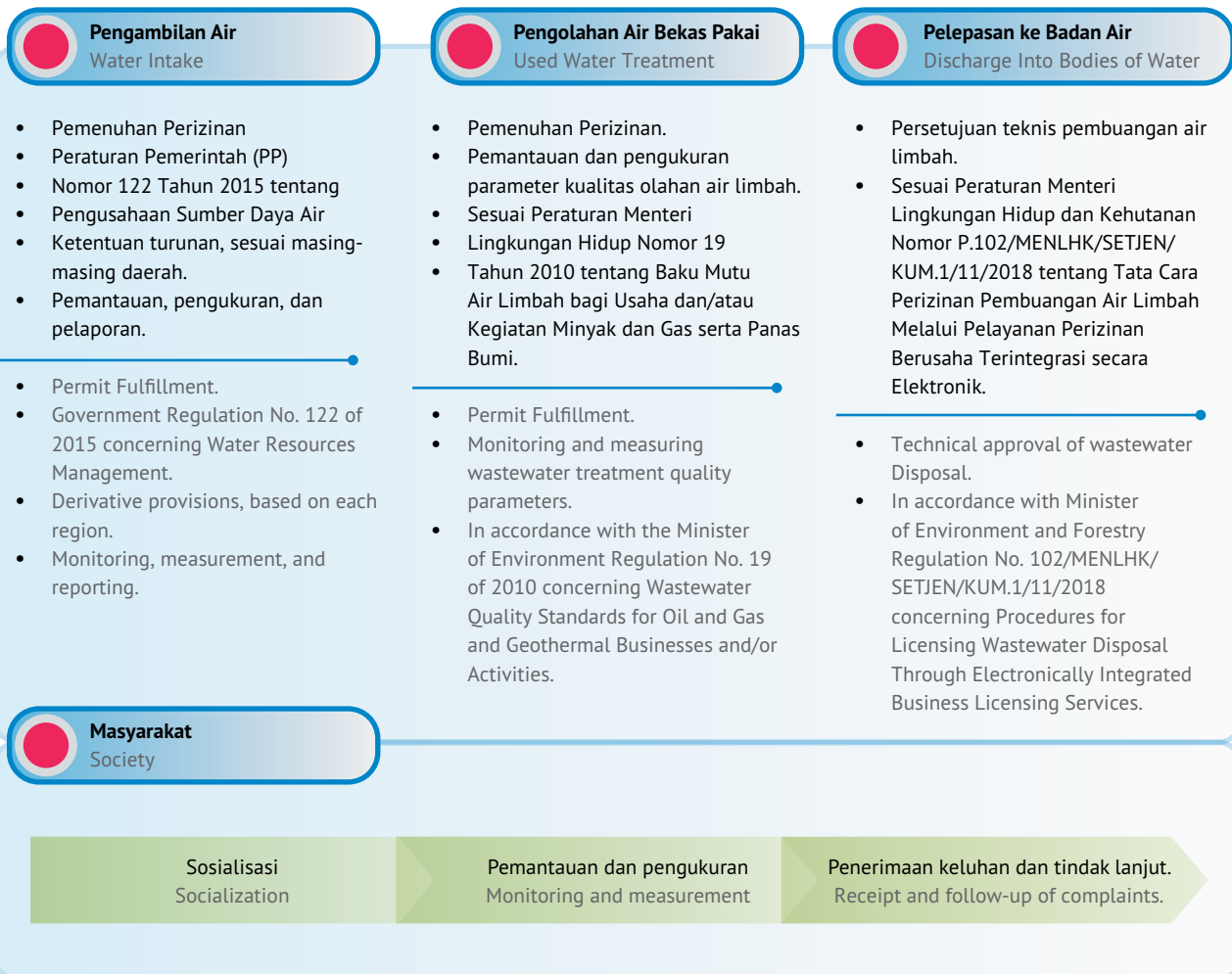
Water is required for operational, production, and support activities. PHE Subholding Upstream's operating areas are located onshore and offshore. Water is obtained from surface water sources such as rivers, lakes, and the sea. Because some surface water sources are also used and utilized by the local community, the Company's water extraction and utilization affects them. The entire process of water extraction, utilization, effluent treatment, and discharge into bodies of water is monitored and reported to the relevant authorities on a regular basis by the HSSE and Operations Function in each Subsidiary.

PHE Subholding Upstream is committed to water use efficiency and supports water resource conservation in each Subsidiary's respective WK. All water taken from any water source is used directly and none is stored in reservoirs. The total volume of water used in 2022 across all PHE WKs reached 12,877,708.38 cubic meters (m³) or equivalent to 12,877.71 megaliters. The total water purchased was 28,800,589.23 m³ and groundwater use was 12,381,952.10 m³. Total water use increased by 12,701,679.70 m³ or 7,216% from 2021, which amounted to 176,028.68 m³ or equivalent to 1,760.29 megaliters, due to the inclusion of the Rokan WK and PT Badak NGL in mid-2022, resulting in higher water needs for drilling activities.

We involve stakeholders in water resource management, especially the community that uses water resources, employees, and other stakeholders.

Pelibatan Pemangku Kepentingan dalam Pemanfaatan Air [303-1]

Stakeholder Involvement in Water Use



Kami juga melanjutkan penerapan kebijakan efisiensi pemakaian air yang diukur berdasarkan intensitas pemakaian air. Selama tahun 2021, tidak ada WK PHE Subholding Upstream yang beroperasi di daerah rawan air sehingga tidak ada penghitungan khusus volume air maupun debit air terambil dari daerah rawan air. Kami juga belum melakukan penghitungan perubahan volume air tersimpan pada masing-masing sumber air terpakai. Sebagian besar air yang diambil dari setiap sumber air merupakan air baru, namun kami juga menggunakan air terproduksi yang telah diolah untuk proses injeksi kembali.

[303-1][303-3][303-5][OGSS-11.6.3][ENV-1 C4]

We also continued to implement the policy of efficient water use, which is measured based on water use intensity. Throughout 2021, no PHE Subholding Upstream WK operated in water-stressed areas, hence there were no specific calculations for water volume or water discharge taken from such areas. We have also not yet calculated the changes in water volume stored in each used water source. Most of the water taken from each water source is new water, although we also use treated produced water for reinjection processes.



Pengolahan air terproduksi ditujukan agar kandungan di dalam air terproduksi memenuhi baku mutu yang ditetapkan dalam Peraturan Menteri Lingkungan Hidup Nomor 19 Tahun 2010 tentang Baku Mutu Air Limbah bagi Usaha dan/atau Kegiatan Minyak dan Gas serta Panas Bumi. Air terproduksi yang telah diolah kemudian diinjeksi kembali ke sumur minyak untuk menjaga tekanan serta *Enhanced Oil Recovery* (EOR). Selain itu ada yang dilepaskan ke badan air. [OGSS-11.6.5] [ENV-2-C1]

Sepanjang tahun 2022, PHE Subholding Upstream telah menginjeksikan kembali air terproduksi yang telah diolah sebesar 455,20 juta m³ atau 64% dari total volume air terproduksi, meningkat dari tahun 2021 dengan volume air terproduksi yang diinjeksi kembali sebanyak 319,95 juta m³ atau 37% dari total air terproduksi yang dihasilkan. Selain itu, ada juga 170,40 juta m³ olahan air terproduksi yang dilepaskan kembali ke badan air, berkurang dari tahun 2021 sebesar 552,99 juta m³. [OGSS-11.6.5][EM-EP-140a.2] [ENV-2 C1]

The treatment of produced water is aimed to ensure that the content of produced water meets the quality standards set in Minister of Environment Regulation No. 19 of 2010 concerning Wastewater Quality Standards for Oil and Gas and Geothermal Business and/or Activities. The treated produced water is then reinjected into oil wells to maintain pressure and Enhanced Oil Recovery (EOR). In addition, some of the produced water is discharged into water bodies.

Throughout 2022, PHE Subholding Upstream reinjected 455.20 million m³ of treated produced water, which accounts for 64% of the total produced water volume, an increase from 2021, where the volume of reinjected produced water was 319.95 million m³ or 37% of the total produced water generated. Additionally, there were 170.40 million m³ of treated produced water discharged into water bodies, a decrease from 2021 which was 552.99 million m³.

Pengelolaan Efluen

Effluent Management

Setiap Anak Perusahaan memiliki instalasi pengolahan air limbah (IPAL), untuk mengolah air limbah (efluen) sehingga memenuhi baku mutu yang ditetapkan Pemerintah. Secara berkala, kami memantau dan mengukur kualitas olahan efluen, sesuai Peraturan Menteri Lingkungan Hidup Nomor 19 Tahun 2010 tentang Baku Mutu Air Limbah bagi Usaha dan/atau Kegiatan Minyak dan Gas serta Panas Bumi. Tidak ada proses pelepasan efluen dengan tekanan air ke badan air, yang dapat merusak lapisan permukaan tanah maupun dasar badan air. Selama periode pelaporan, PHE Subholding Upstream tidak menerima sanksi denda maupun sanksi hukum lain karena sangkaan pencemaran air pada badan air akibat pelepasan olahan efluen. [303-2] [OGSS-11.6.3]

Each Subsidiary has a wastewater treatment plant (WTP) to treat effluent to comply with the Government's quality standards. We periodically monitor and measure the quality of the treated effluent, in accordance with Minister of Environment Regulation No. 19 of 2010 concerning Wastewater Quality Standards for Oil and Gas and Geothermal Business and/or Activities. There is no process of releasing effluent with water pressure into water bodies that can damage the surface layer of the soil or the bottom of the water bodies. During the reporting period, PHE Subholding Upstream did not receive any fines or other legal sanctions due to suspected water pollution from the discharge of treated effluent.

Pengelolaan Air Limbah

Wastewater Management

Lokasi Kegiatan

Activity Location

- Kegiatan di lepas pantai (Offshore)
- Kegiatan di daratan (Onshore)
- Offshore activities
- Onshore activities

Tempat Pengolahan

Tempat Pengolahan

Instalasi pengolahan air limbah (IPAL)
Wastewater treatment plant (WTP)

Metode Pengolahan

Processing Method

- Biologis
- Kimiawi
- Pemantauan dan pengukuran sesuai Peraturan Menteri Lingkungan Hidup Nomor 19 Tahun 2010 tentang Baku Mutu Air Limbah bagi Usaha dan/atau Kegiatan Minyak dan Gas serta Panas Bumi.
- Biological
- Chemistry
- Monitoring and measurement in accordance with Minister of Environment Regulation No. 19 of 2010 concerning Wastewater Quality Standards for Oil and Gas and Geothermal Business and/or Activities.

Bentuk Pemanfaatan

Form of Utilization

- Digunakan endidi
- Dilepaskan ke badan air: laut, berdasar Izin Pembuangan Limbah Cair (IPLC) dari KLHK.
- Reused
- Released into bodies of water: the sea, based on the Liquid Waste Disposal Permit (IPLC) from KLHK.

Pemakaian Air pada Lapangan Mature

Water Use in Mature Fields

Secara keseluruhan, pemakaian air pada lapangan matang selama tahun 2022 mengalami peningkatan sebanyak 2.570 Megaliter atau 24,71% dari tahun 2021 sebesar 10.400 Megaliter. Peningkatan ini seiring dengan upaya PHE SHU melakukan EOR untuk meningkatkan produksi. Air digunakan sebagai material injeksi dalam proses EOR.

Overall, water use in mature fields in 2022 increased by 2,570 Megaliters or 24.71% from 10,400 Megaliters in 2021. This increase is in line with PHE SHU's efforts to carry out Enhanced Oil Recovery (EOR) to boost production. Water is used as an injection material in the EOR process.

Lapangan Field	Sumber Air Terpakai Used Water Source	Volume air terpakai (megaliter) Used water volume (megaliter)	
		2022	2021
Rantau	Produksi air struktur Rantau Rantau structure water production	1.100	1.360
Jirak	Produksi air struktur Jirak ditambah produksi Struktur Sopa dan Musi Jirak structure water production and Sopa and Musi structure water production	910	960
Belimbing	Produksi air struktur Belimbing Belimbing structure water production	1.370	1.180



Lapangan Field	Sumber Air Terpakai Used Water Source	Volume air terpakai (megaliter) Used water volume (megaliter)	
		2022	2021
Ramba	Produksi air struktur Ramba Ramba structure water production	1.370	480
North East Air Serdang	Produksi air struktur North East Air Serdang North East Air Serdang structure water production	1.490	1.620
Meruap	Produksi air struktur Meruap Meruap structure water production	420	460
Handil	Produksi air struktur Handil Handil structure water production	3.980	1.980
Tanjung	Produksi air struktur Tanjung Tanjung structure water production	2.330	2.360
Total air terinjeksi Total injected water		12.970	10.400



Mekanisme Pengaduan Lingkungan

Environmental Complaint Mechanism

Kami memberikan akses kepada masyarakat maupun pemangku kepentingan lain untuk menyampaikan pengaduan/keluhan terkait pengelolaan lingkungan. Pengaduan/keluhan dapat disampaikan melalui Kantor Pusat PHE Subholding Upstream di Jakarta, maupun kepada kantor operasional masing-masing Anak Perusahaan yang ada di WK mereka. Pada tahun 2022 tidak ada keluhan signifikan yang diterima Perusahaan terkait pencemaran lingkungan maupun masalah pengelolaan lingkungan lainnya.

Seluruh kegiatan pekerjaan yang akan dilakukan oleh Perusahaan selalu melibatkan masyarakat pada tahap awal pelaksanaan. Selama tahun 2022 Perusahaan tidak pernah memiliki suatu pekerjaan yang ditunda dengan alasan non-teknis lainnya. Maka dari itu dapat dikatakan bahwa Perusahaan menjalankan seluruh kegiatan operasional dengan bertanggung jawab dan telah mempertimbangkan aspek masyarakat. [EM-EP-210b.2]

We provide access for the public and other stakeholders to submit complaints or grievances related to environmental management. Complaints or grievances can be submitted through the PHE Subholding Upstream Head Office in Jakarta or to the operational offices of each Subsidiary in their respective WK. In 2022, the Company did not receive any significant complaints regarding environmental pollution or other environmental management issues.

All of the Company's work activities always involve the community in the initial stages of implementation. In 2022, the Company did not have any work delayed due to non-technical reasons. Therefore, it can be said that the Company conducts all operational activities responsibly and considers community aspects.





HARMONI BERSAMA PEKERJA DAN MASYARAKAT

HARMONY WITH EMPLOYEES
AND THE COMMUNITY

PHE Subholding Upstream mengutamakan keselamatan dan kesehatan kerja, serta keselamatan proses seluruh kegiatan bisnis; dan menjadikan pekerja sebagai talenta-talenta guna menjawab tantangan terkini industri hulu migas; dan berkomitmen memberdayakan masyarakat di sekitar wilayah kerja Perusahaan.

PHE Subholding Upstream prioritizes workplace safety and health, as well as process safety throughout its business activities. The Company also recognizes its employees as talents to respond to current challenges in the upstream oil and gas industry, and is committed to empowering the surrounding communities in the Company's operational areas.



Keselamatan dan Kesehatan Kerja (K3) Untuk Lingkungan Kerja Aman [POJK51-6.C.2.C][F.21]

Occupational Health and Safety (OHS) for a Safe Work Environment

Pengelolaan K3 PHE Subholding Upstream mengacu pada kebijakan K3LL/HSSE PT Pertamina (Persero), serta menjadi pemenuhan kepatuhan regulasi di antaranya Undang-Undang (UU) No.22 Tahun 2001 tentang Minyak dan Gas Bumi. Sesuai ketentuan tersebut, PT PHE berkewajiban menjamin standar dan mutu, menerapkan kaidah keteknikan yang baik, keselamatan dan kesehatan kerja (K3) serta pengelolaan lingkungan hidup sesuai Kebijakan K3LL/HSSE PT Pertamina (Persero), HSSE *Golden Rules*, dan *Corporate Live Saving Rules* (CLSR). [403-1] [SHS-1 C3]

PT PHE menerapkan K3LL/HSSE dalam seluruh tahapan kegiatan operasi maupun produksi, dengan melibatkan seluruh (100%) pekerja, baik pekerja PHE Subholding Upstream maupun pekerja kontraktor/vendor/pemasok, serta pemangku kepentingan lain yang berada di lokasi Perusahaan berkegiatan. Perusahaan melakukan evaluasi/audit untuk memastikan para mitra kerja telah menerapkan K3LL/HSSE, dan memastikan keselamatan maupun kesehatan pekerja mereka. [403-8]

The OHS management of PHE Subholding Upstream adheres to the PT Pertamina (Persero) K3LL/HSSE policy and fulfills regulatory compliance including the Oil and Gas Law No. 22 of 2001. In accordance with these provisions, PT PHE is obligated to ensure standards and quality, apply good engineering practices, prioritize occupational health and safety (OHS), and manage environmental sustainability in line with the PT Pertamina (Persero) K3LL/HSSE policy, HSSE *Golden Rules*, and *Corporate Live Saving Rules* (CLSR).

PT PHE implements K3LL/HSSE in all stages of its operation and production activities, involving all (100%) of its employees, including those of PHE Subholding Upstream, contractors, vendors, suppliers, and other stakeholders present at the Company's operational sites. The Company conducts evaluations/audits to ensure that its partners have implemented K3LL/HSSE and to ensure the safety and health of its employees.



PHE Subholding Upstream menerapkan sistem manajemen K3 untuk seluruh pekerja, pekerja kontraktor/pemasok/pihak ketiga lainnya. [403-1][EM-EP-540a.2][SHS-1 C3]

PHE Subholding Upstream implements an OHS management system for all employees, contractors/suppliers/other third parties.

Keselamatan | Safety

PERTAMINA sangat memperhatikan aspek-aspek keselamatan dalam bekerja dan beraktivitas. Keselamatan adalah prioritas utama.
PERTAMINA pays great attention to safety aspects at work and activities. Safety is a top priority.

Tujuan | Objective

- Tanpa insiden;
- Menghilangkan faktor-faktor risiko kecelakaan kerja
- No incidents;
- Eliminate work accident risk factors.

Kesehatan | Healthy

Bagi PERTAMINA, kesehatan adalah aset yang sangat penting dalam bekerja dan beraktivitas. Kami mengadakan program-program untuk mendukung kesehatan pekerja.
For PERTAMINA, health is a valuable asset at work and in activities. We conduct programs to support employee health.

Tujuan | Objective

- Mencegah penyakit akibat kerja;
- Menciptakan iklim kerja yang sehat, serta mendukung kesehatan pekerja.
- Preventing occupational diseases;
- Creating a healthy work environment, and supporting the health of employees.

Health

Internal

Eksternal | External

Standardisasi K3
OHS
Standardization

- SUPREME
- Corporate Life Saving Rules
- Pedoman HSSE
- Contractor Safety Management System (CSMS)

- Sistem Manajemen K3 dan Lindung Lingkungan (SMK3LL);
- Sistem Manajemen Pengamanan Peraturan Kapolri No. 24/2007;
- ISO 45001 Sistem Manajemen K3;
- ISRS
- OHS Management System and Environmental Protection (SMK3LL);
- Security Management System Regulation of the National Police Chief No. 24/2007;
- ISO 45001 OHS Management System;
- ISRS

SUPREME dan HSSE Golden Rules [SHS-3 C3][SHS-7 C1]

SUPREME and HSSE Golden Rules

SUPREME merupakan Sistem Manajemen Pengendalian Risiko yang terintegrasi, terstruktur dan sistematis. SUPREME diterapkan untuk seluruh aktivitas bisnis di berbagai WK serta di *site* proyek yang sedang direncanakan; dan diperlukan untuk memastikan praktik-praktik Sistem & Proses Pengendalian Risiko HSSE terbaik di seluruh Grup PERTAMINA. SUPREME telah ditetapkan sebagai PERTAMINA Standar (PS) oleh PERTAMINA *Standardization & Certification* (PSC) dengan Nomor PS-Sy-0001-15-2019.

Saat ini PHE Subholding Upstream menerapkan SUPREME Revisi Ke-1 Tahun 2019 yang menggantikan Pedoman Sistem Manajemen HSSE Pertamina versi sebelumnya (No. A-001/I00200/2011-S0 [Rev. 2]). Di dalam SUPREME, terdapat standar pengelolaan aspek HSSE 'Kelas Dunia', termasuk hal-hal mengenai perbaikan terus menerus (*continuous improvement*) dan keberlanjutan bisnis (*business sustainability*).

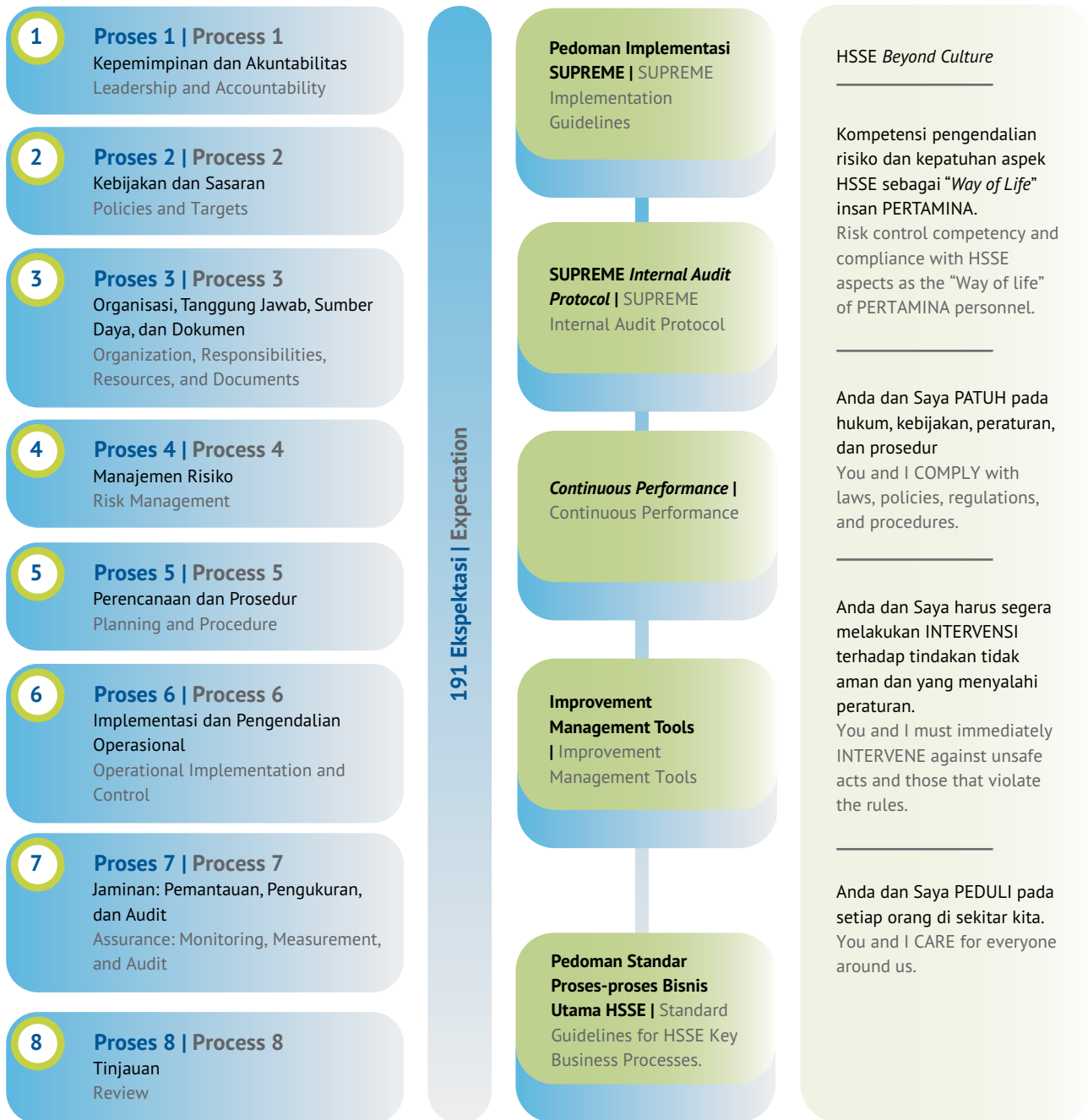
SUPREME is an integrated, structured, and systematic Risk Control Management System. It is applied to all business activities in various WKs and at project sites that are being planned, ensuring the best HSSE Risk Control System & Process practices throughout the PERTAMINA Group. SUPREME has been established as a PERTAMINA Standard (PS) by PERTAMINA Standardization & Certification (PSC) No. PS-Sy-0001-15-2019.

Currently, PHE Subholding Upstream is implementing the SUPREME Revision 1 Year 2019 which replaces the previous version of the Pertamina HSSE Management System Guidelines (No. A-001/I00200/2011-S0 [Rev. 2]). Within SUPREME, there are 'World-Class' HSSE management standards, including aspects of continuous improvement and business sustainability.





Proses, Ekspektasi, Kelengkapan, dan Tujuan SUPREME
SUPREME Process, Expectations, Completeness and Purpose



Sepanjang tahun 2022, terdapat 108 insiden kecelakaan kerja dengan mayoritas kasus merupakan kategori *First Aid Case* (FAC). Walaupun demikian, tidak ada penyakit akibat kerja yang terjadi pada pekerja di tahun yang sama.

Throughout 2022, there were 108 work accidents with the majority of cases being in the First Aid Case (FAC) category. However, there were no occupational diseases that occurred to workers in the same year.

Corporate Life Saving Rules (CLSR) [EM-EP-320a.2]

PHE Subholding Upstream telah menetapkan 15 CLSR yang berasal dari 15 kegiatan berisiko tinggi, yang dapat menimbulkan potensi kecelakaan kerja. Dengan ditetapkan 15 CLSR diharapkan pekerja lebih waspada dalam melakukan persiapan dan pelaksanaan pekerjaan.

PHE Subholding Upstream has established 15 CLSR derived from 15 high-risk activities that have the potential to cause work accidents. By establishing these 15 CLSR, it is expected that the employees will be more cautious in preparing for and conducting their work activities.



Pengelolaan Risiko Terkait K3 [EM-EP-320a.2] [403-2][11.9.3] [SHS-3]

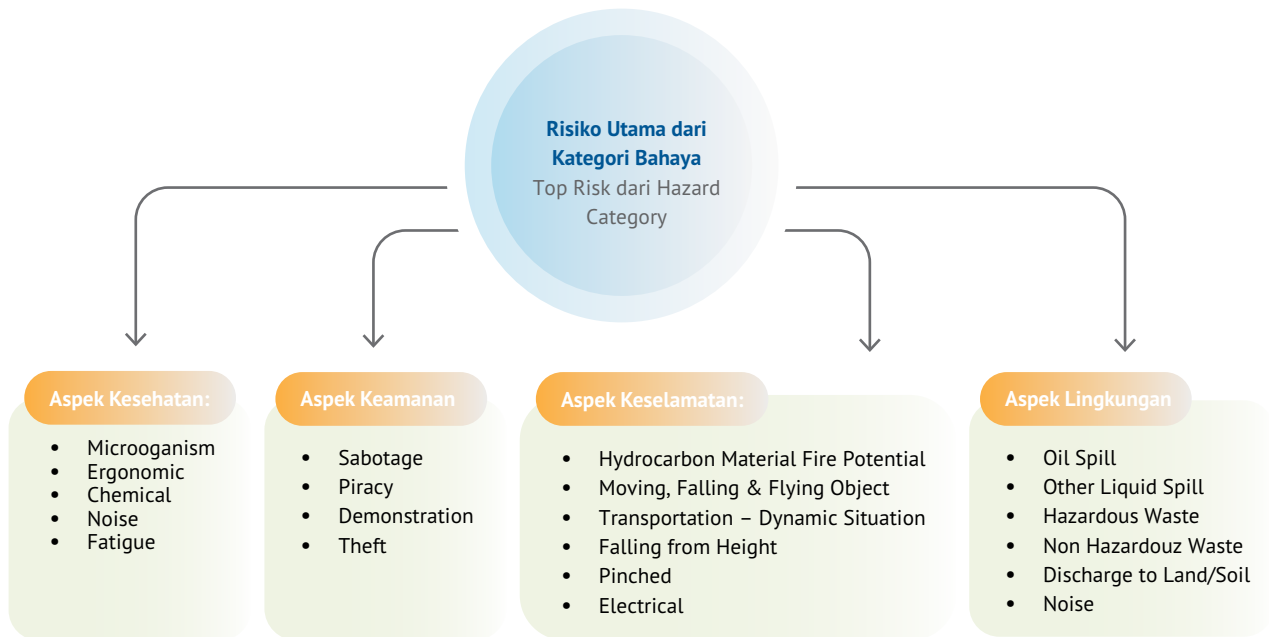
OHS Risk Management

Proses identifikasi potensi bahaya dan risiko terkait K3 dilakukan melalui beberapa tahap dan tingkatan, yaitu *Business Risk*, *HSSE Risk Register*, *Major Accident Hazard* dan *Kajian Risiko Spesifik* (TRA, HAZOP, JRMP, dan lain-lain), serta melibatkan fungsi-fungsi terkait yang didukung pekerja dengan kompetensi khusus. Secara berkala Perusahaan melakukan pemantauan terhadap pengelolaan potensi bahaya dan risiko tersebut.

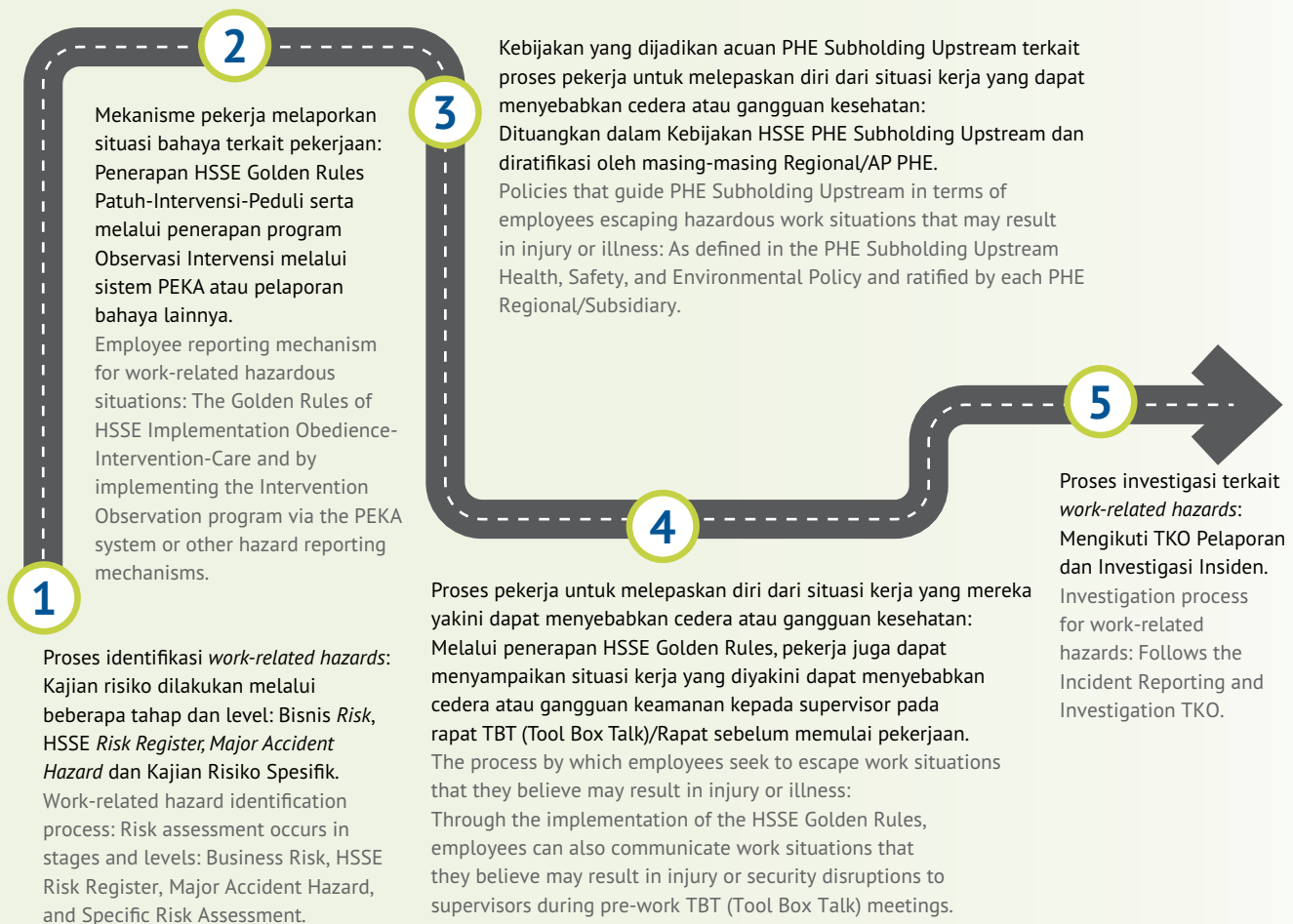
The process of identifying potential occupational health and safety hazards and risks is conducted through several stages and levels, namely *Business Risk*, *HSSE Risk Register*, *Major Accident Hazard*, and *Specific Risk Assessment Studies* (such as TRA, HAZOP, JRMP, and others). This process involves relevant functions supported by employees with special competencies. The Company regularly monitors the management of potential hazards and risks.

Pekerja wajib melaporkan kepada pimpinan setempat bila mendapatkan kondisi kerja berbahaya (*unsafe action & unsafe condition*), dan dapat mengajukan permohonan meninggalkan kondisi tersebut. Selama tahun 2022 pekerja telah melaporkan kondisi kerja berbahaya melalui mekanisme sistem pelaporan Pengamatan Keselamatan (PEKA) yang merujuk kepada TKO No. B8-008/PHE04000/2021-S9 Rev.0 tentang Sistem Pengamatan dan Intervensi HSSE (PEKA). Setiap pekerja juga diwajibkan melaporkan kejadian kecelakaan dengan segera sesuai dengan TKO Pelaporan dan Investigasi Insiden No. B8-001/PHE04000/2022-S9.Rev.1, dan hasilnya dilaporkan kepada pejabat berwenang. Segala bentuk pelaporan, kami memberikan perlindungan kerahasiaan data pelapor. [403-2]

Employees are required to report to their immediate superiors if they encounter hazardous work conditions (*unsafe actions and unsafe conditions*) and may request to leave such conditions. In 2022, employees have reported hazardous work conditions through the Safety Observation reporting mechanism (PEKA) as referenced in TKO No. B8-008/PHE04000/2021-S9 Rev.0 regarding HSSE Observation and Intervention System (PEKA). Additionally, each employee is obligated to report any work-related accidents promptly in accordance with the Incident Reporting and Investigation TKO No. B8-001/PHE04000/2022-S9.Rev.1, with the results reported to the relevant authority. We provide confidentiality protection for all reporting.



Identifikasi Bahaya, Penilaian Risiko, dan Investigasi Insiden [3-3] Hazard Identification, Risk Assessment, and Incident Investigation



Layanan Kesehatan Kerja [403-3][11.9.4]

Occupational Health Services

PHE Subholding Upstream memiliki *Loss Prevention Committee* (LPC) atau setara dengan Panitia Pembina Keselamatan dan Kesehatan Kerja (P2K3) yang berfungsi sebagai komite bersama untuk mendukung penerapan K3. Keanggotaan LPC terdiri dari Fungsi HSSE sebagai perwakilan manajemen, serta perwakilan pekerja. LPC secara berkala melakukan pertemuan guna mengevaluasi dan mencari solusi masalah yang menyebabkan kerugian akibat *asset integrity*, kecelakaan kerja, penyakit akibat kerja, permasalahan lingkungan, dan *socio-security*; mengevaluasi potensi *Major Accident Hazard* (MAH), *Safety & Environmental Critical Element* (SECE). Program-program K3LL disosialisasikan kepada seluruh pekerja dan dipublikasikan secara massif melalui *broadcast* dalam bentuk tautan video, dan lain-lain. [403-4][SHS-1-C1][OGSS-11.9.4][11.9.5]

Perusahaan melakukan beberapa program dan kegiatan untuk memastikan kesehatan kerja yang terjaga. Program ini, di antaranya: Program *Higiene* Industri di tempat kerja, Program *fitness for work* melalui *Medical Check Up Compliance*, *Health Surveillance/Daily Check Up*, Program Pengelolaan Penyakit Menular, termasuk pencegahan penularan COVID-19, *Medical Emergency Management*, dan Program Promosi Kesehatan. Perusahaan terus mendorong seluruh pekerja untuk menerapkan gaya hidup sehat, misalnya dengan konsumsi makanan bergizi. [SHS-2 C3]

PHE Subholding Upstream has a *Loss Prevention Committee* (LPC), equivalent to the Committee for the Development of Occupational Health and Safety (DOHS), which functions as a joint committee to support the implementation of occupational health and safety measures. The LPC's membership consists of HSSE Function as management representatives and worker representatives. The LPC holds regular meetings to evaluate and find solutions to problems that result in asset integrity losses, work accidents, occupational diseases, environmental issues, and socio-security problems. Additionally, the LPC evaluates potential Major Accident Hazard (MAH) and Safety & Environmental Critical Element (SECE). OHS and Environmental Protection training (K3LL) programs are socialized to all workers and widely publicized through video broadcasts and other media.

The Company has implemented several programs and activities to ensure occupational health is maintained. These programs include: Industrial Hygiene Program in the workplace; Fitness for Work Program through Medical Check Up Compliance; Health Surveillance/Daily Check Up; Infectious Disease Management Program, including prevention of COVID-19 transmission; Medical Emergency Management; and Health Promotion Program. The Company continues to encourage all employees to adopt a healthy lifestyle, such as consuming nutritious food.



Pelatihan Keselamatan dan Kesehatan Kerja dan Lindung Lingkungan Occupational Health and Safety and Environmental Protection Training

Secara rutin PHE Subholding Upstream menyelenggarakan pelatihan terkait K3 dan Lindung Lingkungan bagi para pekerja. Secara keseluruhan ada 408 kegiatan pelatihan, dengan total waktu kegiatan 156.372 jam dan total peserta 6.820 orang, sehingga rata-rata jam pelatihan per peserta sebesar 22,92 jam. [403-5][SHS-1 C2] [11.9.6][SHS-7 C2][EM-EP-320a.1]

Salah satu pelaksanaan pelatihan adalah kegiatan *Upstream Fire Rescue Challenge* (UFRC), untuk meningkatkan tanggung jawab sekaligus kemampuan tim khusus di setiap Anak Perusahaan agar selalu siap siaga menjaga keselamatan pekerja maupun aset perusahaan. UFRC diselenggarakan di HSE TC Sungai Gerong, Sumatera Selatan, fasilitas pelatihan *rescue* terbesar di Indonesia yang dikelola PERTAMINA Corporate University.

PHE Subholding Upstream conducts regular training on Occupational Health and Safety (OHS) and Environmental Protection for its employees. In total, 408 training activities were held, with a total duration of 156,372 hours and 6,820 participants, resulting in an average of 22.92 training hours per participant.

One of the training programs conducted is the Upstream Fire Rescue Challenge (UFRC), aimed to enhance the responsibility and capability of special teams in each Subsidiary to always be ready to maintain the safety of employees and company assets. UFRC is held at HSE TC Sungai Gerong, South Sumatra, the largest rescue training facility in Indonesia managed by PERTAMINA Corporate University.



Promosi Kesehatan Pekerja ^[11.9.7]

Employee Health Promotion

Kami menyertakan seluruh pekerja pada program asuransi kesehatan yang diselenggarakan oleh PT Admedika. Sebagai peserta asuransi kesehatan, pekerja PHE Subholding Upstream mendapatkan akses layanan kesehatan baik penyakit akibat kerja (PAK) maupun bukan PAK. Layanan kesehatan dapat diakses pada fasilitas kesehatan yang telah disepakati pihak asuransi dan pekerja, termasuk rumah sakit-rumah sakit yang dikelola PT Pertamina Bina Medika IHC, yang merupakan Anak Perusahaan PT Pertamina (Persero). ^[403-6]

Selama tahun 2022, PHE Subholding Upstream menyelenggarakan kegiatan promosi kesehatan bukan PAK kepada pekerja dan pekerja lain, di antaranya penanggulangan HIV/AIDS di tempat kerja, dan *physical activity campaign* serta ATRAKTIF (Aku Sehat dan Bugar dengan Pola Hidup Aktif) untuk mengampanyekan kebiasaan hidup sehat sehingga semua pekerja memiliki tingkat kebugaran yang tinggi sehingga produktivitas kerja dapat ditingkatkan.

We enroll all employees in the health insurance program provided by PT Admedika. As participants of the health insurance, PHE Subholding Upstream employees have access to health services for both work-related and non-work-related illnesses. These health services can be accessed at agreed-upon healthcare facilities between the insurance company and the employees, including hospitals managed by PT Pertamina Bina Medika IHC, a Subsidiary of PT Pertamina (Persero).

In 2022, PHE Subholding Upstream conducted non-work-related health promotion activities for employees and other workers, including workplace HIV/AIDS prevention, physical activity campaigns, and ATRAKTIF (Aku Sehat dan Bugar dengan Pola Hidup Aktif) to promote healthy lifestyles so that all employees have high levels of fitness and work productivity can be improved.

Pencegahan dan Mitigasi K3 terkait Relasi Bisnis ^{[403-7] [11.9.8] [409-1]}

OHS Prevention and Mitigation related to Business Relations

Perusahaan mewajibkan kontraktor/pemasok/vendor atau mitra kerja untuk melakukan perlindungan terhadap para pekerja dan memenuhi aspek Sistem Manajemen Keselamatan dan Kesehatan Kerja (SMK3) sesuai peraturan perundang-undangan, standar internasional (ISO/OHSAS/ISRS), dan kebijakan HSSE PERTAMINA yang berlaku. Perusahaan menerapkan *Contractor Safety Management System* (CSMS), yakni sistem manajemen untuk mengelola kontraktor yang bekerja di lingkungan Perusahaan telah melakukan pengawasan, pemantauan dan perbaikan penyelenggaraan/pelaksanaan K3. Pada tahun 2022 penerapan CSMS mencakup 2.227 mitra kerja dengan total jumlah kontrak 4.599. Jumlah kontrak kerja dengan risiko tinggi sebanyak 1.419, risiko sedang 753, dan risiko rendah 2.427.

The Company mandates contractors/suppliers/vendors or partners to provide protection for their employees and fulfill the aspects of Occupational Health and Safety Management System (OHSMS) in accordance with the prevailing laws and regulations, international standards (ISO/OHSAS/ISRS), and PERTAMINA's HSSE policy. The Company implements a Contractor Safety Management System (CSMS), a management system to oversee contractors working in the company's environment by conducting monitoring, supervision, and improvement of OHS implementation. In 2022, the CSMS implementation covered 2,227 partners with a total of 4,599 contracts. 1,419 contracts were high risk; 753 were medium risk; and 2,427 were low risk.



Seluruh vendor Perusahaan telah menerima kontrak yang di dalamnya terdapat pembahasan klausul *socio-economic exhibit*. Perseroan juga mengacu pada Kebijakan Sosial untuk Pemasok dan Kontraktor PT Pertamina (Persero) guna memastikan implementasi prinsip-prinsip HAM kepada para pekerja di lingkungan kerjanya. Selain itu, di dalam kontrak juga terdapat klausul pengembangan Rencana Kerja K3LL yang mencakup salah satunya pengurangan emisi. Seluruh persyaratan aspek SMK3 dievaluasi berdasar pada TKO No. B8-004/PHE04000/2021-S9 Rev.0 tentang Pengelolaan Contractor Safety Management System (CSMS).

All vendors of the Company have received contracts that include discussions on the socio-economic exhibit clause. The Company also refers to the Social Policy for Suppliers and Contractors of PT Pertamina (Persero) to ensure the implementation of human rights principles for workers in its working environment. In addition, the contract also includes a clause on the development of a K3LL Work Plan, which includes, among others, emission reduction. All OHSMS aspect requirements are evaluated based on TKO No. B8-004/PHE04000/2021-S9 Rev.0 on Contractor Safety Management System (CSMS) Management.

Kinerja Pengelolaan Keselamatan Kerja [403-9][11.9.10][EM-EP-320a.1]

OHS Management Performance

Selama tahun 2022 PHE Subholding Upstream mencatat 31 insiden (*recordable incident*), dengan total jumlah jam kerja mencapai 317.569.904 Penghitungan *Total Recordable Incident Rate* (TRIR) menggunakan metode OSHA Log 300 dengan basis penghitungan per-1.000.000, dan tidak ada pekerja yang dikecualikan dalam penghitungan. TRIR Subholding Upstream dalam periode tahun 2022 sebesar 0,10 dengan target yang telah ditetapkan sebelumnya yakni 0,11 (capaian semakin rendah semakin baik)

In 2022, PHE Subholding Upstream recorded 31 recordable incidents, with 317,569,904 total working hours. The Total Recordable Incident Rate (TRIR) calculation used the OSHA Log 300 method with a basis of per 1,000,000, and no employees were excluded from the calculation. The TRIR for Subholding Upstream in the 2022 period was 0.10, which met the previously established target of 0.11 (higher achievement is better).

Pengelolaan Keselamatan Kerja Berdasarkan Insiden Tercatat dan Jumlah Jam Kerja [403-9] [SHS-3]

OHS Management Based on Recorded Incidents and Total Working Hours

Kinerja Performance	2022	2021	2020
	Jumlah Total	Jumlah Total	Jumlah Total
Insiden Tercatat Recorded Incident			
Fatality	0	1	3
Lost Time Incident (LTI)	2	3	3
Restricted Work Day Case (RWDC)	9	10	14
Medical Treatment Case (MTC)	20	20	21
First Aid Case (FAC)	77	66	94
Jumlah Total	108	100	135
Jam Kerja Tercatat Recorded Working Hours			
Jumlah Jam Kerja Selamat (Juta) Total Safe Working Hours (Million)	121,4	18,8	37

Keterangan:
cakupan data (PHE only/PHE SHU)

Note:

Scope of data only refers to PHE and PHE SHU.

Khusus untuk pekerja mitra yang bekerja di bawah pengawasan PHE Subholding Upstream, pengungkapan informasi *recordable incident* hanya untuk tahun 2022 meliputi *Fatality*, LTI, RWDC, dan MTC, sebanyak 31 kejadian. Untuk FAC merupakan angka gabungan dari pekerja dan bukan pekerja PHE Subholding Upstream. [403-9][SHS 3-C2]

Berdasarkan analisis kecenderungan insiden yang dilakukan pada seluruh insiden yang menyebabkan cedera, diketahui lebih dari 86% adalah aktivitas berisiko sedang-tinggi. Aktivitas berisiko sedang-tinggi tersebut di antaranya *drilling*, *workover*, *well services*, *maintenance/ inspection*, *marine activities* dan *production operation*, dan *construction*.

In particular, for partner workers who work under the supervision of PHE Subholding Upstream, the disclosure of recordable incident information for 2022 only includes *Fatality*, LTI, RWDC, and MTC, with a total of 31 incidents. The FAC number represents a combination of both employees and non-employees of PHE Subholding Upstream.

Based on the analysis of incident trends conducted on all incidents that resulted in injuries, it was found that more than 86% of them were medium to high-risk activities. These medium to high-risk activities include *drilling*, *workover*, *well services*, *maintenance/inspection*, *marine activities*, *production operation*, and *construction*.

Upaya Perusahaan untuk mencegah insiden, antara lain: [SHS-3 C4]

- Robust Safety Culture-No Human Injury in Drilling
- Coaching Program for Site Leaders and HSSE Personnel
- Personal Risk Assessment
- MWT Cross Zona-Cross field
- Hand and Finger Injury Prevention Program
- Housekeeping (SPT) and Safety Barriers (SBT) Program
- One SIKA Implementation

The Company's efforts to prevent incidents include:

[SHS-3 C4]

- Robust Safety Culture-No Human Injury in Drilling
- Coaching Program for Site Leaders and HSSE Personnel
- Personal Risk Assessment
- MWT Cross Zona-Cross field
- Hand and Finger Injury Prevention Program
- Housekeeping (SPT) and Safety Barriers (SBT) Program
- One SIKA Implementation



**Jumlah Jam Kerja
Selamat**
Total Safe
Working Hours

Regional-3

128.609.947

November 2020

Regional-4

148.867.151

Juli 2017

Elnusa

159.973.278

Desember 2018

Badak NGL

120.669.421

Desember 2006



Pengelolaan Kesehatan Kerja [403-10] [11.9.10] [EM-EP-320a.1]

Occupational Health Management

Selama tahun 2022 tidak ada kasus PAK untuk pekerja PHE Subholding Upstream. Kami juga mengoptimalkan pelaksanaan vaksinasi Covid-19 kepada pekerja sebanyak 15.080 dan mitra kerja sebanyak 73.093 dengan pencapaian 100% untuk vaksinasi ke-3 (*booster*).

Pada periode pelaporan, kami telah melakukan audit internal SUPREME yang dilaksanakan terhadap 5 wilayah kerja. Hasil survei yang menggambarkan kemampuan dalam mengelola risiko kegiatan operasional, dikomunikasikan berdasarkan pada lima tipe warna: yakni Hijau Tua, Hijau Muda, Kuning, Oranye, dan Merah.

There were no PAK cases for PHE Subholding Upstream employees in 2022. We also optimized the implementation of Covid-19 vaccination for 15,080 employees and 73,093 partners, achieving a 100% completion rate for the third dose of the vaccine (*booster*).

During the reporting period, an internal audit of SUPREME was conducted on 5 WKs. The survey results, which depict the Company's ability to manage operational risks, were communicated based on five color-coded categories: Light Green, Dark Green, Yellow, Orange, and Red.

Hasil Audit Internal SUPREME Tahun 2022
2022 SUPREME Internal Audit Results



PHE Subholding Upstream juga melakukan Survei Budaya HSSE, dengan tujuan untuk mengukur tingkat budaya perusahaan terhadap aspek HSSE, untuk tercapainya HSSE *Beyond Culture* menuju budaya HSSE Generatif. Berdasar hasil survei tahun 2022 diketahui nilai rata-rata mencapai 4,08 dari skala 5 atau berada pada level proaktif, lebih rendah dari tahun 2021 sebesar 4,12 dari skala 5 dan berada pada level proaktif.

PHE Subholding Upstream also conducted an HSSE Culture Survey aimed at measuring the Company's cultural level in HSSE aspects, towards achieving HSSE *Beyond Culture* and creating a Generative HSSE culture. Based on the 2022 survey results, the average score reached 4.08 out of a scale of 5, indicating a proactive level. This is slightly lower compared to the 2021 survey results which recorded a score of 4.12 out of 5 and a proactive level.

Hasil Survei Budaya HSSE
HSSE Culture Survey Results

Uraian Description	2022	2021	2020
Jumlah Lokasi Total Locations	18	18	25
Skor Score	4,08	4,12	4,14
Level	Proactive	Proactive	Proactive



Keselamatan Proses dan Pencegahan Insiden Berskala Besar

Process Safety and Large-scale Incident Prevention

Penerapan keselamatan proses didasari pada kebijakan HSSE PHE Subholding Upstream yang diatur pada Pedoman No. A8-004/PHE04000/2021-S9 Rev.0 tentang Pedoman *Process Safety* dan *Asset Integrity Management System* (PSAIMS). PHE SHU juga membangun budaya K3 melalui forum HSSE Leadership Forum yang dihadiri oleh seluruh direksi di regional, pimpinan anak perusahaan, dan pimpinan SHU setiap triwulan. Sepanjang tahun 2022, kinerja keselamatan ditandai oleh 1.449 *process safety event* (PSE), yang mencakup 1 peristiwa *Tier 1* dan 11 peristiwa *Tier 2*. PHE Subholding Upstream juga memantau dan melaporkan *Tier 3* dengan jumlah peristiwa sebanyak 1.437. [SHS-6 C1][EMEP-540a.1][OGSS-11-11.8.3]

Pada tahun 2022 tercatat ada beberapa peristiwa keselamatan proses yang termasuk *Tier-1*, *Tier-2*, dan *Tier-3* dan telah ditindaklanjuti dengan melakukan berbagai upaya pencegahan. Salah satu pencapaian penting adalah Go Live untuk sistem *Asset Integrity Management* (AIMS), yang akan meningkatkan keandalan dan integritas seluruh aset, menjamin keselamatan serta efisiensi operasional di seluruh wilayah operasi. Penerapan AIMS sangat penting secara sistem untuk memantau secara waktu nyata (*real-time*) aset fasilitas produksi, dan bagian dari transformasi digital yang dilakukan Perusahaan. AIMS juga dapat berfungsi menurunkan jumlah kebocoran dan penurunan *loss production opportunity* (LPO) untuk menjaga target produksi. [SHS-6-C2]

Pengendalian Keadaan Darurat

Pengendalian keadaan darurat yang mungkin terjadi di setiap kegiatan operasi di lingkungan PHE Subholding Upstream, dilakukan sesuai Pedoman Pengelolaan Tanggap Darurat dan Manajemen Krisis No.A8-001/PHE04000/2021-S9. Manajemen kesiapan tanggap darurat (*emergency preparedness*) dilaksanakan pada keadaan normal oleh entitas *Emergency Response and Crisis Management* (ERCM) di dalam Fungsi HSSE. Pada praktiknya, aktivitas tanggap darurat dilakukan dengan prinsip *tiered response* (berjenjang) melalui organisasi tanggap darurat (*emergency response organization* [ERO]), pada fasilitas

The implementation of process safety is based on PHE Subholding Upstream's HSSE policy, which is regulated in Guideline No. A8-004/PHE04000/2021-S9 Rev.0 on Process Safety and Asset Integrity Management System (PSAIMS) Guidelines. PHE SHU also promotes a safety culture through the HSSE Leadership Forum, attended by all regional directors, subsidiary leaders, and SHU leaders every quarter. Throughout 2022, safety performance was marked by 1,449 process safety events (PSE), including 1 Tier 1 event and 11 Tier 2 events. PHE Subholding Upstream also monitored and reported on Tier 3 events, totaling 1,437 incidents.

In 2022, there were several process safety incidents recorded, including Tier-1, Tier-2, and Tier-3 events, which were followed up with various preventive measures. One significant achievement was the Go Live for the Asset Integrity Management System (AIMS), which enhanced the reliability and integrity of all assets, ensure safety, and operational efficiency across all operational areas. The implementation of AIMS is crucial for real-time monitoring of production facility assets and is part of the company's digital transformation. AIMS can also function to reduce the number of leaks and decrease the loss production opportunity (LPO) to maintain production targets.

Emergency Control

Emergency situations that may occur in any operational activities within PHE Subholding Upstream's environment are controlled in accordance with the Emergency Response and Crisis Management Guidelines No. A8-001/PHE04000/2021-S9. Emergency preparedness management is carried out during normal conditions by the Emergency Response and Crisis Management (ERCM) entity within the HSSE Function. In practice, emergency response activities are conducted using a tiered response principle through the Emergency Response Organization (ERO) at Production Field Facilities/Project Sites/Exploration Sites (SERT), Zone



lapangan produksi/Site Proyek/Site Eksplorasi (SERT), level Zona atau setara (IMT), Regional atau setara (BST), dan Subholding Upstream (CMT) sesuai dengan kompleksitas atau tingkat kritis insidennya.

Perusahaan juga menjalin komunikasi dan sinergi dengan entitas PERTAMINA Grup lain untuk penanggulangan dan penanganan bersama dalam keadaan darurat. PHE Subholding Upstream Regional 2 (Zona 5, 6, dan 7) bersama PT Kilang Pertamina Internasional (KPI) Refinery Unit VI Balongan, PT Pertamina Patra Niaga Jawa Bagian Barat dan PT Pertamina Gas East Operation, melakukan penandatanganan Nota Kesepahaman Bersama (MoU) terkait Penanggulangan Keadaan Darurat (PKD). Sinergi ini menjadi langkah strategis antar unit bisnis PERTAMINA yang memiliki wilayah operasi beririsan di area Jawa Bagian Barat dan Kalimantan Timur dalam mendukung penanganan keadaan darurat skala besar (*major emergency*). Keadaan darurat yang dimaksud meliputi terjadinya ledakan/kebakaran, tumpahan minyak, kebocoran gas dan bencana alam yang terjadi di unit bisnis hulu dan unit bisnis hilir.

level or equivalent (IMT), Regional level or equivalent (BST), and Subholding Upstream level (CMT) according to the complexity or criticality of the incident.

The Company also established communication and synergy with other entities within the PERTAMINA Group for joint emergency response and management. PHE Subholding Upstream Regional 2 (Zone 5, 6, and 7) together with PT Kilang Pertamina Internasional (KPI) Refinery Unit VI Balongan, PT Pertamina Patra Niaga West Java, and PT Pertamina Gas East Operation signed a Joint Memorandum of Understanding (MoU) regarding Emergency Response (ER). This synergy represents a strategic initiative between PERTAMINA business units that operate in overlapping regions of West Java and East Kalimantan in support of large-scale emergency response (major emergency). The term "emergency" refers to incidents such as explosions/fires, oil spills, gas leaks, and natural disasters that occur in both upstream and downstream business units.





Rekrutmen, Retensi, dan Pengembangan Pekerja [POJK51-6.c.2]

Employee Recruitment, Retention, and Development

Pengelolaan HC PHE Subholding Upstream bertujuan untuk mencapai visi sebagai *primary choice* para pekerja migas di lingkungan nasional dan global sebagai *role model* pengelolaan HC di bisnis hulu migas terintegrasi untuk mencapai keberlanjutan bisnis. Selama tahun 2022 Fungsi Human Capital (HC) melakukan beberapa program pengembangan pekerja dan organisasi. Dalam implementasi program ini, Fungsi HC menerapkan strategi inisiatif berdasarkan konsep "Homeostasis" yang merupakan proses otomatis bagi makhluk hidup agar dapat bertahan, walaupun terjadi perubahan di sekitarnya.

Fungsi HC telah menyusun rencana strategis melalui tiga fase setiap tahunnya untuk mendapatkan talent terbaik bagi Perusahaan. Rencana strategis di Fase 2021 adalah "The Transition Phase (2021), The Enhanced Phase (2022), dan Entrance Global Phase (2023)". Setiap fase memiliki target sendiri dengan implementasi strategi utama, yaitu:

- Mengembangkan dan mempersiapkan *talent* untuk mengelola tantangan bisnis dengan *high-performance culture*.
- Membangun organisasi dan proses bisnis yang *lean* menuju perusahaan.

Secara garis besar, aktivitas HC dilakukan mengacu kepada konsep manajemen talenta di Pertamina. Konsep ini bertujuan untuk membangun *Talent & Succession Management*, mengedepankan digitalisasi, menjamin keterbukaan dan kesempatan yang setara.

Human Capital (HC) management by PHE Subholding Upstream aims to achieve its vision as the primary choice for oil and gas workers, both nationally and globally, as a role model for integrated upstream oil and gas HC management to achieve business sustainability. In 2022, the HC function conducted several employee and organizational development programs. To implement these programs, the HC function applied an initiative strategy based on the "Homeostasis" concept, which is an automatic process for living organisms to survive despite changes in their environment.

The HC function has developed a strategic plan through three phases every year to acquire the best talents for the Company. The strategic plan in Phase 2021 is "The Transition Phase (2021), The Enhanced Phase (2022), and Entrance Global Phase (2023)." Each phase has its own targets with the implementation of key strategies, which are:

- Develop and prepare talents to manage business challenges with a high-performance culture.
- Build a lean organization and business processes towards the Company's goals.

In general, HC activities are carried out in accordance with the talent management concept in Pertamina. This concept aims to build Talent & Succession Management, prioritize digitization, ensure openness, and equal opportunities.



Rekrutmen Pekerja dan Pencegahan Pekerja Anak [F.19] [401-3, 404-1, 414-2]

Employee Recruitment and Child Labor Prevention

Proses rekrutmen pekerja dilaksanakan melalui seleksi ketat dengan mengedepankan kesetaraan kesempatan, dan bebas diskriminasi, baik gender, suku, agama, dan ras. PHE Subholding Upstream juga memastikan tidak ada tenaga kerja paksa dan pekerja anak di bawah umur sesuai dengan peraturan yang berlaku. Apabila terjadi perubahan operasional, pihak manajemen akan memberikan minimum notice kepada pekerja sesuai yang telah diatur di dalam Perjanjian Kerja Bersama (PKB). [POJK51-6.c.2.a][402-1][OGSS-11.10.5]

The employee recruitment process is conducted through strict selection that prioritizes equal opportunities and is free from discrimination, including gender, ethnicity, religion, and race. PHE Subholding Upstream also ensures that there is no forced labor and underage workers in accordance with applicable regulations. If there are operational changes, the management will provide minimum notice to employees as stipulated in the Collective Labor Agreement (CLA).

Selama tahun 2022 PT PHE menerima 334 pekerja baru, terdiri dari 273 laki-laki dan 61 perempuan. Sebagai dukungan pada kesetaraan kesempatan, Perusahaan mempekerjakan 13 pekerja disabilitas. Program ini merupakan turunan dari Holding dengan status ketiga belas pekerja tersebut adalah TKJP. [401-1][OGSS-11.10.2]

In 2022, PT PHE hired 334 new employees comprised of 273 men and 61 women. In support of equal opportunities, the Company employed 13 workers with disabilities. This program is a derivative of the Holding with the 13 employees' statuses being TKJP.

Jumlah Pekerja Baru Tahun 2022

Jumlah Pekerja Baru Tahun 2022

Wilayah Kerja Work Area (WK)	Pria Male		Wanita Female		Jumlah Total	
	Jumlah Total	%	Jumlah Total	%	Jumlah Total	%
WK Indonesia Indonesia WK	273	82	61	18	334	100
WK Internasional International WK	0	0	0	0	0	0
Jumlah Total	273	82	61	18	334	100



Retensi Pekerja

Employee Retention

PHE Subholding Upstream menerapkan standarisasi sistem penilaian dan pemberian imbal jasa pekerjaan yang adil berbasis kinerja, untuk mendorong dedikasi dan loyalitas setiap pekerja. Selama tahun 2022, tercatat ada 700 pekerja yang meninggalkan Perusahaan, terdiri dari pensiun, pensiun dini, dan mengundurkan diri atas keinginan sendiri. Jumlah tersebut mencapai 4.9% dari total 14.198 pekerja. Hal ini mencerminkan tingkat retensi PHE Subholding Upstream yang cukup tinggi, sejalan dengan hasil survei Indeks Kepuasan Pekerja tahun 2022. Rincian total pekerja baru dan meninggalkan Perusahaan dapat ditemukan pada laporan ini di bagian lampiran. [401-1] [11.10.2]

PHE Subholding Upstream adheres to a standardized performance-based job evaluation and remuneration system to ensure fair assessment and compensation for all employees, which helps to promote dedication and loyalty. In 2022, 700 employees left the Company due to retirement, early retirement, and voluntary resignation. This number represents 4.9% of the total workforce of 14,198, demonstrating a relatively high level of employee retention at PHE Subholding Upstream and is consistent with the results of the 2022 Employee Satisfaction Index survey. Details of the total number of new hires and employees who left the Company can be found in the Appendix of this Report.

**Hasil Survei Terhadap
Pekerja PHE Subholding
Upstream Tahun 2022.**
Results of the 2022 PHE
Subholding Upstream
Employee Survey.



Responden merupakan
Pekerja PWTT dan PWT di
lingkungan PHE Subholding
Upstream.
Respondents were PWTT and
PWT employees within PHE
Subholding Upstream.

Indeks Kepuasan Pekerja

Employee Satisfaction Index

Entitas Entity	Skor Score	Skala Scale
SHU & R1-R5	3,82	5
Elnusa	4,2	5
PDSI	3,90	5
Badak NGL	4,43	5

PHE Subholding Upstream memberikan imbal balik kepada karyawan berdasarkan hasil kinerja, tanpa membedakan gender. Rasio remunerasi antara pekerja laki-laki dan perempuan pada jabatan yang sama adalah 1:1. Pada periode pelaporan, besaran remunerasi yang diterima pekerja PHE Subholding Upstream untuk tingkat jabatan terendah masih lebih besar dari upah minimum 2022 yang ditetapkan pemerintah daerah di masing-masing WK. Komponen dalam imbal jasa pekerjaan yang diberikan kepada pekerja sesuai dengan peraturan perundangan yang berlaku. Untuk pekerja tetap atau Pekerja Waktu Tidak Tertentu (PWTT) antara lain terdapat *health care*, *parental leave*, serta program pensiun dan kompensasi terhadap pekerja yang sewaktu-waktu mengalami kecelakaan kerja. Perusahaan tidak memiliki kebijakan pemberian imbal jasa pekerjaan dalam bentuk opsi kepemilikan saham. [POJK51-6.c.2.b][401-2] [401-3][OGSS-11.10.3]

Sesuai dengan ketentuan internal Perusahaan, PHE Subholding Upstream memberikan cuti melahirkan. Masa cuti melahirkan bagi pekerja perempuan yang menjalani persalinan adalah 90 hari kalender dimana pada tahun 2022 tercatat ada 93 pekerja perempuan yang menjalani cuti melahirkan. Perusahaan juga memberikan cuti khusus 5 hari kerja kepada pekerja laki-laki untuk mendampingi istrinya bersalin, yang diambil oleh 287 pekerja. Di tahun ini, satu orang yang tidak kembali bekerja setelah mengambil cuti melahirkan. [11.10.4][11.10.5]

PHE Subholding Upstream provides performance-based rewards to its employees without any gender-based discrimination. The remuneration ratio between male and female workers in the same position is 1:1. During the reporting period, the remuneration received by the lowest-level employees in PHE Subholding Upstream was still higher than the 2022 minimum wage set by the respective regional governments in each WK. The components of job-related benefits given to the employees were in accordance with the prevailing regulations. For permanent or Non-Fixed Term Employees (NFTE/PWTT), there were benefits such as healthcare, parental leave, as well as pension and compensation programs for workers who experience work accidents at any time. The Company does not have a policy of providing job-related benefits in the form of stock ownership options.

In accordance with the Company's internal regulations, PHE Subholding Upstream provides maternity leave. The maternity leave period for female employees who have given birth is 90 calendar days, and in 2022, 93 female employees took maternity leave. The Company also provides 5 working days of special leave for male employees to accompany their wives during childbirth, which was taken by 287 workers. This year, one person did not return to work after taking maternity leave.



Pelatihan dan Pengembangan Pekerja [POJK 6.c.2.d][F.22]

Employee Training and Development

Peningkatan kompetensi pekerja dilakukan melalui pembelajaran. Secara keseluruhan selama tahun 2022 Perusahaan telah menyelenggarakan 3 jenis kegiatan pembelajaran, yaitu *blended development program* (*assignment, special project, On The Job Training [OJT]*, dan *rotation*), *formal learning* (pelatihan dan belajar swadaya), dan *informal learning* (*feedback, coaching & mentoring, knowledge sharing*, dan *benchmarking*) dengan jumlah jam pembelajaran mencapai 5.036.495, sehingga rerata jam pembelajaran per total karyawan mencapai 354,73. PHE SHU juga mengadakan pelatihan terkait HAM untuk petugas keamanan di lingkungan kerja Perusahaan. [404-1][11.10.6]

Bagi pekerja yang memasuki masa purnakarya, mereka mendapatkan pelatihan agar dapat tetap melaksanakan kegiatan yang bermanfaat dan produktif. Pada tahun 2022 sebanyak 177 pekerja mengikuti pelatihan persiapan masa purnakarya. [404-2][11.10.7]

Employee competency development takes place through learning. Overall, the Company conducted 3 types of learning activities in 2022, namely blended development programs (*assignment, special project, On the Job Training [OJT]*, and *rotation*), formal learning (training and self-learning), and informal learning (*feedback, coaching & mentoring, knowledge sharing, and benchmarking*) with 5,036,495 total learning hours, resulting in an average of 354.73 learning hours per total employee. PHE SHU also conducted human rights training for security officers in the Company's work environment.

Employees who have reached retirement age are given training to enable them to continue carrying out beneficial and productive activities. In 2022, a total of 177 employees received retirement preparation training.

Pengembangan Karir dan Keberagaman

Career Development and Diversity

Perusahaan memberikan kesempatan sama kepada setiap pekerja untuk mengembangkan karir, tanpa perbedaan latar belakang. Promosi *grading* pekerja didasarkan pada hasil penilaian kinerja. Dari penilaian selama tahun 2022, diperoleh hasil sebanyak 3.429 pekerja, atau 24% dari total pekerja telah mendapatkan promosi. [404-3]

The Company provides equal opportunities to every employee to develop their careers, regardless of their background. Employee grading promotions are based on performance assessments. From the assessments carried out in 2022, 3,429 workers, or 24% of the total employees, received promotions.

Pekerja Penerima Promosi Jabatan
Employees Who Received Job Promotions

Gender	2022		2021		2020	
	Jumlah Total	%	Jumlah Total	%	Jumlah Total	%
Laki-laki Male	2.894	84	2.156	83	470	79
Perempuan Female	535	16	437	17	122	21
Jumlah Total	3.429	100	2.593	100	590	100





Dukungan Pada Hak Asasi Manusia

Support for Human Rights

PHE Subholding Upstream mengedepankan penghormatan pada hak-hak asasi manusia (HAM) dalam mendorong produktivitas kerja, target dan pencapaian. PT PHE menyediakan akses pelaporan untuk segala bentuk diskriminasi, kekerasan, dan pelecehan yang terjadi di tempat kerja, baik melalui *whistleblowing system* dan mekanisme pelaporan *grievance* yang diatur dalam Peraturan Perusahaan. Pada tahun 2022 kami tidak menerima laporan adanya insiden diskriminasi terhadap pekerja dan/atau diskriminasi dalam bekerja. [11.11.6]

Sejalan dengan dukungan pada nilai-nilai universal HAM, PHE Subholding Upstream memiliki keberpihakan yang tinggi terhadap penduduk asli/masyarakat adat di sekitar wilayah operasi. Perusahaan melibatkan masyarakat lokal dan menghargai hak kolektif masyarakat untuk mengambil sikap setuju atau tidak setuju terhadap rencana pengembangan program yang diusulkan pada wilayah mereka, sejalan dengan prinsip *Free, Prior, and Informed Consent* (FPIC). PHE Subholding Upstream telah memasukkan prinsip FPIC ini dalam Pedoman Pengelolaan Tanggung Jawab Sosial dan Lingkungan (TJSL) No.A13-003/PHE01000/2021-S9. Kegiatan usaha PHE Subholding Upstream tidak ada yang mempengaruhi secara signifikan maupun menimbulkan perselisihan dengan masyarakat adat. Pada 2022, tidak terdapat insiden yang berkaitan dengan pelanggaran terhadap hak-hak masyarakat adat.

PHE Subholding Upstream upholds respect for human rights in promoting work productivity, targets, and achievements. PT PHE provides reporting access for all forms of discrimination, violence, and harassment that occur in the workplace, both through a whistleblowing system and a grievance reporting mechanism regulated in the Company Regulation. In 2022, we did not receive any reports of incidents of discrimination against workers and/or discrimination in the workplace.

PHE Subholding Upstream demonstrates a strong commitment to indigenous peoples/local communities in the vicinity of its operational areas, consistent with its support for universal human rights values. In accordance with the Free, Prior, and Informed Consent (FPIC) principle, the Company engages with local communities and respects their collective rights to express their agreement or disagreement with proposed development programs in their areas. The FPIC principle has been incorporated into PHE Subholding Corporate Social Responsibility (CSR) Guidelines No.A13-003/PHE01000/2021-S9. PHE Subholding Upstream's activities have no significant impact on or cause conflict with indigenous communities. There were no incidents involving violations of indigenous peoples' rights in 2022.



Perusahaan terus membangun komunikasi dengan masyarakat adat yang ada di wilayah sekitar WK, di antaranya:

- PT Pertamina EP Tarakan Field (PEP Tarakan Field) yang termasuk dalam Zona 10 Regional Kalimantan menerima kunjungan Kelompok Adat Tidung, yang merupakan warga asli Kalimantan Utara. Dalam pertemuan ini, mereka menyampaikan aspirasi terkait penyerapan tenaga kerja dan program tanggung jawab sosial perusahaan (TJSL).
- PT Pertamina Hulu Rokan (PHR) Rokan bersama Pemkab Bengkalis menjalin silaturahmi dengan masyarakat adat Suku Sakai. Dalam pertemuan tersebut Pemkab Bengkalis meminta dukungan Perusahaan untuk meningkatkan kualitas SDM generasi muda Sakai di Kabupaten Bengkalis, melalui peningkatan pendidikan anak-anak Sakai.

The Company continues to foster communication with the indigenous community in the surrounding area of our WKs, including:

- PT Pertamina EP Tarakan Field (PEP Tarakan Field), part of Zone 10 of the Kalimantan Regional, received a visit from the Tidung Indigenous Group, who are native residents of North Kalimantan. During the meeting, they conveyed their aspirations regarding workforce absorption and CSR programs.
- PT Pertamina Hulu Rokan (PHR) Rokan, together with the Bengkalis Regency Government, established a rapport with the local indigenous community of the Sakai Tribe. During the meeting, the Bengkalis Regency Government requested the Company's support in improving the quality of human resources for the young generation of Sakai in Bengkalis Regency through the enhancement of education for Sakai children.

Uji Tuntas Hak Asasi Manusia (HAM) [2-23]

PHE Subholding Upstream mendukung penerapan uji tuntas HAM bagi perusahaan-perusahaan, sejalan dengan pilar kedua United Nations Guiding Principles on Business and Human Rights (UNGPR). Secara bertahap, Perusahaan akan melakukan uji tuntas HAM secara mandiri dengan pendekatan pada indikator-indikator dalam Penilaian Risiko Bisnis dan HAM (PRISMA) yang ditetapkan Direktorat Jenderal HAM Kementerian Hukum dan HAM, termasuk di dalamnya lingkup masyarakat adat.

Penilaian mandiri PRISMA telah dilakukan dan berhasil mendapatkan Predikat Hijau dengan skor 111. Penilaian PRISMA bertujuan untuk mengkaji, menganalisis, dan memitigasi risiko-risiko HAM yang mungkin muncul dalam kegiatan bisnis Perusahaan dilihat dari beberapa aspek meliputi Profil Perusahaan, Kebijakan HAM, Dampak HAM, Mekanisme Pengaduan, Rantai Pasok, Tenaga Kerja, Kondisi Kerja, Serikat Pekerja, Diskriminasi, Privasi, Lingkungan, Masyarakat Adat, hingga Tanggung Jawab Sosial.

Human Rights Due Diligence

PHE Subholding Upstream supports the implementation of a comprehensive human rights due diligence process for companies, in line with the second pillar of the United Nations Guiding Principles on Business and Human Rights (UNGPR). Gradually, the Company will independently conduct a human rights due diligence process with an approach to the indicators in the Business and Human Rights Risk Assessment (PRISMA) set by the Directorate General of Human Rights of the Ministry of Law and Human Rights, which also includes the scope of indigenous communities.

The Company has conducted a self-assessment of PRISMA, and has successfully obtained a Green Rating with a score of 111. The PRISMA assessment aims to review, analyze, and mitigate human rights risks that may arise from the Company's business activities based on several aspects, including the Company Profile, Human Rights Policy, Human Rights Impacts, Complaint Mechanisms, Supply Chain, Workforce, Working Conditions, Labor Unions, Discrimination, Privacy, Environment, Indigenous Communities, and Social Responsibility.

Kebebasan Berserikat

Hingga akhir periode pelaporan, tidak ada hal-hal yang dapat dikategorikan sebagai bentuk pelanggaran kebebasan berserikat bagi pekerja PHE Subholding Upstream. Perusahaan memberikan kebebasan pada pekerja untuk mendirikan serikat pekerja, dan kebebasan memilih keanggotaan pada serikat pekerja. Saat ini ada 15 serikat pekerja di lingkungan PHE Subholding Upstream. Melalui perwakilan di serikat pekerja, pekerja menyusun dan menyepakati Perjanjian Kerja Bersama (PKB) dengan Manajemen. Segala bentuk pengaduan terkait Serikat Pekerja dan *whistleblowing system* yang disampaikan melalui situs web akan ditindaklanjuti oleh Pertamina (Persero) untuk tindak lanjut. [2-30][407-1][11.13.2][SOC-6 C1][SOC-6 C2]

PHE Subholding Upstream menyertakan anggota satuan pengamanan pada pelatihan sertifikasi keamanan oleh Kepolisian Negara RI (Polri), terdiri dari Gada Pratama, Gada Madya, dan Gada Utama. Dalam sertifikasi tersebut terdapat materi pengenalan HAM. Pelatihan mencakup Regional 1-Sumatra hingga Regional 5-Internasional, yang telah mendapatkan sertifikasi kompetensi keamanan.

Freedom of Association

Until the end of the reporting period, no incidents occurred that could be categorized as a violation of freedom of association for PHE Subholding Upstream employees. The Company provides freedom for employees to establish labor unions and to choose membership in those unions. Currently, there are 15 labor unions within the PHE Subholding Upstream environment. Through the union representatives, employees formulate and agree on a Collective Labor Agreement (CLA) with the Management. All complaints related to labor unions and whistleblowing systems submitted through the website will be followed up by Pertamina (Persero) for further action.

PHE Subholding Upstream included members of the security unit in security certification training conducted by the Indonesian National Police (Polri), consisting of Gada Pratama, Gada Madya, and Gada Utama. The certification program includes material on human rights awareness covering across Regional 1-Sumatra to Regional 5-International have obtained security competency certification



Tumbuh Bersama Masyarakat [POJK51-6.c.3]

Growing with the Community

Pemenuhan tanggung jawab sosial dan lingkungan (TJSL) dijalankan dengan mengedepankan penciptaan nilai bersama, baik untuk Perusahaan maupun kemandirian masyarakat sekitar, melalui program pelibatan dan pengembangan masyarakat/*community involvement and development* (CID). Pelaksanaan TJSL berpedoman pada Undang-Undang Nomor 40 Tahun 2007 tentang Perseroan Terbatas dan merujuk pada ISO 26000 Guidance Standard on Social Responsibility.

Corporate social responsibility (CSR) fulfillment is achieved by prioritizing the creation of shared value, both for the Company and the self-sufficiency of the surrounding communities, through community involvement and development (CID) programs. The implementation of CSR is guided by Law No. 40 of 2007 concerning Limited Liability Companies and refers to the ISO 26000 Guidance Standard on Social Responsibility.

Pengelolaan Dampak Terhadap Masyarakat [POJK51-6.c.3.a][F.23]

Community Impact Management

Sejak perencanaan kegiatan, PHE Subholding Upstream telah melakukan pemetaan untuk mengidentifikasi potensi dampak dari kegiatan yang dijalankan Perusahaan terhadap masyarakat di sekitar. Proses pemetaan terangkai dalam penyusunan dokumen lingkungan Analisis Mengenai Dampak Lingkungan (Amdal) maupun dokumen lingkungan lain seperti Upaya Pengelolaan Lingkungan/Upaya Pemantauan Lingkungan (UKL/UPL), Izin Lingkungan maupun Persetujuan Lingkungan. Berdasarkan identifikasi potensi dampak tersebut, Perusahaan berupaya untuk memitigasi potensi dampak negatif terhadap masyarakat sekitar.

PHE Subholding Upstream has been mapping out potential impacts of the company's activities on the surrounding communities since the planning phase. The mapping process is incorporated into the preparation of environmental documents such as the Environmental Impact Analysis (AMDAL) and other environmental documents such as Environmental Management Efforts/Monitoring Efforts (UKL/UPL), Environmental Permits, and Environmental Approvals. The Company has made efforts to mitigate potential negative effects on the surrounding communities based on potential impact identification.

Kajian sosial yang telah dilakukan mencakup identifikasi dampak sosial pada setiap tahapan rencana kegiatan, serta rencana mitigasi, dan rencana pengelolaan untuk setiap potensi dampak sosial yang akan terjadi. Pemantauan terhadap program mitigasi dan pengelolaan yang telah ditetapkan dilakukan secara periodik sesuai target yang ditetapkan dan hasilnya dilaporkan ke instansi pemerintah terkait.

The social studies that have been conducted includes social impact identification at each stage of activity planning, as well as mitigation and management plans for every potential social impact that may occur. The established mitigation and management programs is periodically monitored in accordance with the set targets, and the results are reported to the relevant government agencies.

Kajian dampak serta rencana pengelolaan dan pemantauannya dituangkan didalam dokumen lingkungan UKL-UPL atau AMDAL yang selanjutnya diajukan pemeriksaan atau uji kelayakan lingkungan untuk memperoleh Persetujuan Lingkungan sebagai salah satu persyaratan untuk melakukan kegiatan.

The impact study, as well as the management and monitoring plans, are documented in the UKL-UPL or AMDAL environmental documents, which are then submitted for examination or environmental feasibility testing to obtain Environmental Approval as one of the requirements to conduct activities.

Mitigasi Potensi Dampak Negatif ^[413-1, 413-2] Mitigating Potential Negative Impacts

Wilayah Operasi: Lepas Pantai

Operational Area: Offshore

Potensi Dampak Negatif: | Potential Negative Impacts:

Gangguan aktivitas nelayan karena pemanfaatan perairan laut menjadi daerah *restected area* yang semula merupakan perairan bebas sebagai alur pelayaran nelayan melaut dan nelayan menangkap ikan.

Disruption of fishermen's activities due to the utilization of offshore waters as restricted areas, which were previously open waters used as fishing routes and fishing grounds.

Mitigasi: Mitigation:

- Melakukan sosialisasi rencana kegiatan kepada masyarakat nelayan sehingga mereka memahami kondisi yang berbahaya dan sebaliknya, kegiatan nelayan juga dapat membahayakan keselamatan *platform* dan sumur.

Socialization of activity plans to the fishermen community so that they understand the hazardous conditions and, conversely, the fishermen's activities may also pose a danger to the safety of platforms and wells.

- Menjalankan program tanggung jawab sosial lingkungan (TJSL), misalnya membantu masyarakat nelayan untuk pengadaan rumpon, rehabilitasi mangrove, dan meningkatkan kemampuan nelayan dalam menangkap ikan.

Implementing CSR programs, such as assisting fishermen communities in the procurement of fish aggregating devices, mangrove rehabilitation, and enhancing the fishermen's ability to catch fish.

Wilayah Operasi: Darat

Operational Area: Land

Potensi Dampak Negatif: | Potential Negative Impacts:

Gangguan kenyamanan masyarakat karena adanya debu dan kebisingan.

Disruption of community comfort due to the presence of dust and noise.

Mitigasi: Mitigation:

- Melakukan pengelolaan kualitas udara dan kebisingan

Air quality and noise management.

- Melakukan komunikasi dan sosialisasi.

Communication and socialization efforts.

- Menjalankan program TJSL di bidang kesehatan dan lingkungan

Implementing CSR programs.

Di sisi lain, PHE Subholding Upstream memaksimalkan dampak positif, di antaranya dengan memberikan kesempatan berkarya bagi pekerja dan mitra kerja lokal. Upaya lainnya adalah dengan melakukan anggaran pemberdayaan masyarakat sebagai salah satu pilar bidang kegiatan pelibatan dan pengembangan masyarakat. Pada tahun 2022 Perusahaan merealisasikan anggaran pemberdayaan masyarakat sebesar Rp210,79 miliar (setara USD14,69 juta), atau meningkat 18,68 % dari realisasi anggaran pemberdayaan masyarakat pada tahun 2021 sebesar Rp170 miliar (setara USD11,96 juta). Anggaran Pemberdayaan Masyarakat ini meliputi: biaya program sosial langsung, donasi sukarela, dan pembangunan infrastruktur untuk masyarakat. ^{[203-1] [203-2]}

Nilai pemberdayaan masyarakat juga mencakup realisasi anggaran program TJSL untuk mendukung kelancaran operasi, yang telah disampaikan dalam Laporan Tahunan 2022. Dalam melaksanakan kegiatan tersebut, kami melibatkan masyarakat dalam perencanaan, pelaksanaan, pemantauan, serta evaluasi. ^{[413-2] [11.15.3]}

On the other hand, PHE Subholding Upstream maximizes positive impacts, such as by providing opportunities for local workers and business partners to develop their skills. Other efforts include allocating funds for community empowerment as one of the pillars of community engagement and development activities. In 2022, the Company realized a community empowerment budget of Rp210.79 billion (equivalent to USD 14.69 million), an 18.68% increase from the community empowerment budget realization in 2021 of Rp170 billion (equivalent to USD 11.96 million). The Community Empowerment budget includes direct social program costs, voluntary donations, and infrastructure development for the community.

The community empowerment budget also includes the realization of the CSR program budget to support operational activities, which has been reported in the 2022 Annual Report. Conducting these activities, we involve the community in planning, implementation, monitoring, and evaluation processes.



Pelaksanaan program TJSL dievaluasi melalui mekanisme pelaporan kepada manajemen, pencapaian Indeks Kinerja Kunci (KPI) fungsi pelaksana, evaluasi *social return on investment* (SROI) & pengukuran indeks kepuasan masyarakat (IKM), dan keikutsertaan pada PROPER. Sampai dengan akhir tahun 2022, PHE Subholding Upstream telah melaksanakan pengukuran SROI untuk 18 program unggulan dengan hasil rata-rata sebesar 5,07. Sedangkan untuk hasil pengukuran IKM, Perusahaan berhasil mendapatkan skor rata-rata 84,75 dengan kategori 'Sangat Baik' [EM-EP-210b.1]

The implementation of CSR programs was evaluated through mechanisms such as reporting to management, achieving Key Performance Indicators (KPIs) of the implementing function, evaluating social return on investment (SROI) and measuring the community satisfaction index (IKM), and participation in PROPER. As of the end of 2022, PHE Subholding Upstream had conducted SROI measurements for 18 flagship programs, with an average result of 5.07. Meanwhile, the Company obtained an average score of 84.75 for the measurement of IKM, with a category of 'Excellent'.

Pelibatan Masyarakat Di Sekitar Wilayah Kerja (WK) ^[11.17]

Community Involvement Around Work Areas (WK)

Pelibatan masyarakat dijalankan dalam bentuk partisipasi pada kegiatan asesmen dampak sosial yang menjadi persyaratan dalam dokumen Amdal maupun dokumen lingkungan lainnya. Proses penyusunan dokumen AMDAL telah melalui tahapan pengumuman kepada masyarakat, sesuai Keputusan Kepala Badan Pengendalian Lingkungan No. 8 Tahun 2020 tentang Keterlibatan Masyarakat dan Keterbukaan Informasi dalam Proses AMDAL. Sebagian besar WK di lingkup PHE Subholding Upstream juga telah melaksanakan pemetaan sosial untuk memastikan kegiatan TJSL dilakukan sesuai dengan kebutuhan dan potensi masyarakat setempat. [413-1][413-2][OGSS 11.15.2] [OGSS 11.15.3]

Community involvement is done in the form of participation in social impact assessment activities, which are requirements in the Environmental Impact Assessment (Amdal) documents and other environmental documents. The process of preparing the Amdal document went through stages of public announcement, in accordance with Head of Environmental Control Agency Decision No. 8 of 2020 regarding Community Involvement and Information Transparency in the Amdal Process. Most of the WKs under PHE Subholding Upstream have also conducted social mapping to ensure that CSR activities are conducted in accordance with the needs and potential of the local community.

Hingga akhir tahun 2022 sebanyak 29 lapangan dari 40 wilayah kerja di lingkungan PHE Subholding Upstream telah melakukan kajian pelibatan pemangku kepentingan. Kajian pelibatan pemangku kepentingan ini dilakukan berdasarkan, salah satunya *social license index*. Dari kajian yang telah dilakukan, diperoleh hasil bahwa masyarakat telah menerima dan mendukung keberadaan operasi Perusahaan di tengah-tengah mereka dengan baik. Selama tahun 2022 tidak ada insiden maupun kejadian perselisihan antara Anak Perusahaan dengan masyarakat setempat, yang berdampak signifikan terhadap kegiatan eksplorasi dan produksi Perusahaan. [413-1] [SOC-9 c1]

As of the end of 2022, 29 out of 40 WKs in PHE Subholding Upstream have conducted stakeholder engagement studies. This stakeholder engagement study is conducted based on, among others, the social license index. The study results show that the community has accepted and supported the Company's operations in their midst. Throughout 2022, there were no incidents or disputes between the Subsidiaries and the local community that significantly affected the Company's exploration and production activities.

Semua Blok Operator (100%) PHE Subholding Upstream di dalam negeri yang berjumlah 23 WK melibatkan komunitas lokal dalam program pengembangan masyarakat. Sejumlah 6 WK di antaranya masih dalam tahap eksplorasi, sehingga dalam pelaksanaan program tersebut ada yang terfokus pada kegiatan pengelolaan hubungan *stakeholder* untuk mendukung proyek berjalan sesuai tata waktu. [413-1] [SOC-9]

The local community is involved in community development programs in all (100%) of PHE Subholding Upstream's domestic Operator Blocks, a total of 23 WKs. As 6 of these WKs are still in the exploration phase, the implementation of these programs focuses on stakeholder relationship management activities to help ongoing projects finish on time.

PHE Subholding Upstream dan Anak Perusahaan memberikan akses kepada masyarakat untuk menyampaikan pengaduan dan keluhan terkait kinerja pengelolaan dampak sosial dari kegiatan yang dijalankan Perusahaan. Selama tahun 2022 ada sejumlah pengaduan dan keluhan yang disampaikan, di antaranya seputar peningkatan kesejahteraan, peluang kerja, dan ceceran minyak di beberapa lokasi unit kerja. Keluhan ini tidak menyebabkan gangguan yang signifikan pada wilayah operasional dan seluruhnya telah diproses serta ditindaklanjuti hingga dinyatakan selesai. [413-1] [POJK51-6.c.3.b][F.24]

PHE Subholding Upstream and its Subsidiaries provide access to the community to submit complaints and grievances related to the performance of managing social impacts from the Company's activities. In 2022, several complaints and grievances were submitted, including those related to improving welfare, job opportunities, and oil spills in some work unit locations. These complaints did not cause significant disruptions to the operational areas and were all processed and followed up until they were declared resolved.

PHE Subholding Upstream melaksanakan pemberdayaan UMKM bersama pemerintah setempat, lembaga mitra dan pemangku kepentingan terkait lain. Perusahaan memberikan kesempatan setara bagi semua UMKM untuk berdaya dan mandiri, termasuk pelaku usaha dari kelompok perempuan dan masyarakat adat. Hingga akhir tahun 2022 tercatat ada 675 UMKM binaan produktif, dimana sejumlah 448 merupakan UMKM perempuan, dan tersebar di seluruh WK PHE Subholding Upstream. [F.25] [203-1] [203-2]

PHE Subholding Upstream implements Micro, Small, and Medium Enterprises (MSME) empowerment in collaboration with local governments, partner institutions, and other relevant stakeholders. The Company provides equal opportunities for all MSMEs to be productive and independent, including businesses from women and indigenous groups. As of the end of 2022, there were 675 productive UMKM fostered, of which 448 were women-owned MSMEs, spread across all PHE Subholding Upstream WKs.

Program Unggulan Pemberdayaan dan Pengembangan Masyarakat [F.25] Flagship Community Empowerment and Development Programs

Program Desa Energi Berdikari

PHE mendukung ketersediaan akses energi yang lebih terjangkau dan berbasis masyarakat melalui program Desa Energi Berdikari. Terdapat empat jenis energi listrik yang disediakan sepanjang tahun 2022, meliputi pemanfaatan pembangkit listrik tenaga surya dengan kapasitas mencapai 54,6 kW Peak, pemanfaatan biogas sebagai sumber energi sebesar 80 m³/tahun dan gas metana sebesar 583.000 m³/tahun, pemanfaatan biodiesel dengan kapasitas mencapai 3.767 liter/tahun, dan pemanfaatan tenaga angin sebagai sumber energi dengan kapasitas 0,5 kW Peak. Program ini mampu mereduksi emisi sebesar 296.104,90 ton CO₂eq. Nilai reduksi ini meningkat 56,43% bila dibandingkan nilai emisi pada tahun 2021 yang mencapai 189.202,61 Ton CO₂eq/tahun.

Desa Energi Berdikari Program

PHE supports the availability of more affordable and community-based energy access through the Desa Energi Berdikari program. Four types of electric energy were provided throughout the year 2022, which included the utilization of solar power plants with a capacity of up to 54.6 kW Peak, the utilization of biogas as an energy source amounting to 80 m³/year and methane gas amounting to 583,000 m³/year, biodiesel utilization with a capacity of up to 3,767 liters per year, and wind power utilization as an energy source with a capacity of 0.5 kW Peak. This program was able to reduce emissions by 296,104.90 tons of CO₂eq. This reduction value increased by 56.43% compared to the emission value in 2021, which reached 189,202.61 tons of CO₂eq per year.



- PHM BSP menjalankan program 'Wasteco' yang memanfaatkan aliran gas methane untuk keperluan bahan bakar memasak rumah tangga. Program ini menghasilkan energi sebesar 583.000 m³/tahun dan mereduksi emisi sebesar 288.499 Ton CO₂eq/tahun.
- Badak LNG mengembangkan Program 'Salin Swara' yang merupakan kegiatan investasi berbasis pengelolaan sampah secara swadaya melalui pengolahan jelantah untuk biodiesel. Salin Swara menghasilkan energi sebesar 522,5 l/tahun dan mereduksi emisi sebesar 1.045,0 Ton CO₂eq/tahun, serta mendapatkan penghargaan PROPER EMAS di tahun 2022.
- Jambi Merang melalui 'Energi Suku Anak Dalam' mengembangkan inovasi di daerah yang sangat terbatas dalam mendapatkan akses energi dan mencapai penghargaan 'Best Community Program Award', Pada Global CSR Award, dengan kategori Bronze. Program Energi Suku Anak Dalam menghasilkan energi sebesar 10,4 kW dan reduksi emisi sebesar 13,5 Ton CO₂eq/tahun.
- PHM NPU BEST menjalankan Program 'EBT Berbasis Masyarakat', berupa akses *solar cell home system* sebagai sumber energi listrik ramah lingkungan.
- PHM CPA menjalankan program 'Kembang Bersinar' yang memanfaatkan energi surya terbarukan berbasis masyarakat melalui *solar cell home system*. Program ini menghasilkan energi sebesar 10,4 kW dan mereduksi emisi hingga 13,7 Ton CO₂eq/tahun.
- PEP Subang Field mengembangkan program 'Jejak Setapak', dengan inovasi sosys teri melalui pemanfaatan tenaga surya. Energi yang dihasilkan melalui program Jejak Sepatak mencapai 0,6 kWp dengan 0,8 Ton CO₂eq/tahun emisi tereduksi. Program ini juga mendapatkan penghargaan TOP CSR Award
- PEP Tarakan Field melalui 'Lebah Enbater' mengolah minyak jelantah menjadi biodiesel, mengolah limbah rumput laut menjadi bioethanol, dan mengolah sampah menjadi Pupuk Organik. Pupuk organik yang dihasilkan mencapai 3.244 liter/tahun dengan reduksi emisi sebesar 6.488 Ton CO₂eq/tahun.
- JOB Tomori menjalankan 'Desa Mandiri Energi' (Biogas) melalui penerapan teknologi dengan pembangunan 20 unit reaktor Biogas Rumah untuk mendukung pertanian. Program ini menghasilkan 80 m³/tahun biogas dengan reduksi emisi sebesar 1,0 Ton CO₂eq/tahun
- PHM BSP implemented the "Wasteco" program, which utilizes methane gas flow for household cooking fuel purposes. This program generated energy of 583,000 m³ per year and reduced emissions by 288,499 tons of CO₂eq per year.
- Badak LNG developed the "Salin Swara" program, a voluntary waste management investment activity through used cooking oil processing for biodiesel. Salin Swara generated 522.5 liters per year in energy and reduced emissions by 1,045.0 tons of CO₂eq per year, as well as receiving the Gold PROPER award in 2022.
- Jambi Merang, through the "Energi Suku Anak Dalam" program, developed innovations in areas with limited access to energy and achieved the "Best Community Program Award" in the Bronze category at the Global CSR Award. The Energi Suku Anak Dalam program generated 10.4 kW in energy and reduced emissions by 13.5 tons of CO₂eq per year.
- PHM NPU BEST implemented the "Community-based NRE" program, which provides community-based access to solar cell home systems as an environmentally friendly source of electric energy.
- PHM CPA runs the "Kembang Bersinar" program, which utilizes community-based renewable solar energy through solar cell home systems. This program generated 10.4 kW in energy and reduced emissions up to 13.7 tons of CO₂eq per year.
- PEP Subang Field developed the "Jejak Setapak" program, with solar system innovation (sosys teri) through the utilization of solar energy. The energy generated through the Jejak Setapak program reached 3.8 kW, with a reduction of 0.8 tons of CO₂eq emissions per year. This program also received the TOP CSR Award.
- PEP Tarakan Field, through the "Lebah Enbater" program, processes used cooking oil into biodiesel, seaweed waste into bioethanol, and waste into organic fertilizer. The organic fertilizer produced amounted to 3,244 liters per year with a reduction in emissions of 6,488 tons of CO₂eq per year.
- JOB Tomori implements the "Desa Mandiri Energi" (Biogas) program by applying technology through the construction of 20 home biogas reactors to support agriculture. This program produces 80 m³ of biogas per year with a reduction in emissions of 1.0 ton of CO₂eq per year.

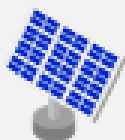
- PHE WMO melalui 'Solar Cell Bayu Ekowisata' mengembangkan energi alternatif panel surya bayu untuk mendukung pengelolaan kawasan ekowisata Mangrove & Terumbu Karang Desa Labuhan. Program ini menghasilkan 5,5 kW energi dan mereduksi emisi hingga 7,5 Ton CO₂eq/tahun. Selain dengan panel surya, program 'Solar Cell Bayu Ekowisata' juga mengembangkan energi alternatif angin untuk mendukung pengelolaan kawasan ekowisata Mangrove & Terumbu Karang Desa Labuhan. Program ini menghasilkan 0,5 kW energi dan mereduksi emisi hingga 0,50 Ton CO₂eq/tahun.
- PHM NPU mengembangkan 'Sekolah Rawa Hutan' melalui pemasangan *solar cell home system* berbasis edupreneurship berwawasan lingkungan. Program Sekolah Rawa Hutan menghasilkan 3,3 kW energi dan mereduksi emisi 4,3 Ton CO₂eq/tahun.
- PEP Tambun Field melalui 'Oven Tenaga Matahari' menggunakan panel surya untuk mempercepat proses pengeringan olahan rumput laut. Melalui program ini, sebanyak 2,2 kW dihasilkan dengan reduksi emisi sebanyak 2,9 Ton CO₂eq/tahun. Program ini berhasil memenangkan penghargaan Global CSR Award 2021.
- PHM SPU dengan 'Nelayanku Hebat', menjalankan program integrasi perikanan ramah lingkungan, dengan pemanfaatan tenaga surya untuk pengisian daya baterai GPS maupun lampu kapal. Program ini menghasilkan 3,7 kW energi dan berhasil mereduksi emisi sebesar 4,80 Ton CO₂eq/tahun.
- PHE Jambi Merang melalui 'Selempang Cinta Bumi' mengimplementasikan PLTS untuk pemanfaatan ekonomi masyarakat. Melalui program Selempang Cinta Bumi sebanyak 3,3 kW dan berhasil mereduksi emisi sebesar 4,20 Ton CO₂eq/tahun.
- PEP Tarakan Field mengembangkan 'Mandiri Listrik Tepian' untuk membantu mengaliri listrik masyarakat dengan *solar cell home system* dan PLTS komunal. Program ini menghasilkan 1,5 kW dan berhasil mereduksi emisi 2,00 Ton CO₂eq/tahun.
- PHE WMO developed an alternative energy program called 'Solar Cell Bayu Ekowisata' to support the management of the Mangrove & Coral Reef Ecotourism area in Labuhan Village. The program produced 5.5 kW of energy and reduced emissions by 7.5 tons of CO₂eq per year through the use of wind and solar panels. In addition to the solar panel, the program also developed wind energy to support the management of the ecotourism area, producing 0.5 kW of energy and reducing emissions by 0.50 tons of CO₂eq per year.
- PHM NPU developed the 'Sekolah Rawa Hutan' program by installing an environmentally friendly solar cell home system based on edupreneurship. The program produced 3.3 kW of energy and reduced emissions by 4.3 tons of CO₂eq per year.
- PEP Tambun Field implemented the 'Solar-Powered Oven' program which used solar panels to accelerate the drying process of processed seaweed. This program resulted in the generation of 2.2 kW of energy and a reduction of emissions by 2.9 tons CO₂eq/year. The program was awarded the Global CSR Award 2021.
- PHM SPU implemented the 'Nelayanku Hebat' program, integrating environmentally friendly fisheries by utilizing solar energy for charging GPS batteries and ship lamps. The program generated 3.7 kW of energy and successfully reduced emissions by 4.80 Ton CO₂eq/year.
- PHE Jambi Merang implemented a solar power plant (PLTS) for the benefit of the local economy, called 'Selempang Cinta Bumi'. Through this program, 3.3 kW of energy was produced and emissions were reduced by 4.20 tons of CO₂eq per year.
- PEP Tarakan Field developed 'Mandiri Listrik Tepian' to provide electricity to the community using solar cell home systems and communal PLTS. The program generated 1.5 kW of energy and successfully reduced emissions by 2.00 Ton CO₂eq per year.



14 Program DEB SHU Group Tahun 2022

SHU GROUP OF DEB PROGRAMS IN 2022

DEB Program



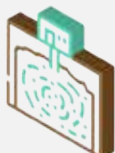
PLTS

Energi | Energy : 54,6 kWp
Reduksi | Reduction
: 78,8 tonCO₂e/tahun | year
Penghematan | Saving
: IDR100,7 juta/tahun | million/year



PLTB

Energi | Energy : 0.5 kWp
Reduksi | Reduction
: 0.5 tonCO₂e/tahun | year
Penghematan | Saving
: IDR0,8 juta/tahun | million/year



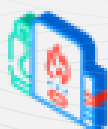
Biogas

Energi | Energy 80 m³/tahun | year
Reduksi | Reduction
: 1,0 ton CO₂e/tahun | year
Penghematan | Saving
: IDR14,6 juta/tahun | million/year



Biodiesel

Energi | Energy : 3,766.5 L/tahun | year
Reduksi | Reduction
: 7,533 tonCO₂e/tahun | year
Penghematan | Saving
: IDR18,1 juta/tahun | million/year



Gas Metana | Methane Gas

Energi | Energy : 583,000 m³/tahun | year
Reduksi | Reduction
: 288,499 tonCO₂e/tahun | year
Penghematan | Saving
: IDR243,0 juta/tahun | million/year

Kategori | Category

9

Advanced

2

Intermediate

3

Basic

Desa Energi Berdikari Kembang Bersinar, PHM CPA

Program Energi Surya Terbarukan Berbasis Masyarakat berupa Solar Home System (SHS) sebagai sumber energi listrik ramah lingkungan
Renewable Based Solar Energy Program Community in the form of Solar Home System (SHS) as an environmentally friendly energy source

Desa Energi Berdikari JOB Pertamina

Penerapan teknologi pembangunan 2 untuk mendukung
Application of technology construction of 2 to support

Desa Energi Berdikari Jejak Setapak Sosys Teri, PEP Subang Field

Inovasi sosys teri adalah pemanfaatan tenaga Surya yang belum ada mengaplikasikan sebelumnya untuk pompa air dalam bidang pertanian dan perikanan
The innovation of sosys teri is the use of solar energy which has never been applied before for water pumps in agriculture and fisheries

Desa Energi Berdikari Best, Pertamina

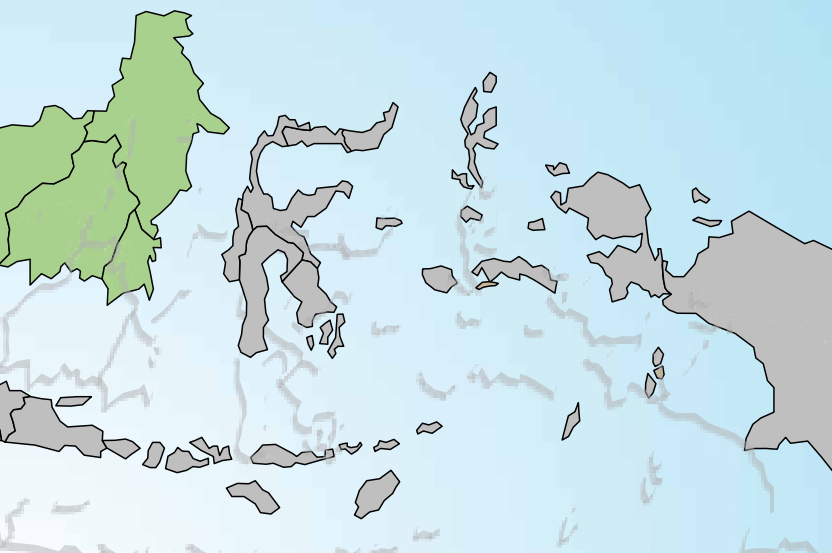
Program EBT Berbasis Masyarakat sebagai Community-Based Home System and electrical energy

Desa Energi Berdikari Inovasi Energi Suku Anak Dalam

Inovasi energi terbarukan di lokasi yang minim akses energi di wilayah tinggal masyarakat Suku Anak Dalam (SAD)
Renewable energy innovation in locations with minimal access to energy in people's living areas Suku Anak Dalam (indigenous people)

Desa Energi Berdikari Salin Swara, P

Program investasi secara swadaya an jelantah untuk
Investment program management that used cooking oil f



Desa Energi Berdikari **Medco E&P Tomori Sulawesi**

teknologi pengolahan biogas dengan 20 unit reaktor Biogas Rumah (BIRU) dan Pertanian Berkelanjutan
biogas processing technology with the 20 units of Domestic Biogas reactors at Sustainable Agriculture

Desa Energi Berdikari **Hulu Mahakam NPU**

berbasis Masyarakat berupa Solar Home System sumber energi listrik ramah lingkungan
NRE Program in the form of Solar Home System as a source of environmentally friendly electricity

Desa Energi Berdikari **PT Badak LNG**

program berbasis pengelolaan sampah yang terintegrasi dengan pengolahan biodiesel
program based on self-help waste management is integrated with the processing of waste for biodiesel

Desa Energi Berdikari **Solar Cell Bayu Ekowisata , PHE WMO**

Pengembangan energi alternative solar cell bayu berupa instalasi 1 solar cell untuk mendukung pengelolaan kawasan ekowisata Mangrove & Terumbu Karang Desa Labuhan
Development of alternative energy solar cells bayu in the form of installing 1 solar cell for support the management of ecotourism areas Mangrove & Coral Reef Labuhan Village

Desa Energi Berdikari **Lebah Enbarter, PEP Tarakan Field**

- Mengolah minyak jelantah menjadi biodiesel
- Mengolah limbah rumput laut menjadi bioethanol
- Mengolah sampah menjadi Pupuk Organik
- Processing used cooking oil into biodiesel
- Processing seaweed waste into bioethanol
- Processing waste into organic fertilizer

Desa Energi Berdikari **Wasteco, PHM BSP**

Pemanfaatan aliran gas methane untuk keperluan bahan bakar memasak rumah tangga
Utilization of methane gas flow for household cooking fuel needs ladder

14 Desa Villages Desa Energi Berdikari

Desa Energi Berdikari **Oven Tenaga Matahari, PEP Tambun Field**

Penggunaan solar cell pada oven tenaga matahari untuk mempercepat proses pengeringan olahan rumput laut pada program Pesisir Berdikari
The use of solar cells in power ovens sun to speed up the process drying processed seaweed on the program Independent Coast

Desa Energi Berdikari **Sekolah Rawa Hutan, PHM NPU**

Membangun instalasi Solar Home System untuk mendukung kegiatan sekolah berbasis edupreneurship berwawasan lingkungan
Building a Solar Home System installation to support edupreneurship-based school activities with an environmental perspective

Desa Energi Berdikari **Selempang Cinta Bumi**

Program sistem PLTS untuk pemanfaatan masyarakat
PLTS system program for utilization community economy

Desa Energi Berdikari **Mandiri Listrik Tepian, PEP Tarakan Field**

Mengaliri listrik masyarakat dengan Solar Cell Home System dan PLTS Komunal
Powering the community with Solar Cells Home System and Communal PLTS

Desa Energi Berdikari **Nelayanku Hebat, PHM SPU**

Program integrasi perikanan ramah lingkungan dan berkelanjutan, terintegrasi dengan pemanfaatan tenaga surya untuk pengisian daya baterai GPS maupun lampu kapal
Environmentally friendly fisheries integration program and sustainable, integrated with use of solar power for charging GPS battery power and boat lights



Dukungan Untuk Tujuan Pembangunan Berkelanjutan

Supporting the Sustainable Development Goals

Pemenuhan TJSL juga ditujukan untuk mendukung TPB, dengan cara memetakan kegiatan melalui pendekatan mitigasi risiko, nilai yang dibagikan, dan aspek keberlanjutan. Dukungan pada TPB mengacu pada Metadata Indikator Tujuan Pembangunan Berkelanjutan Indonesia, Kementerian Perencanaan Pembangunan Nasional/Badan Perencanaan Pembangunan Nasional (Bappenas), edisi Tahun 2020.

The fulfillment of CSR is also aimed at supporting SDGs by mapping activities through a risk mitigation approach, shared values, and sustainability aspects. Support for SDGs refers to the Metadata Indicator of the Indonesian Sustainable Development Goals, Ministry of National Development Planning/National Development Planning Agency (Bappenas), 2020 edition.

Kegiatan LST Untuk Mendukung Tujuan Pembangunan Berkelanjutan

ESG Activities to Support Sustainable Development Goals



Implementasi Implementation

- Menjalankan kegiatan operasional dengan aman
- Implementasi berbagai standar HSSE Excellence
- Penerapan contractor safety management system (CSMS)
- LTIR: 0,006
- Penyakit Akibat Kerja: 0
- Realisasi pengukuran Survei Budaya HSSE = 4,08 (Proactive level)
- Realisasi kepesertaan BPJS Kesehatan untuk pekerja PHE SHU mencapai 100%.
- Realisasi kepesertaan BPJS Kesehatan untuk pekerja kontraktor/vendor mencapai 100%.
- Conducting operational activities safely
- Implementing various HSSE Excellence standards
- Implementing contractor safety management system (CSMS)
- LTIR: 0.006
- Work-Related Illnesses: 0
- Achieved a score of 4.08 (Proactive level) for HSSE Culture Survey measurement
- Achieved 100% participation in BPJS Health for PHE SHU employees
- Achieved 100% participation in BPJS Health for contractor/vendor employees.

Target 2030 2030 Target

- Zero accident dan fatalities
- Tingkat peristiwa keselamatan proses Tier 1 dan Tier 2 sama dengan atau di bawah Asosiasi Internasional Minyak dan Gas (IOGP) rata-rata tahunan produsen
- Zero accidents and fatalities
- Process safety event rates at Tier 1 and Tier 2 are equal to or below the International Association of Oil and Gas Producers (IOGP) annual average for producers.

Strategi Strategy

- Meningkatkan aspek keselamatan dan kesehatan
- Meningkatkan aspek kesehatan melalui penerapan sistem Fit-to-Work
- Pencegahan kecelakaan besar
- Improving safety and health aspects
- Improving health aspects through the implementation of Fit-to-Work system
- Prevention of major accidents



Implementasi Implementation

- Pelatihan bagi pekerja sebanyak 5.036.495 juta jam pelatihan atau setara 354,73 jam per pekerja
- Memberikan beasiswa kepada 1.546 siswa termasuk dari masyarakat adat Suku Anak Dalam, Suku Sakai, kelompok budaya sekolah Rawa Hutan Delta Mahakam, guru di wilayah terpencil, dll pada tahun 2022 senilai Rp6,46 miliar
- Memberikan dukungan terkait peralatan sekolah berupa alat tulis maupun komputer kepada lebih dari 5.082 penerima manfaat dengan total senilai Rp1,79 miliar
- Memberikan dukungan bagi pengembangan sekolah berwawasan lingkungan (Adiwiyata) dalam berbagai bentuk seperti sekolah Cinta Bumi Zero Plastic berbasis teknologi, sekolah alam Desa Talang Belido, dan sebagainya kepada lebih dari 665 penerima manfaat senilai Rp1,02 miliar
- Provided 5,036,495 total training hours to employees or an equivalent of 354.73 hours per employee
- Provided scholarships worth Rp 6.46 billion to 1,546 students, including those from indigenous communities such as the Suku Anak Dalam and Suku Sakai, cultural groups in the Rawa Hutan Delta Mahakam School, teachers in remote areas, and others in 2022.
- Provided support for school equipment such as writing tools and computers to more than 5,082 beneficiaries with a total value of Rp1.79 billion.
- Provided support for the development of environmentally-friendly schools (Adiwiyata) in various forms such as the technology-based Cinta Bumi Zero Plastic School, the natural village school of Desa Talang Belido, and others to more than 665 beneficiaries worth Rp1.02 billion.

Target 2022 2030 Target

- 300 jam pelatihan per pekerja
- 100% karyawan telah mendapatkan pelatihan pada tahun 2030
- Perputaran karyawan di bawah 5%
- 300 hours of training per employee
- 100% of employee has undergone numbers of training in 2030
- Turnover rate to be below 5%

Strategi Strategy

- Bantuan beasiswa pendidikan kepada pelajar berprestasi dari keluarga tidak mampu untuk jenjang pendidikan SD, SMP, SMA dan perguruan tinggi
- Mengembangkan kapasitas pekerja
- Melakukan sosialisasi hak asasi manusia dan keberagaman, kesetaraan, dan inklusivitas
- Mempertahankan tingkat retensi
- Handing out education scholarship to students with academic achievement from a poor family for elementary school to college level education
- Developing employee's capacity
- Carrying out socialization of human rights, diversity, equality, and inclusiveness
- Maintaining retention rate



Implementasi Implementation

- Pemberdayaan lebih dari 400 UMKM perempuan [203-1] [203-2]
- Jumlah karyawan perempuan di posisi manajerial ada 151 orang, atau 1,06% dari total karyawan, dan 8,07% dari total karyawan perempuan.
- Empowering more than 400 women-owned MSMEs [203-1] [203-2]
- 151 women employees in managerial positions, or 1.06% of the total workforce, and 8.07% of the total female workforce.

Target 2022 2030 Target

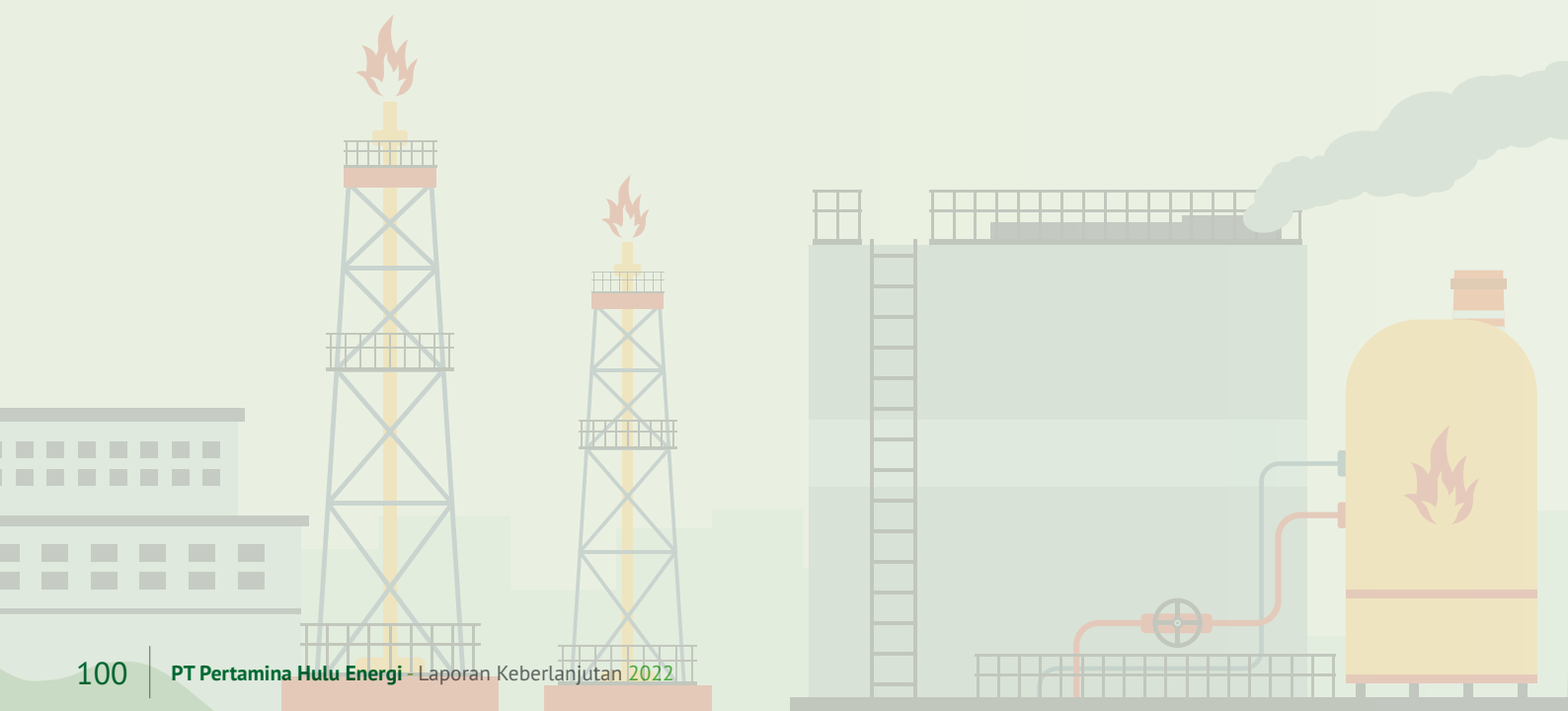
- Tidak ada diskriminasi
- 13% perempuan dalam *nominated talent*
- No discrimination
- 13% of women as nominated talents

Strategi Strategy

- Pelatihan dan kesempatan berkarir bagi seluruh pekerja perempuan
- Bekerja sama dengan pemangku kepentingan
- Training and career opportunities for all female employees.
- Collaborating with stakeholders.



Implementasi Implementation	• Prinsip konservasi dalam penggunaan air bersih • Meningkatkan penghematan pemakaian air • Mendukung peningkatan akses air bersih kepada lebih dari 370 penerima manfaat senilai Rp3,57 miliar. • Mendukung peningkatan akses sanitasi layak dengan membangun 73 unit MCK kepada lebih dari 463 penerima manfaat senilai Rp524 juta. • Membangun jaringan pipanisasi sepanjang 3.200 meter kepada lebih 30 penerima manfaat senilai Rp267 juta Komunitas Adat Suku Loinang Dusun Tombiobong, Desa Maleo Jaya • Complying with national water requirements • Adhering to conservation principles in the use of clean water • Improving water use efficiency • Supporting increased access to clean water for more than 370 beneficiaries with a value of Rp3.57 billion • Supporting the improvement of adequate sanitation access by building 73 MCK units for more than 463 beneficiaries with a value of Rp524 million • Building a 3,200-meter pipeline network for more than 30 beneficiaries with a value of Rp267 million for the Suku Loinang Indigenous Community in Dusun Tombiobong, Maleo Jaya Village • Complying with national water requirements.
Target 2030 2030 Target	• Pengurangan intensitas air • Reducing water intensity
Strategi Strategy	• Pengurangan penggunaan air bersih dan mengurangi pembuangan air limbah • Memastikan penggunaan air secara transparansi • Reducing the use of clean water and minimizing wastewater discharge • Ensuring transparency in water usage





7 AFFORDABLE AND
CLEAN ENERGY



Implementasi Implementation	• Efisiensi energi 2022 sebesar 29.524.286,66 juta GJ di cakupan Wilayah Kerja PHE • Implementasi EBT biodiesel dan solar cell sebesar 3,39% dari total energi • Implementasi Solar Home System untuk masyarakat dengan energi listrik 2.770 Watt Peak/Tahun • Pemanfaatan gas metana sebesar 583.000 m³/tahun • Secara umum nilai intensitas energi tahun 2022 memperlihatkan penurunan dari tahun 2021 • Pemanfaatan pembangkit listrik tenaga surya dengan kapasitas mencapai 54,6 kW Peak; pemanfaatan biogas sebagai sumber energi sebesar 80 m³/tahun dan gas metana sebesar 583.000 m³/tahun, Pemanfaatan biodiesel dengan kapasitas mencapai 3,244 liter/tahun, dan pemanfaatan tenaga angin sebagai sumber energi dengan kapasitas 0,5 kW Peak. Program-program tersebut mampu mereduksi emisi sebesar 296.104,90 ton CO₂eq. Nilai reduksi ini meningkat 56,43% bila dibandingkan nilai emisi pada tahun 2021 yang mencapai 189.292,61 Ton CO₂eq/tahun. • Energy efficiency in 2022 totaled 29.524.286,66 million GJ within the coverage of PHE's working area. • NRE implementation in the form of biodiesel and solar cells amounting to 3.39% of the total energy. • Implementation of Solar Home System for society with 2,770 Watt Peak/year of electricity. • Methane gas utilization of 583,000 m³/year. • In general, the energy intensity value in 2022 showed a decrease from 2021. • Utilization of solar power plants with a capacity of up to 54.6 kW Peak; utilization of biogas as an energy source amounting to 80 m³/year and methane gas amounting to 583,000 m³/year, utilization of biodiesel with a capacity of up to 3,244 liters/year, and utilization of wind power as an energy source with a capacity of 0.5 kW Peak. These programs were able to reduce emissions by 296,104.90 tons of CO₂eq. This reduction value increased by 56.43% when compared to the emission value in 2021, which amounted to 189,292.61 tons of CO₂eq/year.
Target 2030 2030 Target	• Peningkatan efisiensi energi • Pemanfaatan energi baru terbarukan • Improved energy efficiency • Use of NRE
Strategi Strategy	• Program efisiensi energi dan penggunaan energi rendah karbon • Mengembangkan komitmen untuk penggunaan EBT • Meningkatkan akses energi bagi masyarakat lokal khususnya di wilayah yang minim akses energi melalui Desa Energi Berdikari • Optimalisasi tingkat produksi dan pemakaian energi untuk proses produksi. • Implementing energy efficiency programs and low-carbon energy use • Developing commitments to the use of renewable energy sources • Improving access to energy for local communities, particularly in areas with limited energy access through the Desa Energi Berdikari program. • Optimizing energy production and usage levels for production processes.



Implementasi Implementation	• Kontribusi pencapaian transaksi melalui Pasar Digital (PaDi) UMKM Indonesia tahun 2022 sebesar Rp89,77 miliar. • Terdapat 1.849 pemasok lokal yang menjadi rantai pasok PHE Subholding Upstream dan mencapai Tingkat Komponen Dalam Negeri (TKDN) sebesar 64,56% pada akhir tahun 2022. • In 2022, the contribution of digital marketplaces for MSMEs through Pasar Digital (PaDi) Indonesia reached Rp89.77 billion in transactions. • PHE Subholding Upstream's supply chain involves 1,849 local suppliers, achieving a Domestic Component Level (TKDN) of 64.56% by the end of 2022.
Target 2030 2030 Target	• Jumlah Anak Perusahaan yang telah memiliki sertifikasi ISO 45001:2018 ada 38 • Seluruh Anak Perusahaan telah menerapkan SMK3 • 38 Subsidiaries have obtained ISO 45001:2018 certification. • All Subsidiaries have implemented Occupational Health and Safety Management System (OHSMS).
Strategi Strategy	• Meningkatkan jumlah penerima manfaat langsung Desa Energi Berdikari • Meningkatkan jumlah TKDN • Increasing the number of direct beneficiaries of Desa Energi Berdikari Program • Increasing the domestic component level (TKDN) • Mencegah insiden kecelakaan kerja dan penyakit akibat kerja (PAK). • Prevent work-related accidents and occupational illnesses. • Meneruskan investasi sosial untuk komunitas • Menyesuaikan tingkat remunerasi • Continuing social investment for the community • Adjusting the remuneration rate • Menerapkan pengelolaan K3 berdasar ISO 45001:2018 dan Sistem Manajemen K3 (SMK3) • Pelatihan K3 dan penyediaan alat pelindung diri (APD) • Pemeriksaan kesehatan berkala kepada karyawan • Continuing the budget for community empowerment programs for communities • Adjusting the level of remuneration • Implementing OHS management based on ISO 45001:2018 and OHS Management System (OHSMS) • Providing OHS training and Personal Protective Equipment (PPE) • Conducting periodic health check-ups for employees





Implementasi Implementation

- 100% hazardous telah dikelola dengan baik
- Volume timbulan limbah B3 tahun 2022 mencapai 66.192,14 Ton
- Persentase timbulan limbah B3 terkelola tahun 2022 sebesar 100 %
- Volume sampah yang dikelola selama tahun 2022 mencapai 14.010,84 Ton, atau 91.57 % dari volume timbulan sampah.
- Asesmen ISO 14001:2015 tahun 2022 dilakukan terhadap 38 Anak Perusahaan dan Wilayah Kerja
- 100% of all hazardous waste has been properly managed
- The volume of hazardous waste generated in 2022 reached 66,192.14 tons
- The percentage of managed hazardous waste in 2022 was 100%
- The volume of waste managed during 2022 reached 14,010.84 tons, or 91.57% of the waste generated
- An assessment of ISO 14001:2015 was conducted in 2022 for 38 Subsidiaries and Work Areas

Target 2030 2030 Target

- Penurunan volume timbulan limbah B3.
- Peningkatan volume limbah B3 terkelola untuk mengurangi potensi dan beban cemaran lingkungan
- Penurunan volume sampah, dan peningkatan volume sampah yang dikelola.
- Sertifikasi ISO 14001:2015 Sistem Manajemen Lingkungan
- Reducing the volume of B3 waste generated.
- Increasing the volume of properly managed hazardous waste to reduce the potential and environmental burden of pollution.
- Reducing the volume of general waste generated, and increasing the volume of waste properly managed.
- Obtaining ISO 14001:2015 Environmental Management System certification.

Strategi Strategy

- Pengelolaan limbah dengan menerapkan 3R: pengurangan (*reduce*), pemakaian kembali (*reuse*), dan daur ulang (*recycle*).
- Asesmen berkala ISO 14001:2015
- Managing waste by implementing the 3R principle: reduce, reuse, and recycle.
- Conducting periodic ISO 14001:2015 assessments.



Implementasi Implementation

- Mengembangkan dan menyelesaikan peta jalan net zero
- Melakukan aktivitas program dekarbonisasi
- Melaksanakan program jangka pendek pengurangan gas rumah kaca (GRK)
- Melaksanakan studi Carbon Capture, Utilization, and Storage (CCUS) dan Carbon Capture, and Storage (CCS)
- Menjalankan program pengurangan gas rumah kaca (GRK) jangka pendek
- Reduksi emisi 296.104,90 ton CO₂eq dari program TJSL Desa Energi Berdikari
- Efisiensi energi pada tahun 2022 sebesar 29,524,268,66 Gigajoule.
- Reduksi emisi GRK tahun 2022 terhadap baseline tahun 2020, sebesar ton CO₂eq.
- Developing and completing a net zero roadmap
- Implementing decarbonization programs
- Conducting short-term greenhouse gas (GHG) reduction programs
- Conducting Carbon Capture, Utilization, and Storage (CCUS) and Carbon Capture and Storage (CCS) studies
- Implementing short-term GHG reduction programs
- Reducing 296,104.90 tons of CO₂eq emissions through the Desa Energi Berdikari CSR program
- Achieving energy efficiency of 29,524,268.66 Gigajoules in 2022
- Reducing GHG emissions in 2022 compared to the 2020 baseline by tons of CO₂eq.

Target 2030 2030 Target

- Melakukan dekarbonisasi untuk mencapai pengurangan emisi sesuai target Indonesia (NDC) di 2030.
- Decarbonizing to achieve emissions reduction in line with Indonesia's 2030 Nationally Determined Contribution (NDC) target.

Strategi Strategy

- Menerapkan *sustainability policy*
- Optimalisasi konsumsi energi di proses bisnis; mengganti bahan bakar yang lebih ramah lingkungan, dan pemanfaatan EBT.
- Implementing a sustainability policy.
- Optimizing energy consumption in the business processes by switching to more environmentally friendly fuels and utilizing NRE.



Implementasi Implementation

- Melakukan penanaman kembali di area yang diidentifikasi
- Melakukan penanaman kembali di area yang diidentifikasi sejumlah 1.081.327 pohon dengan jenis mangrove yang tidak hanya spesies rhizophora, namun dikombinasikan juga dengan sonneratia dimana ujung daun dan buahnya merupakan makanan bekantan, diharapkan dapat memperbaiki ekosistem bekantan yang ada di area tersebut
- Melakukan konservasi penyu lekang jenis *Lepidochelys olivacea* di area Pesisir Desa Bantayan, Kecamatan Seunuddon, Kabupaten Aceh Utara.
- Replanting in the identified areas
- Replanting in the identified areas with a total of 1,081,327 mangrove trees, including not only rhizophora species but also combined with sonneratia species, which have leaves and fruits that are a food source for proboscis monkeys. It is hoped that this effort can improve the proboscis monkey ecosystem in the area.
- Conservation of the endangered *Lepidochelys olivacea* turtle species was conducted in the coastal area of Bantayan Village, Seunuddon Subdistrict, North Aceh District.

Target 2030 2030 Target

- Komitmen untuk dampak positif bersih
- Commitment to clean positive impact

Strategi Strategy

- Melakukan studi dan *pilot project* pada area yang sensitif di 2025
- Pelibatan pemangku kepentingan termasuk dengan komunitas lokal
- Conducting a study and pilot project in sensitive areas by 2025.
- Involving stakeholders, including the local community.



Implementasi Implementation

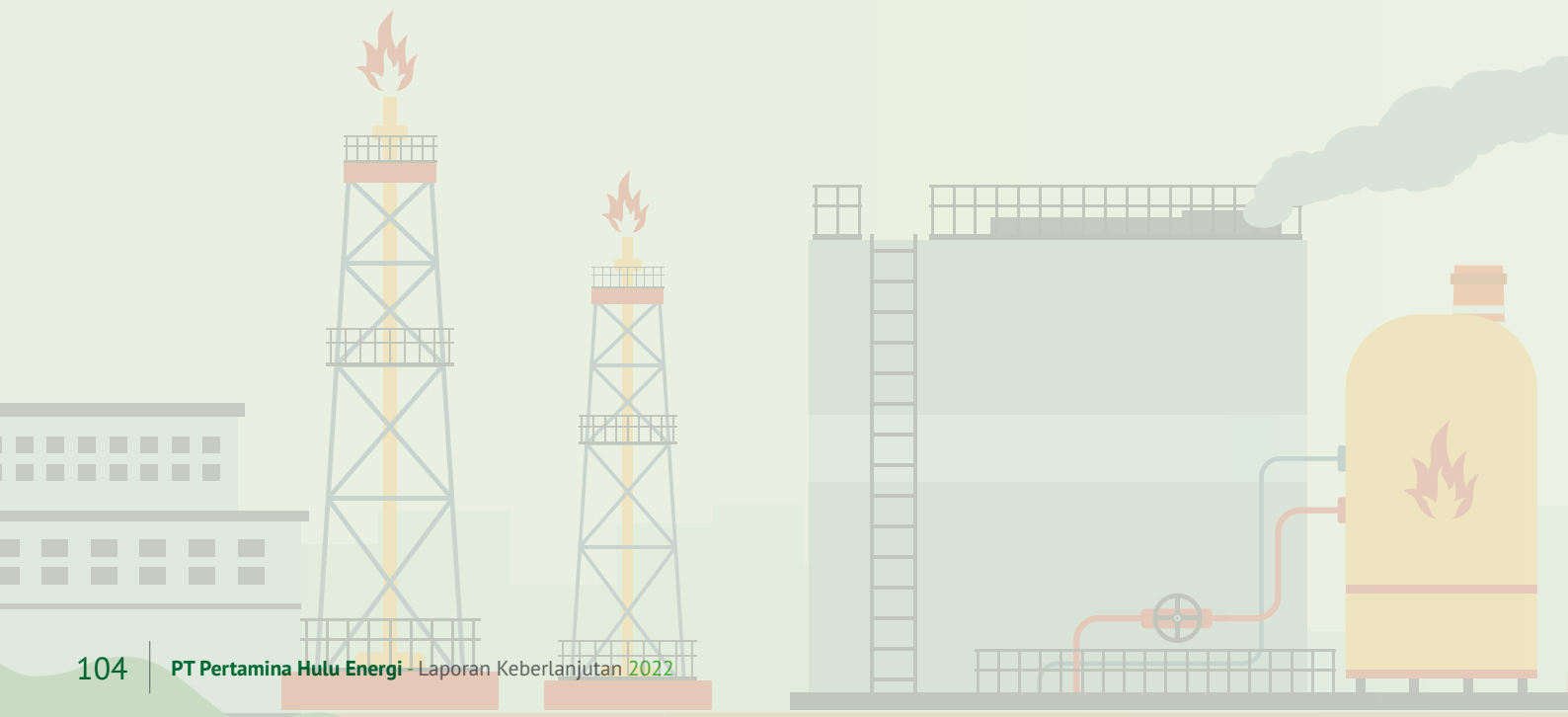
- Mengumpulkan dan mengungkapkan database limbah
- Penghijauan 40 ha lahan dalam Program Agroforestry Koridor Gajah untuk melindungi dari kepunahan
- Melakukan kegiatan konservasi
- Collecting and disclosing waste database.
- Greening 40 hectares of land in the Elephant Corridor Agroforestry Program to protect against extinction.
- Conducting conservation activities.

Target 2030 2030 Target

- Mengurangi intensitas limbah dan mengurangi limbah yang dikirim ke tempat pembuangan akhir
- Menyelamatkan dan melindungi spesies dilindungi
- Menyediakan lahan di sekitar WK Perusahaan, sebagai kawasan konservasi dan habitat baru
- Reducing waste intensity and minimizing waste sent to landfills.
- Saving and protecting protected species.
- Providing land around the Company's WKs as a conservation area and new habitat.

Strategi Strategy

- Mengembangkan peluang inovasi untuk pengurangan limbah
- Melanjutkan program konservasi keanekaragaman hayati daratan
- Developing innovative opportunities for waste reduction.
- Continuing the land biodiversity conservation program.





Implementasi Implementation	• Melakukan asesmen risiko secara berkala dan pembaruan kebijakan keamanan informasi sesuai ISO 27001 • Sebanyak 10 anak maupun cucu Perusahaan telah memiliki sertifikasi ISO 37001:2016 SMAP • Tidak terdapat kasus suap dan/atau korupsi • Sosialisasi antikorupsi dengan peserta 2.757 pekerja melalui kegiatan <i>Upstream Stakeholder Forum</i> • Terdapat 6 pelatihan antikorupsi sepanjang tahun 2022 dengan total peserta 2.402 pekerja. • Sebanyak 19 laporan dugaan pelanggaran yang sudah ditindaklanjuti • Realisasi pelaporan LHKPN mencapai 100% dari total 544 wajib lapor. • Conducting periodic risk assessments and updating information security policies in accordance with ISO 27001. • As many as 10 children and grandchildren of the Company have obtained ISO 37001:2016 SMAP certification. • There have been no cases of bribery and/or corruption. • Anti-corruption awareness-raising activities were conducted with 2,757 employees through the Upstream Stakeholder Forum [205-2]. • There were 6 anti-corruption training sessions held in 2022 with a total of 2,402 participants. • 19 alleged violation reports have been followed up. • The LHKPN reporting realization reached 100% of the total 544 obligated reports.
Target 2030 2030 Target	• Tidak ada insiden penipuan, korupsi, dan perilaku bisnis yang tidak etis • Tidak ada kebocoran data • No incidents of fraud, corruption, or unethical business behavior. • No data leaks.
Strategi Strategy	• Meningkatkan tata kelola perusahaan melalui penerapan ISO 37001:2016 Sistem Manajemen Anti-Penyuapan oleh Anak Perusahaan • Enhancing corporate governance through the implementation of ISO 37001:2016 Anti-Bribery Management System by Subsidiaries.





Harmoni Bersama Pekerja dan Masyarakat
Harmony with Employees and the Community



Tata Kelola Keberlanjutan
Sustainability Governance



TATA KELOLA KEBERLANJUTAN

SUSTAINABILITY GOVERNANCE

Melalui penerapan tata kelola keberlanjutan, PHE Subholding Upstream berkomitmen mengelola aspek lingkungan, sosial dan tata kelola (LST) dalam operasi yang dijalankan.

By implementing sustainable governance, PHE Subholding Upstream is committed to managing environmental, social, and governance (ESG) aspects in its operations.



Kebijakan dan Strategi Keberlanjutan ^[A.1]

Sustainability Policy and Strategy

PHE Subholding Upstream menjalankan kebijakan keberlanjutan dengan mengacu pada Kebijakan PT Pertamina (Persero) sebagai perusahaan *holding*. Kebijakan ini dituangkan dalam Strategi dan Komitmen Perusahaan.

PHE Subholding Upstream implements its sustainability policy in accordance with the Policy of PT Pertamina (Persero) as a holding company. This policy is enshrined in the Company Strategy and Commitment.

Ambisi PHE

Menjadi perusahaan minyak dan gas bumi kelas dunia.

PHE Ambition

To become a world-class oil and gas company.

Perusahaan Ramah Lingkungan
Environmentally Friendly Company

Bertanggung Jawab Sosial Perusahaan
Societal Responsible Company

Memiliki Tata Kelola Perusahaan yang Baik
Good Governance Company

Komitmen Kami

Menjamin keamanan pasokan dan akses energi di seluruh negeri dengan memperhatikan kesejahteraan para pemangku kepentingan dan keseimbangan aspek lingkungan, sosial, dan tata kelola yang berkelanjutan.

Our Commitment

Ensure the security of energy supply and access throughout the country by taking into account the welfare of stakeholders and a balance of environmental, social, and sustainable governance aspects.



PHE Subholding Upstream melakukan inisiatif keberlanjutan melalui pendekatan terintegrasi dalam kerangka kerja keberlanjutan melalui tiga pilar LST. Pilar ini sejalan dengan dukungan untuk merespons tantangan, termasuk perubahan iklim, konservasi sumber daya, K3, pengembangan sumber daya manusia, dan pemberdayaan masyarakat.

PHE Subholding Upstream implements sustainability initiatives through an integrated approach within the sustainability framework consisting of three pillars: environment, social, and governance (ESG). These pillars align with the support to respond to challenges, including climate change, resource conservation, occupational health and safety, human capital development, and community empowerment.



Membangun Budaya Keberlanjutan [2-24] [F.1] [E.5]

Building a Culture of Sustainability

PHE Subholding Upstream membangun budaya keberlanjutan melalui pembuatan KPI Keberlanjutan, mempromosikan kegiatan-kegiatan *sustainable practices* seperti efisiensi penggunaan energi, kebiasaan hemat air, meminimalisasi limbah, termasuk pengukuran dan pemantauan penurunan emisi GHG. PHE SHU juga merancang strategi LST untuk memastikan implementasi keberlanjutan melalui peta jalan yang telah ditetapkan.

PHE Subholding Upstream fosters a culture of sustainability through the development of Sustainability KPIs, promotion of sustainable practices such as energy efficiency, water conservation, waste minimization, and including measurement and monitoring of GHG emission reductions. PHE SHU also designs ESG strategies to ensure sustainability implementation through a predetermined roadmap.

Peta Jalan Keberlanjutan Sustainability Roadmap

Fase Fondasi Foundation Phase

2020-2023

Mengembangkan model LST, meningkatkan kapasitas fungsi keberlanjutan.

Develop ESG model, increase the capacity of sustainability function.

Mengembangkan peta jalan *net-zero*, melindungi keanekaragaman hayati, meningkatkan efisiensi energi, dan pengelolaan limbah

Develop a net zero roadmap, protect biodiversity, improve energy efficiency, and waste management.

Mencegah kecelakaan *major*, meningkatkan pemberdayaan masyarakat dan dampaknya, melakukan rekrutmen, pengembangan, dan retensi pekerja.

Preventing major accidents, increasing community empowerment and its impact, recruiting, developing, and retention workers.

Memperkuat landasan tata kelola.
Strengthening the governance Foundation.

Fase Konsolidasi Consolidation Phase

2023-2025

Meneruskan dan memperkuat inisiatif keberlanjutan dan strategi LST.

continue and strengthen sustainability initiatives and ESG strategy

Meningkatkan inisiatif pengelolaan air dan limbah, mengurangi emisi non-GRK, dan melaksanakan program keanekaragaman hayati.

Improve water and waste management initiatives, reduce non-GHG emissions, and systematize biodiversity programs.

Meningkatkan K3, memperluas akses energi ke komunitas, manajemen keselamatan proses, Program DEI, retensi tenaga kerja.
Improve OHS, expand energy access to communities, process safety management, DEI Programs, workforce retention.

Meningkatkan keamanan data, kemandirian siber, etika Perusahaan
Improve data security, cyber security, Corporate ethics.

Fase Akselerasi Acceleration Phase

2025-2030

Melanjutkan inisiatif dengan memperkuat 3 Pilar LST.

Continue the initiative by strengthening the 3 ESG Pillars.

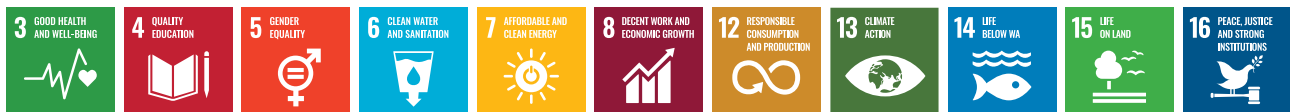


Dukungan Strategi Keberlanjutan pada Tujuan Pembangunan Berkelanjutan

Support for the Sustainable Development Goals through the Sustainability Strategy

Sejalan dengan isu utama keberlanjutan sebagai topik material, PHE Subholding Upstream memetakan inisiatif untuk memastikan strategi LST dapat diterapkan dan berkontribusi terhadap 11 Tujuan dalam TPB.

Aligned with the main sustainability issues as a material topic, PHE Subholding Upstream maps out initiatives to ensure the implementation of ESG strategies and contribute to the 11 Sustainable Development Goals (SDGs) in the SDG framework.



Struktur Tata Kelola Keberlanjutan

Sustainability Governance Structure

Penanggung Jawab Keberlanjutan ^[E.1]

The Responsible for Sustainability

Sesuai Undang-Undang (UU) No. 40 Tahun 2007 Tentang Perseroan Terbatas, struktur tata kelola Perusahaan terdiri atas Rapat Umum Pemegang Saham (RUPS), Direksi dan Dewan Komisaris. Penerapan tata kelola keberlanjutan dijalankan kolektif kolegal oleh Direksi sesuai dengan pembagian tugas dan tanggung jawab masing-masing. Nominasi dan seleksi anggota Direksi sebagai badan tertinggi tata kelola keberlanjutan, menjadi kewenangan Rapat Umum Pemegang Saham (RUPS) sebagai organ tertinggi dengan memperhatikan rekomendasi Dewan Komisaris berdasarkan usulan dari Komite Nominasi dan Remunerasi. Uraian mengenai tugas dan tanggung jawab Direksi disampaikan dalam Laporan Tahunan 2022 PHE selaku Subholding Upstream. ^{[2-9][2-10]}

Direksi dibantu oleh Komite Keberlanjutan, yang disahkan berdasarkan SK Direksi No. Kpts-033/PHE00000/2022-S0. Keanggotaan Komite Keberlanjutan terdiri dari berbagai fungsi dan dipimpin oleh Direktur Utama. Komite Keberlanjutan bertugas membantu Direksi dalam

In accordance with the Law No. 40 of 2007 on Limited Liability Companies, the corporate governance structure of the Company consists of the General Meeting of Shareholders (GMS), Board of Directors, and Board of Commissioners. The implementation of sustainability governance is collectively carried out by the Board of Directors in accordance with the division of tasks and responsibilities. The nomination and selection of the Board of Directors as the highest body of sustainability governance is the authority of the GMS as the highest organ, with consideration to the recommendations of the Board of Commissioners based on proposals from the Nomination and Remuneration Committee. The duties and responsibilities of the Board of Directors are described in the 2022 Annual Report of PHE as Subholding Upstream.

The Board of Directors is supported by the Sustainability Committee, which was established based on the Board of Directors Decree No. Kpts-033/PHE00000/2022-S0. The membership of the Sustainability Committee consists of various functions and is chaired by the President Director.

mengelola kinerja LST dan mengintegrasikan seluruh fungsi sehingga dapat meminimalkan risiko, serta meningkatkan nilai pada pemangku kepentingan. Komite Keberlanjutan bertanggung jawab kepada Direktur Utama sebagai pejabat tertinggi badan tata kelola. [2-11]

Direksi memiliki mekanisme pertemuan/rapat dengan Komite Keberlanjutan guna membahas pengelolaan dampak lingkungan, sosial dan tata kelola. Selama tahun 2022 Direksi mengadakan pertemuan/rapat dengan Komite Keberlanjutan. Direksi dapat mendelegasikan tanggung jawab pengelolaan dampak tersebut kepada Komite Keberlanjutan maupun pejabat perusahaan yang ditunjuk. Direksi berperan strategis dalam penyusunan Laporan Keberlanjutan, dengan memberikan persetujuan atas penetapan acuan dan standar pelaporan, topik material serta memberikan pengesahan pelaporan. [2-12][2-13][2-14]

Kinerja Direksi sebagai pejabat dari badan tertinggi tata kelola keberlanjutan dalam mengelola dampak Perusahaan, dievaluasi dan dinilai oleh Dewan Komisaris. Penilaian dan evaluasi berdasarkan laporan berkala kinerja Direksi, baik secara individual maupun kolektif. Hasil penilaian dilaporkan Dewan Komisaris kepada Pemegang Saham dalam RUPS. [2-18]

The Sustainability Committee is responsible for assisting the Board of Directors in managing ESG performance and integrating all functions to minimize risks and enhance stakeholder value. The Sustainability Committee is accountable to the President Director as the highest officer of the governance body.

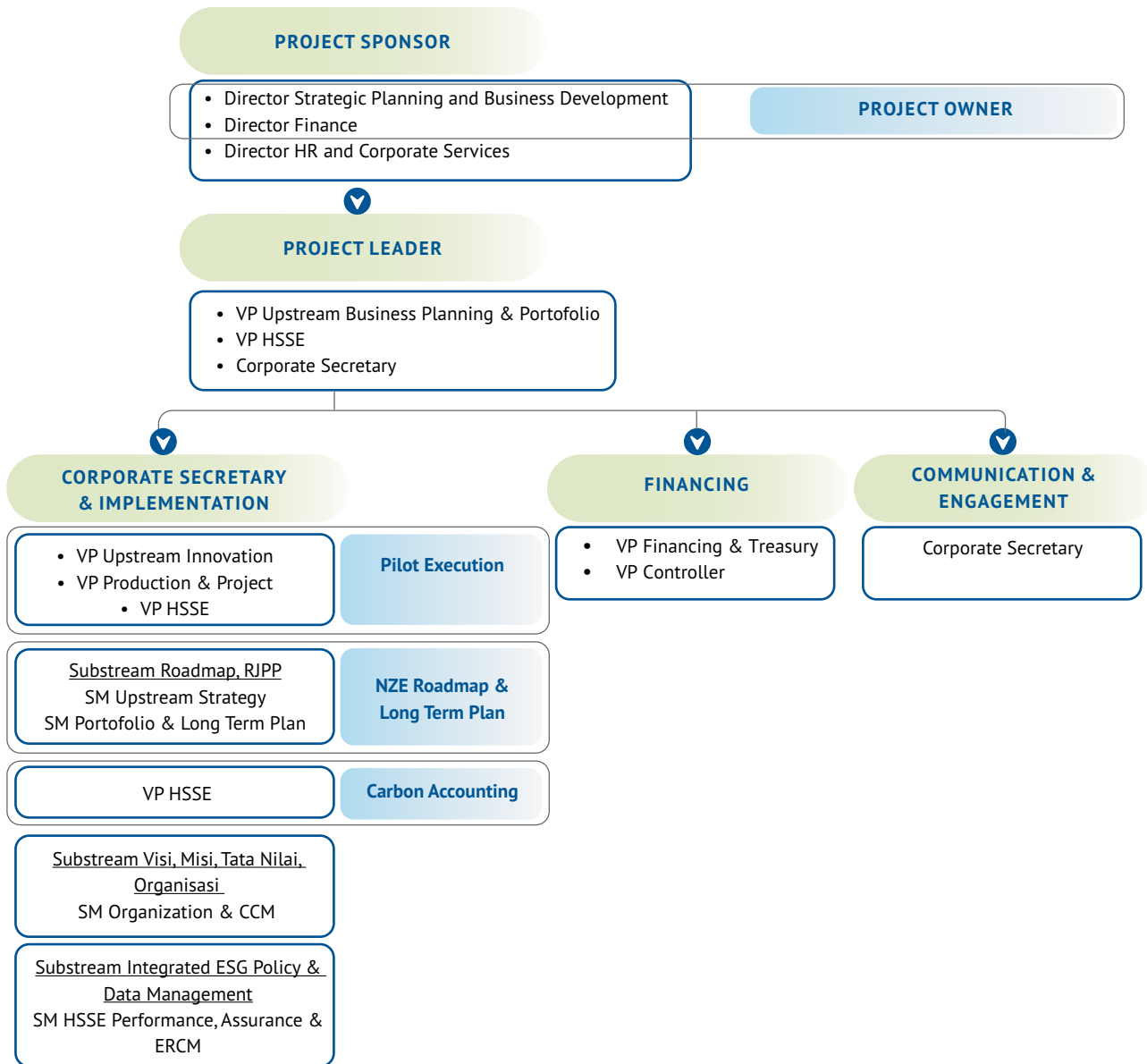
The Board of Directors has a mechanism for meetings with the Sustainability Committee to discuss environmental, social, and governance (ESG) management. The Board of Directors held meetings with the Sustainability Committee throughout 2022. The Board of Directors may delegate the responsibility for managing ESG impacts to the Sustainability Committee or designated company officers. The Board of Directors plays a strategic role in the preparation of the Sustainability Report, by approving the establishment of reporting references and standards, material topics, and approving the report itself.

The performance of the Board of Directors as the highest officer in charge of sustainability governance in managing the Company's impact is evaluated and assessed by the Board of Commissioners. The assessment and evaluation are based on regular reports on the performance of the Board of Directors, both individually and collectively. The results of the evaluation are reported by the Board of Commissioners to the Shareholders in the GMS.





Struktur Tata Kelola Keberlanjutan dan Komite Keberlanjutan Sustainability Governance Structure and Sustainability Committee



Kebijakan Remunerasi dan Penghargaan Atas Kinerja (Tantiem/ Insentif Kinerja/Insentif Khusus/Kompensasi Atas Kinerja) bagi Dewan Direksi dan Dewan Komisaris ditetapkan oleh Pemegang Saham melalui mekanisme Rapat Umum Pemegang Saham (RUPS). Proses ini mengacu pada ketentuan Peraturan Menteri BUMN RI.

Komponen remunerasi bagi Dewan Direksi dan Dewan Komisaris terdiri atas gaji/honorarium, tunjangan, asuransi purna jabatan, dan fasilitas lainnya. Penyesuaian gaji/honorarium diusulkan dengan mempertimbangkan pencapaian KPI, pencapaian laba perusahaan, tingkat kesehatan perusahaan, analisa pasar (*benchmarking*), inflasi, dan justifikasi lainnya. Adapun penghargaan atas kinerja (tantiem/ insentif kinerja/insentif khusus/kompensasi atas kinerja) diusulkan dengan beberapa syarat antara lain opini auditor. [2-19][2-20]

The Remuneration Policy and Performance Rewards (Tantiem/ Performance Incentives/Special Incentives/Performance Compensation) for the Board of Directors and Board of Commissioners are determined by the Shareholders through the General Meeting of Shareholders (GMS) mechanism. This process refers to the provisions of the Minister of SOEs of the Republic of Indonesia.

The remuneration component for the Board of Directors and Board of Commissioners consists of salary/honorarium, benefits, post-employment insurance and other facilities. Salary/honorarium adjustments are proposed by considering KPI achievement, company profit achievement, company health level, market analysis (*benchmarking*), inflation, and other justifications. The rewards for performance (tantiem/performance incentives/special incentives/ compensation for performance) are proposed with several conditions, including the auditor's opinion.



Pencegahan Benturan Kepentingan ^[2-15]

Preventing Conflicts of Interest

PHE Subholding Upstream mencegah benturan kepentingan di antara anggota Dewan Komisaris maupun Direksi dengan memberlakukan Pedoman Benturan Kepentingan (*Conflict of Interest/COI*) No A-004/PHE040/2018-S9 Revisi Ke-0. Perusahaan juga memiliki ketentuan gratifikasi yang telah diatur sebagaimana termuat dalam Pedoman Pengendalian Gratifikasi No A13-002/PHE01000/2021-S9 Rev. 0.

Pencegahan benturan kepentingan juga dilakukan dengan mengacu pada ketentuan-ketentuan internal di PERTAMINA maupun PHE Subholding Upstream, di antaranya:

- Mewajibkan setiap anggota Dewan Komisaris dan Direksi menandatangani Pakta Integritas, yang diperbarui setiap tahun. Pada tahun 2022 seluruh anggota Dewan Komisaris dan Direksi PHE Subholding Upstream telah menandatangani Pakta Integritas;
- Memberlakukan Kode Etik yang tercantum dalam Pedoman Perilaku dan Etika Bisnis Pertamina Hulu Energi No.A-003/PHE040/2018-S9;
- Piagam Dewan Komisaris dan Piagam Direksi, yang mengatur keharusan mengungkapkan seluruh benturan kepentingan yang sedang dihadapi maupun yang berpotensi menjadi benturan kepentingan.

Melalui penerapan ketentuan-ketentuan tersebut, kami memastikan sepanjang tahun 2022 tidak ada peristiwa terkait benturan kepentingan yang dilakukan oleh baik oleh anggota Dewan Komisaris maupun Direksi. PHE Subholding Upstream menyediakan beberapa mekanisme yang bisa digunakan para pemangku kepentingan untuk menyampaikan hal-hal kritis dan pengaduan kepada pejabat tertinggi tata kelola, baik langsung maupun melalui manajemen. ^[2-16]

Perusahaan secara konsisten telah melaksanakan berbagai program bagi para Pekerja untuk meningkatkan pengetahuan dan pemahaman praktik-praktik keberlanjutan, antara lain:

1. Blended Development Program (e.g. special taskforce/ assignment terkait dengan ESG, etc)
2. Formal dan Informal Learning/Training (e.g. Upstream Academy, training terkait dengan CCUS/CUS, Human Rights, etc) Berbagai program di atas disusun dan dievaluasi secara berkala.

To prevent conflicts of interest among the members of the Board of Commissioners and Board of Directors, PHE Subholding Upstream has implemented a Conflict of Interest (COI) Policy No A-004/PHE040/2018-S9 Revision 0. The Company also has a provision for gratuities as stipulated in the Gratuity Control Policy No A13-002/PHE01000/2021-S9 Rev. 0.

Conflict of interest prevention is also performed by referring to internal regulations in PERTAMINA and PHE Subholding Upstream, including:

- Requiring every member of the Board of Commissioners and the Board of Directors to sign an Integrity Pact, which is updated annually. In 2022, all members of the Board of Commissioners and the Board of Directors of PHE Subholding Upstream signed the Integrity Pact;
- Implementing a Code of Conduct as stated in the Business Conduct and Ethics Guidelines of Pertamina Hulu Energi No. A-003/PHE040/2018-S9.
- Establishing a Charter for the Board of Commissioners and a Charter for the Board of Directors, mandating the disclosure of all current or potential conflicts of interest.

Through the implementation of these provisions, we ensured that throughout 2022, there were no incidents related to conflicts of interest committed by either members of the Board of Commissioners or Directors. PHE Subholding Upstream provides several mechanisms for stakeholders to communicate critical issues and complaints to the highest level of governance, either directly or through management.

The Company consistently implemented various programs for employees to increase their knowledge and understanding of sustainability practices, including:

1. Blended Development Program (e.g. special taskforce/ assignment related to ESG, etc)
2. Formal and Informal Learning/Training (e.g. Upstream Academy, training related to CCUS/CUS, Human Rights, etc) The various programs above are compiled and evaluated periodically.



Penyampaian Hal-Hal Kritis dan Pengaduan Selama Tahun 2022

Reporting of Critical Matters and Complaints Throughout 2022



Mekanisme: Town Hall Meeting dan Management Walk Through

Mechanism: Town Hall Meeting and Management Walk Through

Pemangku kepentingan: Karyawan

Stakeholders: Employees

Hal yang disampaikan:

Matters conveyed:

- Informasi-informasi dari seluruh lini operasi Perusahaan terkait hambatan maupun tantangan dalam operasi di lapangan
- The Company gathered information from all operational lines regarding obstacles and challenges faced during field operations.
- Kunjungan ke lapangan untuk memastikan komunikasi 2 arah secara langsung dan terbuka, antara manajemen termasuk Direksi dengan pekerja di lapangan.
- The Company conducted field visits to ensure direct and open two-way communication between management, including the Board of Directors, and field employees.

Mekanisme: SCM Contact US

Mechanism: Contact US SCM

Pemangku kepentingan: Pemasok/Mitra Kerja

Stakeholders: Suppliers/Partners

Hal yang disampaikan:

Matters conveyed:

Aspirasi, pertanyaan, saran, kritik, klarifikasi, aduan dan lainnya seputar proses pengadaan.

Aspirations, questions, suggestions, critiques, clarifications, complaints, and other issues related to the procurement process.



Pengembangan Kompetensi ^[E.2]

Competency Development

Kami menyertakan anggota Dewan Komisaris dan/atau Direksi dalam pelatihan maupun kegiatan lain untuk meningkatkan pengetahuan dan pemahaman praktik-praktik keberlanjutan. Setiap anggota Dewan Komisaris dan/atau Direksi yang telah mengikuti pelatihan maupun kegiatan lainnya, berkewajiban berbagi pengetahuan dengan anggota Dewan Komisaris dan Direksi lainnya. Pada tahun 2022, Bpk Rinaldi Firmansyah, sebagai anggota Dewan Komisaris menjadi narasumber dalam webinar terkait keberlanjutan, yakni Leader Forum Unlock Value 101 dan Upstream Improvement and Innovation Award.

[2-17] [POJK51-5]

Perusahaan secara konsisten telah melaksanakan berbagai program bagi para Pekerja untuk meningkatkan pengetahuan dan pemahaman praktik-praktik keberlanjutan, antara lain:

1. Blended Development Program (e.g. special taskforce/ assignment terkait dengan ESG, etc)
2. Formal dan Informal Learning/Training (e.g. Upstream Academy, training terkait dengan CCUS/CUS, Human Rights, etc)

Berbagai program di atas disusun dan dievaluasi secara berkala.

We include members of the Board of Commissioners and/or the Board of Directors in training and other activities to enhance their knowledge and understanding of sustainability practices. Each member who has participated in these activities is obligated to share their knowledge with other members of the Board of Commissioners and the Board of Directors. In 2022, Mr. Rinaldi Firmansyah, as a member of the Board of Commissioners, served as a speaker in a webinar on sustainability, namely the Leader Forum Unlock Value 101 and Upstream Improvement and Innovation Award.

The Company consistently implemented various programs for employees to increase their knowledge and understanding of sustainability practices, including:

1. Blended Development Program (e.g. special taskforce/ assignment related to ESG, etc)
2. Formal and Informal Learning/Training (e.g. Upstream Academy, training related to CCUS/CUS, Human Rights, etc)

The various programs above are compiled and evaluated periodically.



Komitmen Pada Bisnis yang Bertanggung Jawab ^[2-23]

Commitment to Responsible Business Practices

Sejalan dengan penerapan keberlanjutan, PHE Subholding Upstream berkomitmen membangun bisnis yang bertanggung jawab. Kami memastikan upaya peningkatan produksi migas yang menjadi kegiatan utama, dijalankan dengan dibarengi pengelolaan pada aspek LST. Upaya Perusahaan untuk mengoptimalkan produksi di seluruh blok migas di wilayah kerja dalam menjaga kesinambungan pasokan migas dan menjaga ketahanan energi nasional, dibarengi dengan operasi yang lebih hijau, rendah emisi, dan efisiensi tinggi.

Komitmen tersebut dijabarkan dalam strategi khusus Perusahaan, yakni penggunaan energi dan efisiensi, perolehan kembali gas (*gas recovery*), dan integrasi aset. Kami juga mendorong pelibatan masyarakat melalui program *community environmental*, di antaranya mengembangkan Desa Energi Berdikari dan memberikan edukasi masyarakat terkait potensi energi di sekitar mereka, serta penanaman pohon mangrove untuk menyerap karbon. ^[2-24]

In line with the implementation of sustainability, PHE Subholding Upstream is committed to building a responsible business. We ensure that efforts to increase oil and gas production, which is our main activity, are accompanied by management of the ESG aspects. The Company's efforts to optimize production in all oil and gas blocks in the working area to maintain the continuity of oil and gas supply and ensure national energy resilience are accompanied by greener, low-emission, and highly efficient operations.

This commitment is further elaborated through the Company's specific strategies, namely energy use and efficiency, gas recovery, and asset integration. We also encourage community involvement through community environmental programs, including the development of Desa Energi Berdikari and providing education to communities about the energy potential around them, as well as planting mangrove trees for carbon absorption.



Pengelolaan Risiko ^[E.3]

Risk Management

Dalam rangka menjalankan operasi eksplorasi dan produksi migas, PHE Subholding Upstream menghadapi tantangan yang dapat menimbulkan risiko terhadap sosial maupun lingkungan. Perusahaan menerapkan pengelolaan risiko dengan berlandaskan kepada:

- ISO 31000:2018 tentang *Risk Management – Principles & Guidelines*
- Peraturan Menteri Negara BUMN No. PER-01/MBU/2011 tentang Penerapan Tata Kelola Perusahaan yang Baik (Good Corporate Governance) pada Badan Usaha Milik Negara
- Peraturan Menteri Badan Usaha Milik Negara (Permen BUMN) No. PER-5/MBU/09/2022 tentang Penerapan Manajemen Risiko Pada Badan Usaha Milik Negara

In conducting its oil and gas exploration and production operations, PHE Subholding Upstream faces challenges that can pose social and environmental risks. The Company implements risk management based on:

- ISO 31000:2018 on Risk Management – Principles & Guidelines
- Minister of State-Owned Enterprises Regulation No. PER-01/MBU/2011 regarding the Implementation of Good Corporate Governance in State-Owned Enterprises
- Minister of State-Owned Enterprises Regulation No. PER-5/MBU/09/2022 regarding the Implementation of Risk Management in State-Owned Enterprises



Pada tahun 2022, telah teridentifikasi *risk event* dari *ongoing business risk* di Fungsi, Regional dan Anak Perusahaan (AP) *Services* PHE Subholding Upstream, secara garis besar risiko tersebut terdiri dari beberapa kategori, antara lain:

- **Kategori Risiko *Operational***
Kegiatan-kegiatan Perusahaan yang termasuk dalam kategori risiko ini di antaranya eksplorasi, pengembangan, produksi, *supply chain process*, *human resources*, *information technology*, *processing*, *transportation*, *asset management*, dan HSSE.
- **Kategori Risiko *Financial Management***
Kategori risiko tersebut mencakup hal-hal yang berkaitan dengan *financial operation*, *accounting*, strategi keuangan, dan perpajakan Perusahaan.
- **Kategori Risiko *Business Strategy***
Kategori risiko tersebut mencakup hal-hal yang berkaitan dengan *growth & sustainability*, strategi, dan perencanaan Perusahaan.
- **Kategori Risiko *Legal, Governance, & Compliance***
Kategori ini mencakup *legal*, *governance*, dan *compliance* Perusahaan.
- **Kategori Risiko *Corporate Image***
Kegiatan Perusahaan yang termasuk dalam kategori risiko ini di antaranya terkait dengan *brand image* dan *stakeholder management*.
- **Kategori Risiko *Business Environment***
Kategori risiko ini mencakup hal-hal yang berkaitan dengan teknologi, budaya, ekonomi, pasar, pemerintah, dan sosial politik.

Dalam rangka penerapan pengelolaan risiko, direncanakan strategi keberlanjutan dan keberlangsungan bisnis dalam beberapa hal, antara lain: [2-25]

- Implementasi Peraturan Menteri Badan Usaha Milik Negara (Permen BUMN) No. PER-5/MBU/09/2022 tentang Penerapan Manajemen Risiko Pada Badan Usaha Milik Negara.
- Program *Risk Management Campaign* sebagai upaya peningkatan *Risk Awareness* dan *Risk Culture* melalui *training*, *knowledge sharing*, *broadcast* dan *cascading KPI* Pengelolaan Risiko serta peningkatan peran *Person in Charge* (PIC).
- Pengembangan metode dan *tools* untuk evaluasi manajemen risiko.
- Implementasi dan *monitoring Key Risk Indicator* (KRI) sebagai metode analisis lebih awal untuk mengetahui *early warning status*.

In 2022, several risk events related to ongoing business risks in the Functions, Regionals, and Subsidiaries of PHE Subholding Upstream were identified. These risks can be broadly categorized as follows:

- **Operational Risk Category**
The Company's activities that fall under this risk category include exploration, development, production, supply chain processes, human resources, information technology, processing, transportation, asset management, and HSSE.
- **Financial Management Risk Category**
The risk categories include aspects related to financial operations, accounting, financial strategy, and taxation of the Company.
- **Business Strategy Risk Category**
The risk category includes matters related to the growth and sustainability, strategy, and planning of the Company.
- **Legal, Governance, & Compliance Risk Category**
This category encompasses the Company's legal, governance, and compliance.
- **Corporate Image Risk Category**
Activities of the cMpany that fall under this risk category include issues related to maintaining brand image and managing stakeholders.
- **Business Environment Risk Category**
This risk category encompasses matters related to technology, culture, economy, market, government, and socio-political factors.

As part of the risk management implementation, the Company has planned sustainability and business continuity strategies in several areas, including:

- Implementation of the Minister of State-Owned Enterprises Regulation (Permen BUMN) No. PER-5/MBU/09/2022 on Risk Management Application in State-Owned Enterprises.
- Risk Management Campaign Program as an effort to increase Risk Awareness and Risk Culture through training, knowledge sharing, broadcast, and cascading KPIs on Risk Management, as well as enhancing the role of Person in Charge (PIC).
- Development of methods and tools for risk management evaluation.
- Implementation and monitoring of Key Risk Indicators (KRI) as an early warning analysis method to determine the status of potential risks.

- Implementasi *Business Continuity Management System* (BCMS).
- Memiliki sistem *whistleblowing* tersentralisasi di fungsi Internal Audit yang tergabung dalam Pertamina Group
- Implementation of Business Continuity Management System (BCMS).
- Having a centralized whistleblowing system in the Internal Audit function integrated within the Pertamina Group.

Perencanaan Tanggap Darurat dan Keberlangsungan Bisnis

Emergency Response and Business Continuity Planning

Kemungkinan kondisi darurat dan krisis dapat terjadi di setiap kegiatan operasi di PHE Subholding Upstream dan menjadi salah satu faktor yang dapat mengganggu operasi Perusahaan. Keadaan darurat dan krisis dikendalikan melalui organisasi *Emergency Response Organization* (ERO). Lebih lanjut, PHE Subholding Upstream menerbitkan Pedoman Pengelolaan Tanggap Darurat dan Manajemen Krisis di Lingkungan Subholding Upstream No. A8-001/PHE04000/2021-S9 Revisi ke-1 (Desember 2022) yang mengatur pembentukan ERO sesuai tingkatan keadaan darurat. Penjelasan lengkap tentang Perencanaan Tanggap Darurat dan Keberlangsungan Bisnis disampaikan dalam Laporan Tahunan 2022.

Possible emergency and crisis situations can occur in any operational activities of PHE Subholding Upstream and become one of the factors that can disrupt the Company's operations. Emergency and crisis situations are managed through the Emergency Response Organization (ERO) organization. Furthermore, PHE Subholding Upstream issues the Emergency Response Management and Crisis Management Guidelines in the Subholding Upstream Environment No. A8-001/PHE04000/2021-S9 Revision 1 (December 2022), which regulates the formation of ERO according to the level of emergency situations. A detailed explanation of Emergency Response and Business Continuity Planning is presented in the 2022 Annual Report.





Mekanisme Meningkatkan Kepatuhan

Compliance Enhancement Mechanisms

PHE Subholding Upstream mengedepankan kepatuhan terhadap hukum dan peraturan perundang-undangan dalam seluruh kegiatan bisnis yang dijalankan. Untuk menjaga kepatuhan, Perusahaan memiliki sistem pelaporan pelanggaran (*whistleblowing system* atau WBS) sebagai mekanisme untuk melaporkan segala bentuk pelanggaran oleh karyawan maupun manajemen Perusahaan, serta meningkatkan upaya berperilaku etis dalam menjalankan/mengelola PHE Subholding Upstream. [2-25][2-26]

Selama tahun 2022 ada 54 pelaporan/pengaduan yang diterima Fungsi WBS – Internal Audit PT Pertamina (Persero) dengan lokasi terlapor/kejadian di lingkup PHE Subholding Upstream. Jumlah tersebut bertambah dari tahun 2021 dengan 49 pelaporan/pengaduan. Hingga akhir tahun 2022 Fungsi WBS – Internal Audit PT Pertamina (Persero) telah menindaklanjuti pengaduan/laporan tersebut:

- Sebanyak 23 pengaduan/laporan dalam tahap analisis awal
- Sebanyak 12 pengaduan/pelaporan dalam tahap penanganan
- Sebanyak 19 pengaduan/pelaporan telah terselesaikan

Selama tahun 2022 Perusahaan tidak menerima denda maupun sanksi hukum yang lain, karena dugaan ketidakpatuhan terhadap hukum dan regulasi yang berlaku.

[2-27]

PHE Subholding Upstream places great emphasis on compliance with laws and regulations in all business activities. To ensure compliance, the Company has a reporting system for violations (*whistleblowing system* or WBS) as a mechanism for reporting any form of violation by employees or management of the Company, as well as for increasing efforts to behave ethically in managing PHE Subholding Upstream.

Throughout 2022, the Whistleblowing System (WBS) function of Internal Audit at PT Pertamina (Persero) received 54 reports/complaints regarding incidents within the scope of PHE Subholding Upstream, an increase from the 49 reports/complaints received in 2021. As of the end of 2022, the WBS function has taken the following actions in response to the reports/complaints:

- 23 reports/complaints are in the initial analysis stage
- 12 reports/complaints are being addressed
- 19 reports/complaints have been resolved

In 2022, the Company did not receive any fines or other legal sanctions due to alleged non-compliance with applicable laws and regulations.

Kode Etik dan Dukungan Antikorupsi

Code of Conduct and Anti-Corruption Support

Selama tahun 2022 tidak ada perbuatan yang termasuk tindakan suap maupun korupsi. PHE Subholding Upstream terus mencegah terjadinya suap dan korupsi, antara lain dengan meningkatkan kepatuhan terhadap Kode Etik atau Kode Perilaku Etika & Bisnis (*Code of Conduct/CoC*) untuk menjaga integritas pekerja dan mencegah potensi pelanggaran. Pelaksanaan Kode Etik dituangkan dalam Pedoman Perilaku dan Etika Bisnis (CoC) No.A-003/PHE040/2018-S9 Revisi Ke-0, yang disusun selaras dengan CoC PT Pertamina (Persero).

Throughout 2022, there were no incidents of bribery or corruption. PHE Subholding Upstream continues to prevent these actions by increasing compliance with the Code of Conduct (CoC) to maintain the integrity of its employees and prevent potential violations. The implementation of the Code of Conduct is outlined in the Business Ethics and Conduct Guidelines (CoC) No.A-003/PHE040/2018-S9, aligned with the PT Pertamina (Persero) CoC.

Komitmen melaksanakan CoC berlaku bagi semua pemangku kepentingan. Untuk internal, baik pekerja maupun pimpinan Perusahaan, kepatuhan pada CoC dinyatakan dalam Pernyataan Kepatuhan yang setiap tahun diperbaharui melalui *compliance online system*. Pada periode pelaporan, kami merealisasikan beberapa pencapaian dalam penerapan Kode Etik, di antaranya realisasi atas penerapan CoC berdasarkan *Compliance Online System* (GCG Management System) sebesar 97%.

Dukungan lain pada antikorupsi adalah menerapkan *anti-bribery risk register*, melalui penilaian dalam kegiatan audit *surveillance* dalam rangka mendapatkan dan mempertahankan sertifikasi 37001:2016 Sistem Manajemen Anti-Penyuapan (SMAP) yang melibatkan seluruh pekerja. Berdasarkan penilaian yang dilakukan diketahui risiko yang teridentifikasi terkait dengan proses pengadaan SCM dan *Project*. PHE Subholding Upstream melakukan beberapa upaya mitigasi, di antaranya: [205-1][11.20.4] [OGSS 11.20.2; 11.20.4]

- Mengadakan pakta integritas dan materi presentasi untuk mitra kerja agar menanamkan sikap antikorupsi. Pakta integritas dapat diisi oleh mitra kerja melalui sistem yang disediakan oleh SCM.
- Mengadakan kegiatan *Vendor Day* yang dilaksanakan setiap tahun. Pada tahun 2022 ada 2.778 mitra telah mengikuti kegiatan tersebut [205-2][OGSS 11.20.3]
- Mengadakan kegiatan pelatihan/*coaching clinic* yang dilaksanakan setiap tahun kepada Mitra. Pada tahun 2022 kegiatan pelatihan dilaksanakan secara daring, meliputi:
 1. Pelatihan proses verifikasi TKDN dihadiri oleh 631 mitra
 2. Pelatihan proses Kualifikasi CSMS melalui sistem CSMS Online dihadiri oleh 744 mitra
 3. Pelatihan proses Registrasi melalui aplikasi IP2P dan sistem CIVD dihadiri oleh 538 mitra
 4. Pelatihan proses pengadaan melalui aplikasi GEP Smart dihadiri oleh 428 mitra
 5. Sosialisasi antikorupsi dengan peserta 2.757 pekerja melalui kegiatan *Upstream Stakeholder Forum*.

Perusahaan menetapkan antigratifikasi sesuai Pedoman Pengendalian Gratifikasi No. A13-002/PHE1000/2021-S9 tanggal 31 Desember 2021. Seluruh pekerja diwajibkan melakukan pelaporan gratifikasi di tiap bulannya selama tahun berjalan melalui aplikasi *Compliance Online System*

The commitment to implement the CoC applies to all stakeholders. For internal stakeholders, including employees and company leaders, compliance with the CoC is expressed through an annual updated Compliance Statement via the compliance online system. During the reporting period, we achieved several milestones in implementing the Code of Conduct, including a 97% realization of CoC implementation based on the Compliance Online System (GCG Management System).

To support anti-corruption efforts, PHE Subholding Upstream also implements an anti-bribery risk register through assessments in surveillance audits aimed at obtaining and maintaining certification for the 37001:2016 Anti-Bribery Management System (ABMS) that involves all employees. Based on the assessment conducted, identified risks are related to the SCM and Project procurement processes. PHE Subholding Upstream has undertaken several mitigation efforts, including:

- Establishing integrity pacts and presentation materials for business partners to instill anti-corruption attitudes. Business partners can fill out the integrity pacts through the SCM-provided system.
- Conducting Vendor Day activities held annually. In 2022, 2,778 partners participated in this event.
- Conducting annual training/coaching clinics for business partners. In 2022, the training was held virtually and covered the following topics:
 1. TKDN verification process training attended by 631 partners
 2. CSMS Qualification process training through the CSMS Online system attended by 744 partners
 3. Registration process training through the IP2P application and CIVD system attended by 538 partners
 4. Procurement process training through the GEP Smart application attended by 428 partners
 5. Conducting anti-corruption awareness sessions with 2,757 employees through the Upstream Stakeholder Forum activities.

The Company has established anti-gratification policies in accordance with the Guidelines for Gratification Control No. A13-002/PHE1000/2021-S9 dated 31 December 2021. All employees are required to report gratification on a monthly basis throughout the year through the PHE



PHE. Jika ada pekerja yang melaporkan penerimaan, pemberian atau permintaan gratifikasi, maka PHE Subholding Upstream melaporkan ke PT Pertamina (Persero) dan selanjutnya dilaporkan melalui website Gratifikasi *Online* (GOL) KPK untuk instruksi selanjutnya.

[EM-EP-530a.1]

Compliance Online System application. In the event that an employee reports the receipt, giving, or solicitation of gratification, PHE Subholding Upstream will report it to PT Pertamina (Persero) and then to the Corruption Eradication Commission's (KPK) Gratification Online (GOL) website for further instructions.



Keamanan Informasi [SHS-7 C1]

Information Security

Keamanan dan sistem perlindungan informasi PHE Subholding Upstream mengacu pada kebijakan terkait keamanan informasi sebagai berikut:

- Pedoman Pengelolaan Keamanan Informasi
- Pedoman Kepedulian dan Kepatuhan Keamanan Informasi
- Pedoman Pengelolaan Keamanan Aset Informasi
- Pedoman Pengendalian Akses Teknologi Informasi
- Pedoman Pengelolaan Keamanan Operasional Teknologi Informasi
- Pedoman Pengelolaan Keamanan Jaringan Teknologi Informasi
- Pedoman Pengelolaan Keamanan Pengembangan Sistem Operasi
- Pedoman Pengelolaan Keamanan *Upstream* IACS

Pedoman-pedoman di atas memuat klausul-klausul kebijakan sebagaimana dipersyaratkan dalam ISO 27001:2013 Sistem Manajemen Keamanan Informasi. Ketentuan lain adalah Pedoman Penyelenggaraan Tata Kelola Teknologi Informasi & Komunikasi Perusahaan.

Sesuai Peta Jalan Siber Untuk Mendukung Pengelolaan Teknologi Informasi (IT) 2021-2025, pada tahun 2022 PHE Subholding Upstream menargetkan Fungsi IT telah merencanakan, mengkaji, dan melakukan evaluasi *Security Operation and Response Center* (SORC), untuk diterapkan pada tahun 2023. Strategi yang dilakukan Perusahaan adalah menerapkan aspek *people*, *process*, dan *technology* secara terintegrasi untuk mencapai tujuan, dan melakukan inisiatif strategis keamanan informasi Perusahaan terus membangun sistem perlindungan informasi yang terintegrasi dengan seluruh Anak Perusahaan dan berkomitmen untuk terus memberikan layanan IT yang prima.

The security and information protection system of PHE Subholding Upstream refers to policies related to information security as follows:

- Information Security Management Guidelines
- Information Security Awareness and Compliance Guidelines
- Information Asset Security Management Guidelines
- Technology Access Control Guidelines
- Operational Technology Security Management Guidelines
- Technology Network Security Management Guidelines
- Operating System Security Development Management Guidelines
- Upstream IACS Security Management Guidelines

The above guidelines contain policy clauses as required in ISO 27001:2013 Information Security Management System. Another provision is the Company's Information & Communication Technology Governance Guidelines.

According to the Cyber Roadmap to Support Information Technology (IT) Management 2021-2025, in 2022 PHE Subholding Upstream targets that the IT function will have planned, reviewed, and evaluated the Security Operation and Response Center (SORC) for implementation in 2023. The Company's strategy is to apply integrated people, process, and technology aspects to achieve its goals, and to continue to build an integrated information protection system with all subsidiaries, while remaining committed to providing excellent IT services. The Company will also undertake strategic initiatives to enhance information security.

PHE Subholding Upstream merealisasikan beberapa hal terkait system *cyber security*, yaitu:

- Hasil audit dari eksternal auditor/lembaga independent terkait information security management system dengan hasil tidak ada OFI, temuan minor, temuan major.
- Perusahaan telah memiliki kebijakan dan prosedur keamanan data yang jelas dan dievaluasi secara berkala. Prosedur untuk mengidentifikasi dan menjaga keamanan data dilaksanakan secara sistematis.
- Hasil penilaian *cyber security assessment* masuk dalam kategori "terkelola".
- Implementasi perbaikan berkelanjutan terkait *cyber security*
- Pemisahan tugas dan tanggung jawab terkait keamanan informasi yang terdiri dari fungsi *Information Security Governance* dan *Cyber Security Operations*.

Perusahaan juga melakukan beberapa langkah strategis untuk meningkatkan keamanan informasi: [418-1]

- Secara berkala proaktif melaksanakan *assessment security* menggunakan *CSM Framework* dengan skor rata-rata 3,98 atau termasuk ke dalam kategori baik.
- Memberikan pelatihan terhadap 20 orang anggota divisi IT untuk membangun kepedulian terkait keamanan informasi, dengan menyelenggarakan berbagai kegiatan *sharing session* dan lokakarya *IT Security Forum*.

Sejak tahun 2020 Fungsi IT telah memperoleh dan mengimplementasikan standar ISO 27001:2013 sebagai acuan kerangka kerja pengamanan informasi elektronik Perusahaan. Fungsi IT akan meningkatkan kontinuitas implementasi standar tersebut dengan cermat, efektif dan efisien termasuk meneruskan pelaksanaan *surveillance audit* pada tahun-tahun selanjutnya. Perseroan berencana mengadopsi standar ISO 27001:2022 dan menambah perluasan ruang lingkup sertifikasi terhadap standar tersebut di tahun depan. Perseroan juga telah menyiapkan *roadmap* untuk mendukung transisi standar *management system* serta perluasan ruang lingkup sertifikasi.

Sepanjang tahun 2022, tidak terdapat keluhan maupun pengaduan terkait keamanan data baik dari regulator, masyarakat, maupun pihak lain di luar perusahaan. Tidak terdapat pula peristiwa kebocoran data di tahun ini.

PHE Subholding Upstream has realized several initiatives related to *cyber security* systems, including:

- External audits conducted by independent auditors related to the Information Security Management System yielded no findings, minor findings, or major findings.
- The Company has established clear policies and procedures for data security that are evaluated periodically. Procedures for identifying and maintaining data security are systematically implemented.
- *Cyber security assessments* have been evaluated as "managed."
- Implementation of *cybersecurity* continuous improvement initiatives
- Separation of information security duties and responsibilities, consisting of *Information Security Governance* and *Cyber Security Operations* functions.

The Company has also taken several strategic steps to improve information security:

- Regularly and proactively conducting security assessments using the *CSM Framework* with an average score of 3.98, which falls under the "good" category.
- Providing training to 20 IT division members to build awareness about information security by organizing various *sharing sessions* and *IT Security Forum* workshops.

Since 2020, the IT Function has obtained and implemented the ISO 27001:2013 standard as a framework for securing the Company's electronic information. The IT Function will continue to enhance the continuity of implementing this standard with careful, effective, and efficient measures, including conducting *surveillance audits* in the coming years. The Company plans to adopt the ISO 27001:2022 standard and expand the certification scope of this standard next year. The Company has also prepared a *roadmap* to support the transition of the management system standard and the expansion of the certification scope.

Throughout 2022, there have been no complaints or reports related to data security from regulators, the public, or any external parties. There have also been no incidents of data breaches this year.



Pelibatan Pemangku Kepentingan ^[E.4]

Stakeholder Engagement

Kami telah melaksanakan proses identifikasi pemangku kepentingan melalui analisis pola interaksi dan keterlibatan dengan kegiatan operasi maupun perusahaan. PHE Subholding Upstream mengidentifikasi sembilan pemangku kepentingan yang saling mempengaruhi dalam proses bisnis. Perusahaan selalu melibatkan setiap pemangku kepentingan melalui kegiatan komunikasi rutin dan metode lain. ^{[POJK51-5][2-29]}

The Company has conducted a stakeholder identification process through the analysis of interaction patterns and involvement in business operations. PHE Subholding Upstream has identified nine stakeholders who mutually influence the business process. The Company consistently engages with each stakeholder through regular communication activities and other methods.

Pemangku Kepentingan, Topik Utama, dan Pelibatan Pemangku Kepentingan ^{[2-29] [EM-EP-210b.1]}
Stakeholders, Key Topics, and Stakeholder Engagement Approach

Pemangku Kepentingan Stakeholders	Topik Utama Key Topics	Pendekatan Approach	
		Metode Pelibatan Engagement Method	Frekuensi Frequency
Pemegang Saham Shareholders 	Pemenuhan target operasional dan <i>lifting</i> migas Fulfillment of operational targets and oil and gas lifting	Penyusunan dan pengesahan RKAP Preparation and approval of RKAP	Satu tahun sekali. Once per year
	Pelaporan kinerja. Performance reporting	Rapat Umum Pemegang Saham. General Meeting of Shareholders	Minimal satu tahun sekali, atau jika diperlukan At least once per year, or if needed
		Laporan kinerja berkala. Periodic performance reports	Triwulan Quarterly
		Laporan Keuangan Tahunan Annual Financial Reports	Satu tahun sekali Once per year
Pekerja Employees 	Pemenuhan hak-hak normatif dan jaminan keselamatan dan kesehatan kerja (K3) Fulfillment of normative rights and occupational safety and health (OHS) guarantees	Penyusunan Perjanjian Kerja Bersama (PKB) melalui perwakilan dalam serikat pekerja Preparation of Collective Labor Agreements (CLA) through labor union representatives	Jika diperlukan If required
	Kebebasan berserikat Freedom of association	Pembentukan dan dukungan terhadap serikat pekerja Formation and support of labor unions	Sesuai kebutuhan. As needed

Pemangku Kepentingan Stakeholders	Topik Utama Key Topics	Pendekatan Approach	
		Metode Pelibatan Engagement Method	Frekuensi Frequency
	Penyampaian pendapat pada manajemen dan sosialisasi peraturan Expression of opinion on management and dissemination of regulations	<i>Town Hall meeting</i>	Minimal satu tahun sekali At least once per year
		<i>Management walkthrough</i>	Secara berkala Periodically
	Peningkatan kompetensi. Competency development	Pendidikan dan pelatihan regular serta pengembangan karir (penilaian kepemimpinan <i>leadership</i>) Regular education and training as well as career development (leadership assessment)	Secara berkala Periodically
	Komunikasi yang jelas dan efektif Clear and effective Communications	Meningkatkan saluran komunikasi internal dengan pekerja, seperti <i>broadcast, contact center</i> Improve internal communication channels with employees, such as broadcasts, contact centers	Secara berkala Periodically
Lembaga legislatif Legislative institution 	Pemenuhan kebutuhan legal perusahaan Fulfilling the company's legal needs	Rapat tahunan Annual meetings	Sekurang-kurangnya sebulan sekali At least once per month
	Penyelesaian berbagai kasus hukum Resolution of various legal Cases	Rapat koordinasi Coordinating meetings	
Pemerintah Pusat dan Regulator Central Government and Regulators 	Pembayaran: - Pajak - Penerimaan Negara Bukan Pajak (PNBP) - Kewajiban Lain Payment: - Tax - Non-Tax State Revenue (PNBP) - Other Obligations	Setoran pajak tahunan Annual tax deposits Setoran PNBP dan kewajiban lain PNBP deposits and other obligations	Satu tahun sekali Once per year
	Tata kelola yang baik (GCG) dan kepatuhan Good corporate governance (GCG) and compliance	Assessment oleh pihak independent Assessment by an independent party	Satu tahun sekali Once per year
	Perizinan Migas, Alokasi Anggaran, dan koordinasi lain Oil and Gas Permits, Budget Allocation, and other Coordination	Rapat Koordinasi Prosedur Pengurusan Formalities Coordination meetings Formalities Management Procedure	Sekurang-kurangnya sebulan sekali At least once per month
	Perizinan Lingkungan, Perizinan Operasi, Perizinan penggunaan Lahan, Pelaporan Jalur Pipa Bawah Laut, dan Perizinan lain yang memungkinkan Environmental, Operational, and Land use Permits, Subsea Pipeline Reporting, and other possible permits	- Rapat Koordinasi - Prosedur pengurusan formalitas - Coordination meetings - Formalities management procedure	Sekurang-kurangnya sebulan sekali At least once per month



Pemangku Kepentingan Stakeholders	Topik Utama Key Topics	Pendekatan Approach	
		Metode Pelibatan Engagement Method	Frekuensi Frequency
Pelanggan Customers 	Kepastian hukum Legal certainty	Perumusan dan pengesahan kontrak jual beli migas Formulation and ratification of oil and gas sales and purchase contracts	Sesuai kebutuhan As needed
	Pelayanan dan jaminan pasokan migas Oil and gas supply services and guarantees	Mekanisme pengaduan Complaint mechanism	Saran dapat disampaikan melalui media komunikasi yang tersedia Suggestions can be submitted via available communication media
		Rapat koordinasi <i>lifting</i> migas Oil and Gas lifting coordination meeting	Secara berkala sesuai kontrak dan sesuai kebutuhan Periodically according to contract and as needed
		Survei kepuasan pelanggan. Customer satisfaction survey	Tahunan Annually
Masyarakat Communities 	Manfaat kepada masyarakat Benefits to the community	- Pelaksanaan program TJSL di seluruh wilayah operasi Perusahaan Implementation of CSR programs in all areas of the Company's operations - Penghitungan dampak melalui pengukuran SROI Calculation through SROI measurement	Sesuai kebutuhan As needed Satu tahun sekali Once per year
	Komunikasi yang efektif dan Transparan Effective and transparent Communications	Konsultasi publik dan Musrenbang Public Consultancy and Musrenbang Survei indeks kepuasan masyarakat Community satisfaction index survey	
Mitra Usaha/Bisnis Business Partners 	Kepastian hukum Legal certainty	Perumusan dan pengesahan kontrak kerja Formulation and approval of employment contracts	Jika diperlukan If required
	Laporan kinerja dan operasional Operational and performance reports	Pertemuan koordinasi berkala Periodic coordination meetings	
	Berdampak signifikan kepada keberlanjutan Significantly impact on Sustainability	Assessment dan evaluasi berkala Periodic assessments and evaluations	

Pemangku Kepentingan Stakeholders	Topik Utama Key Topics	Pendekatan Approach	
		Metode Pelibatan Engagement Method	Frekuensi Frequency
Mitra Kerja Pemasok/ Vendor/Kontraktor Working Partners 	Keterbukaan tender pengadaan Procurement tender transparency	<i>E-procurement</i>	Setiap pelaksanaan Kontrak Every contract
	Kepastian hukum Legal certainty	Perumusan dan pengesahan kontrak kerja Formulation and approval of employment contracts	
	Kepatuhan Compliance	<i>Assessment</i> CSMS dan evaluasi berkala CSMS assessment and periodic evaluation	
Perguruan Tinggi dan Institusi Pendidikan Universities and Educational Institutions 	Penelitian, kajian dan Konsultasi Research, studies and Consultations	Kerjasama terkait kegiatan operasional Perusahaan, pengembangan masyarakat, dan pengelolaan lingkungan Cooperation related to the Company's operational activities, community development, and environmental management	Sesuai kebutuhan As needed
Media 	Informasi kinerja dan informasi lain terkait Perusahaan Performance information and other information related to the Compan.	Penyampaian berkala materi pemberitaan melalui jumpa pers maupun <i>press release</i> Periodic delivery of news material through press conferences and press releases	Setiap hari untuk diseminasi Every day for dissemination
		<i>Media gathering</i> dan kunjungan ke lokasi Media gatherings and site visits	Sesuai kebutuhan. As needed

Pendekatan Khusus kepada Pemangku Kepentingan

Pendekatan Khusus kepada Pemangku Kepentingan

Hubungan industrial dengan pekerja dikelola secara adil, saling menghargai, dan profesional, yang diwujudkan dalam Perjanjian Kerja Bersama (PKB). PKB berlaku untuk semua anggota serikat dan di luar anggota serikat, atau 100% pekerja otomatis terakomodir ke dalam PKB. Pada periode pelaporan tidak ada hal-hal yang menghalangi penerapan dan pelaksanaan PKB di lingkungan PHE Subholding Upstream. [2-30]

Industrial relations with workers are managed fairly, with mutual respect and professionalism, which is embodied in the Collective Labor Agreement (PKB). PKB applies to all union members and non-union members, or 100% of workers are automatically accommodated in the PKB. During the reporting period there were no matters that hindered the implementation and implementation of the CLA within the PHE Subholding Upstream environment. [2-30]



Nilai Ekonomi Langsung yang Dihasilkan dan Didistribusikan Kepada Pemangku Kepentingan

Nilai Ekonomi Langsung yang Dihasilkan dan Didistribusikan Kepada Pemangku Kepentingan

Melalui penerapan tata kelola keberlanjutan dan komitmen pada bisnis yang bertanggung jawab, PHE Subholding Upstream mampu menjaga kinerja ekonomi selama tahun 2022. Perusahaan berhasil merealisasikan target produksi dan lifting migas, sehingga mengoptimalkan nilai ekonomi yang dihasilkan, serta mendistribusikan sebagian dari nilai ekonomi yang diperoleh kepada para pemangku kepentingan sesuai kebutuhan mereka.

Through the implementation of sustainable governance and commitment to responsible business, PHE Subholding Upstream is able to maintain economic performance in 2022. The company has succeeded in realizing its oil and gas production and lifting targets, thereby optimizing the economic value generated, and distributing a portion of the economic value obtained to the shareholders, stakeholders according to their needs.

Target dan Realisasi Laba Bersih, Produksi dan Lifting ^[F.2]

Target dan Realisasi Laba Bersih, Produksi dan Lifting

Selama tahun 2022 PHE Subholding Upstream mampu meraih Indikator Kinerja Utama (KPI) sebesar 104,15%. Perusahaan mencatatkan perolehan laba bersih USD4.674,16 juta, atau 172,62% dari Rencana Kerja dan Anggaran Perusahaan (RKAP) sebesar USD2.707,75 juta. Perolehan laba bersih tahun 2022 lebih tinggi USD1.721,52 juta, atau 158,30% dari tahun 2021 sebesar USD2.952,64 juta. ^{[POJK51-6.b.1] [201-2][EM-EP-000.A]}

During 2022 PHE Subholding Upstream was able to achieve a Key Performance Indicator (KPI) of 104.15%. The company recorded a net profit of USD 4,674.16 million, or 172.62% of the Company's Work Plan and Budget (RKAP) of USD 2,707.75 million. The net profit for 2022 was USD 1,721.52 higher million, or 158.30% from 2021 of USD 2,952.64 million. ^{[POJK51-6.b.1] [201-2][EM-EP-000.A]}

Untuk kinerja produksi dan kapasitas *lifting* migas, tercatat tidak mencapai RKAP karena terdapat gap pada kegiatan pengeboran dari *delay* insentif WK dan kesiapan lokasi. Namun hal tersebut tak berdampak signifikan terhadap keuangan Perusahaan. Seluruh kegiatan operasional baik produksi maupun *lifting* tetap berlangsung secara optimal. Uraian lengkap jumlah total produksi dan realisasi *lifting* migas PHE Subholding Upstream selama periode pelaporan dapat dilihat pada Laporan Tahunan PHE Tahun Buku 2021.

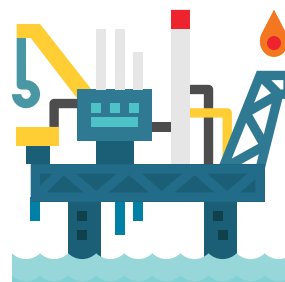
^{[201-2] [EM-EP-000.A][OGSS-11.2.2]}

The production performance and oil and gas lifting capacity did not reach the RKAP target due to a gap in drilling activities caused by the delay in WK incentives and site readiness. However, this did not significantly affect the Company's financial performance. All operational activities, both production and lifting, continued to run optimally. The detailed description of the total production and oil and gas lifting realization of PHE Subholding Upstream during the reporting period can be found in the PHE Annual Report for Fiscal Year 2021. ^{[201-2] [EM-EP-000.A][OGSS-11.2.2]}

Target dan Realisasi Produksi dan Lifting Migas, dan Laba Bersih PHE Subholding Upstream (Juta USD)

Production and Oil Lifting Targets and Achievements, and Net Profit of PHE Subholding Upstream (USD Million)

Uraian Description	Satuan Unit	RKAP RKAP	Realisasi Realization	Persentase Percentage
Produksi* Production	MBOEPD	992,17	967,27	97
Lifting	MBOEPD	850,54	837,15	98
Laba Bersih Net Profit	USD Juta USD Million	2.707,75	4.674,16	181



Catatan | Notes: *Tidak termasuk M&A | Excludes M&A

Nilai Ekonomi yang Dihasilkan dan Didistribusikan Economic Value Generated and Distributed

Sebagian dari nilai ekonomi yang dihasilkan pada tahun 2022, didistribusikan kepada pemangku kepentingan sesuai kebutuhan masing-masing. Laporan ini hanya mengungkap informasi nilai ekonomi dihasilkan dan didistribusikan yang mencakup operasional PHE Subholding Upstream.

Informasi nilai ekonomi dihasilkan dan didistribusikan disampaikan berbasis *cash* berdasarkan Laporan Keuangan yang telah diaudit. Pengungkapan informasi sesuai yang disarankan Standar GRI, sehingga angka yang disajikan dapat saja berbeda dengan Laporan Keuangan yang telah diaudit. Selama tahun 2022 Perusahaan mampu mengoptimalkan nilai ekonomi konsolidasian dari perolehan Pendapatan Usaha serta Laba Usaha hasil *lifting* migas kepada PT Pertamina (Persero) dan pelanggan lain. PHE Subholding Upstream tidak menerima bantuan finansial dari Pemerintah. [201-1][201-4] [11.14.2]

Part of the economic value created in 2022 was distributed to stakeholders according to their respective needs. This Report only discloses information on the economic value generated and distributed, which includes the operations of PHE Subholding Upstream.

The information on the economic value generated and distributed is presented based on cash according to the audited Financial Statements. The information disclosure is in accordance with the suggested GRI Standard, and thus the figures presented may differ from the audited Financial Statements. In 2022, the Company was able to optimize the consolidated economic value of the revenue and operating profit from oil and gas lifting to PT Pertamina (Persero) and other customers. PHE Subholding Upstream did not receive any financial assistance from the Government.



Nilai Ekonomi Dihasilkan dan Didistribusikan (Juta USD) [201-1]

Economic Value Generated and Distributed (USD Million)

Uraian Description	31 Desember 2022 31 December 2022	31 Desember 2021 31 December 2021	31 Desember 2020 31 December 2020
Nilai Ekonomi yang Dihasilkan Economic Value Generated			
Pendapatan Usaha Operating Revenue	15.583,86	11.319,55	7.747,08
Pendapatan Lain Other Revenue	599,54	420,53	326,71
Total Pendapatan Total Revenue	16.183,40	11.740,08	8.073,79
Nilai Ekonomi yang Didistribusikan Economic Value Distributed			
Biaya Operasi Operating Costs	(5.930,16)	(4.382,22)	(3.837,02)
Gaji Karyawan dan Tunjangan Employee Salaries and Benefits	(522,28)	(362,89)	(224,52)
Pembayaran kepada Investor dan Lender Payments to Investors and Lenders	(4.870,61)	(860,73)	(818,50)
Pembayaran kepada Pemerintah Payments to the Government	(651,29)	(548,32)	(438,99)
Anggaran Pemberdayaan Masyarakat Community Empowerment Budget	14,69	(11,96)	(1,77)
Total Distribusi Nilai Ekonomi Total Economic Value Distributed	11.987,40	(6.166,12)	(5.320,82)
Nilai Ekonomi Ditahan (Jumlah Nilai Ekonomi Dihasilkan – Jumlah Nilai Ekonomi Didistribusikan) Retained Economic Value (Total Economic Value Generated – Total Economic Value Distributed)			
Nilai Ekonomi Ditahan Retained Economic Value	4.196,00	5.573,97	2.752,98

Secara keseluruhan Nilai Ekonomi Ditahan tahun 2022 memperlihatkan penurunan 24,74% dari tahun 2021. Hal ini tidak terlepas dari komitmen PHE Subholding Upstream untuk mendistribusikan Nilai Ekonomi Diperoleh kepada pemangku kepentingan, sesuai kebutuhan masing-masing. Secara keseluruhan Nilai Ekonomi yang Didistribusikan tahun 2022 kepada para pemangku kepentingan meningkat 94,43% dari tahun 2021, dengan nilai terbesar untuk memenuhi kebutuhan investor dan lender.

Overall, the Retained Economic Value for 2022 showed a decrease of 24.74% from 2021. This was due to PHE Subholding Upstream's commitment to distributing the Acquired Economic Value to stakeholders. The overall Economic Value Distributed for 2022 to stakeholders increased by 94.43% from 2021, with the largest value to meet the needs of investors and lenders.

Realisasi Biaya Investasi ^[F.3]

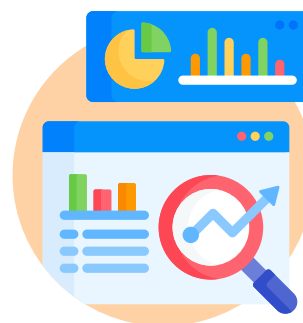
Investment Costs Realization

Peningkatan produksi migas didukung alokasi biaya investasi sebesar USD6.090,85juta atau Rp87.403,50 miliar (asumsi kurs Rp14.350 per USD), meningkat USD2.812,69 juta atau 53,82% dari tahun 2021 sebesar USD3.278,16 juta atau Rp46.806 miliar (asumsi kurs Rp14.278 per USD). Realisasi biaya investasi mencapai USD3.235,14 juta atau Rp48.109,76 miliar (asumsi kurs Rp14.871 per USD) (audited), meningkat USD 655,62juta atau 25,42% dari tahun 2021 sebesar USD2.579,52 juta atau sekitar Rp36.917,98 miliar (audited). ^[EM-EP-420a.3]

The increase in oil and gas production was supported by an investment allocation of USD6,090.85 million or Rp87,403.50 billion (based on an exchange rate of Rp14,350 per USD), which increased by USD2,812.69 million or 53.82% from 2021, which was USD3,278.16 million or Rp46,806 billion (based on an exchange rate of Rp14,278 per USD). The actual investment cost realized was USD3,235.14 million or Rp48,109.76 billion (based on an audited exchange rate of Rp14,871 per USD), which increased by USD655.62 million or 25.42% from 2021, which was USD2,579.52 million or around Rp36,917.98 billion (audited).

Realisasi Biaya Investasi (Juta USD)
Investment Costs Realization (USD Million)

Kegiatan Activity	2022	2021
Eksplorasi Exploration	274,24	267,31
Pengembangan Development	2.369,52	1.677,48
Operasi dan Produksi Operation and Production	518,25	519,42
Services Services	47,43	83,35
Akuisisi Acquisition	26,71	41,47
Jumlah Total	3.235,14	2.579,52



Kedepannya, PHE SHU akan mempertimbangkan pengadopsian teknologi ramah lingkungan untuk menurunkan emisi GHG. Salah satu teknologi yang dipertimbangkan untuk menekan emisi gas rumah kaca yang dihasilkan adalah Carbon Capture and Storage (CCS).

In the future, PHE SHU will consider adopting environmentally friendly technologies to reduce GHG emissions. One of the technologies being considered to reduce greenhouse gas emissions is Carbon Capture and Storage (CCS).



Dampak Ekonomi Tidak Langsung

Indirect Economic Impact

Pada 8 Februari 2022 Pemerintah melalui Kementerian ESDM telah memberikan persetujuan pengalihan *Participating Interest* (PI) 10 persen di Wilayah Kerja (WK) Siak yang dikelola PHE Subholding Upstream Siak. Dengan demikian komposisi PI di WK Siak menjadi PHE Subholding Upstream Siak sebesar 90 persen dan PT Riau Petroleum Siak sebesar 10 persen.

Pada periode pelaporan Kementerian ESDM juga menyetujui pengalihan PI WK Southeast Sumatera (SES) yang dikelola PT PHE OSES, sebesar 5% kepada PT Lampung Energi Berjaya. Sebanyak 5% PI lainnya akan diserahkan untuk Provinsi DKI Jakarta, mengingat WK PT PHE OSES berada di Provinsi Lampung dan DKI Jakarta.

Pengalihan PI merupakan bentuk penerapan Peraturan Menteri ESDM No.37/2016 tentang Ketentuan Penawaran *Participating Interest* 10% pada Wilayah Kerja Minyak dan Gas Bumi. Keterlibatan daerah dalam pengelolaan WK migas melalui PI 10% memberikan banyak manfaat, di antaranya keuntungan atau profit bagi BUMD yang akan menambah pendapatan daerah. Perolehan tersebut dapat dimanfaatkan mendukung berbagai program peningkatan ekonomi daerah maupun kesejahteraan masyarakat. [203-2] [11.14.4]

Keberadaan PHE Subholding Upstream dan anak usahanya, juga mendatangkan manfaat ekonomi tidak langsung bagi masyarakat melalui pemanfaatan fasilitas yang dibangun untuk mendukung operasi perusahaan seperti pengembangan Taman KEHATI, jalan fasilitas sosial, penyediaan fasilitas UMKM atau pembangunan kios di desa, dan pembangunan infrastruktur. Seluruh pemanfaatan fasilitas tersebut bersifat probono. [203-1][203-2]

On 8 February 2022 the Government through the Ministry of Energy and Mineral Resources approved the transfer of 10% Participating Interest (PI) in the Siak Work Area (WK) managed by PHE Subholding Upstream Siak. As a result, the PI composition in the Siak WK is now 90% for PHE Subholding Upstream Siak and 10% for PT Riau Petroleum Siak.

During the reporting period, the Ministry of Energy and Mineral Resources approved the transfer of a 5% Participating Interest (PI) in the Southeast Sumatra (SES) Working Area managed by PT PHE OSES to PT Lampung Energi Berjaya. An additional 5% PI will be transferred to the DKI Jakarta Province, as the working area of PT PHE OSES is located in both Lampung and DKI Jakarta Provinces.

The transfer of PI is a form of implementation of Regulation of the Minister of Energy and Mineral Resources No. 37/2016 concerning Provisions for Offering 10% Participating Interest in Oil and Gas Work Areas. The involvement of regions in the management of oil and gas working areas through a 10% PI provides many benefits, including profits for regional government-owned enterprises (BUMD) that will increase regional revenue. This acquisition can be utilized to support various programs to improve regional economy and the welfare of the community.

The presence of PHE Subholding Upstream and its Subsidiaries also brings indirect economic benefits to the community through the utilization of facilities built to support the Company's operations such as the development of KEHATI Park, social facility roads, provision of MSME facilities or the construction of kiosks in villages, and infrastructure development. All utilization of these facilities is provided on a pro bono basis.

Kontribusi pada Penerimaan Negara

Contribution to State Revenue

Salah satu bentuk distribusi nilai ekonomi yang diperoleh adalah pembayaran pajak dan Penerimaan Negara Bukan Pajak (PNBP) kepada Pemerintah, sesuai regulasi perpajakan yang berlaku di negara yang menjadi wilayah kerja Anak Perusahaan. Laporan ini hanya mengungkapkan informasi pembayaran pajak dan PNBP untuk wilayah operasi di Indonesia. Total pembayaran pajak dan PNBP pada tahun 2022 mencapai USD8.670,78 juta, naik USD3.396,91 juta atau 64,41% dari tahun 2021 sebesar USD5.273,87 juta. Kenaikan ini seiring meningkatkan Pendapatan Usaha. [207-1, 415-1]

Pada Regional 1-Sumatra sampai Regional 5-Internasional, pembayaran pajak dikelola *Executive Senior Manager Tax*, yang bertanggung jawab langsung kepada Direktur Keuangan PHE Subholding Upstream. Pada AP *Services* lain di Subholding Upstream, pengelolaan pajak menjadi tanggung jawab fungsi yang ditunjuk masing-masing manajemen. Fungsi perpajakan pada PHE Subholding Upstream dan masing-masing AP, akan memastikan kepatuhan perpajakan terhadap regulasi yang berlaku, dan secara berkala dipantau serta dilaporkan sebagai bagian dari pencapaian target Indikator Kinerja Utama (KPI). [207-2]

Selama tahun 2022, PHE Subholding Upstream tidak pernah memberikan kontribusi politik dalam bentuk uang maupun barang. Sejalan dengan Standar Perilaku CoC PHE Subholding Upstream, Perusahaan tidak dibenarkan menyumbangkan dana Perusahaan atau aset Perusahaan untuk tujuan politik baik di dalam maupun di luar negeri, dan tidak memanfaatkan nama, aset dan/atau kesempatan Perusahaan untuk tujuan politik. [11.22]

One form of distribution of the economic value obtained is the payment of taxes and Non-Tax State Revenue (PNBP) to the Government, in accordance with the taxation regulations applicable in the country where the Subsidiary operates. This report only discloses information on tax payments and PNBP for operating areas in Indonesia. The total tax and PNBP payments in 2022 amounted to USD8,670.78 million, an increase of USD3,396.91 million or 64.41% from 2021 which was USD5,273.87 million. This increase is in line with the increase in Business Revenue.

Tax payments in Regional 1-Sumatra to Regional 5-International are managed by the Executive Senior Manager Tax, who reports directly to the Director of Finance of PHE Subholding Upstream. In other AP *Services* under the Upstream Subholding, tax management is the responsibility of the designated management function. The tax function in PHE Subholding Upstream and each AP will ensure tax compliance with applicable regulations and will be regularly monitored and reported as part of achieving Key Performance Indicators (KPI) targets.

In 2022, PHE Subholding Upstream did not provide any political contributions in the form of money or goods. In line with the CoC standards of PHE Subholding Upstream, the Company is not allowed to donate Company funds or assets for political purposes, either domestically or internationally, and will not use the name, assets, and/or opportunities of the Company for political purposes.



Kontribusi Kepada Negara (Juta USD)
State Contributions (USD Million)

Uraian Description	2022	2021	2020
Penerimaan Negara Bukan Pajak Non-Tax State Revenue (NTSR)			
PNBP Lainnya Other NTSR	5.602,85	3.200,48	1.933,93
Sub Total PNBP NTSR Sub Total	5.602,85	3.200,48	1.933,93
Pembayaran Pajak Tax Payments			
Pajak Pertambahan Nilai Value Added Tax	528,43	357,00	408,95
Pajak Bumi dan Bangunan Property Tax	75,16	123,50	159,94
Pajak Penghasilan Karyawan Employee Income Tax	196,59	118,12	125,99
Pajak Penghasilan Badan Corporate Income Tax	2.256,87	1.384,84	658,92
BBN dan Pajak Kendaraan/Retribusi Daerah BBN and Vehicle/Regional Retribution Tax	10,55	5,34	4,52
Pajak Lainnya Other Taxes	0,32	84,59	96,13
Sub Total Pajak Tax Sub Total	3.067,93	2.073,39	1.454,45
Jumlah Kontribusi Kepada Negara Total State Contributions			
Total	8.670,78	5.273,87	3.388,38

Sejalan dengan terjaganya produksi migas dan harga minyak dunia selama tahun 2022, PHE Subholding Upstream meningkatkan kontribusi kepada penerimaan negara dalam bentuk pembayaran pajak dan PNBP. Secara keseluruhan total pembayaran pajak dan PNBP tahun 2022 meningkat 64,41% dari tahun 2021. Selain bentuk kepatuhan atas peraturan yang berlaku, pembayaran pajak dan PNBP menjadi bentuk dukungan PHE Subholding Upstream pada program-program pembangunan Pemerintah.

In line with the sustained production of oil and gas and the global oil price during 2022, PHE Subholding Upstream increased its contribution to state revenue through tax and non-tax revenue payments. Overall, the total tax and non-tax payments in 2022 increased by 64.41% compared to 2021. In addition to compliance with applicable regulations, tax and non-tax payments represent PHE Subholding Upstream's support for government development programs.

Dana Pensiun Pekerja

Employee Pension Fund

PHE Subholding Upstream melakukan program perlindungan kesejahteraan pekerja untuk mempertahankan dan memberikan motivasi pada setiap pekerja. Perusahaan menyertakan pekerja dalam program pensiun, yakni Program Pensiun Iuran Pasti (PPIP). Pengelolaan PPIP dilakukan PHE Subholding Upstream melalui lembaga Dana Pensiun Lembaga Keuangan (DPLK).

Jumlah dana pensiun (porsi Perusahaan) yang dikelola per 31 Desember 2022 mencapai Rp196 miliar. Jumlah tersebut sangat mencukupi untuk memenuhi kewajiban pembayaran kepada 376 pekerja yang pensiun pada tahun 2022. [201-3]

PHE Subholding Upstream implements an employee welfare protection program to maintain and motivate each employee. The Company includes its employees in a pension program through the Defined Contribution Pension Program (PPIP). The management of PPIP is performed by PHE Subholding Upstream through the Financial Institution Pension Fund (DPLK).

As of 31 December 2021, the total pension funds (company portion) managed by the Company reached Rp196 billion. This amount is more than sufficient to fulfill the payment obligations to the 376 workers who retired in 2022.



Tanggung Jawab Produk dan Pengembangan

Product Responsibility and Development

Evaluasi Keamanan Produk dan Pengelolaan Dampak dari Produk [F.27][F.28]

Product Safety Evaluation and Impact Management

Produk PHE Subholding Upstream adalah minyak mentah dan gas bumi. Perusahaan memastikan keamanan proses operasi dan produksi melalui evaluasi berkala, termasuk menerapkan *Sustainability PERTAMINA Expectations for HSSE Management Excellence* (SUPREME). Perusahaan telah memiliki prosedur dalam pengelolaan dampak dari produk apabila terjadi kebocoran minyak mentah maupun gas bumi, yang mengacu pada standar prosedur operasi yang berlaku di PT Pertamina (Persero). Selama tahun 2022 tidak ada kebocoran major terkait minyak mentah maupun gas bumi, yang membahayakan keamanan dan keselamatan lingkungan.

PHE Subholding Upstream's products are crude oil and natural gas. The Company ensures the safety of its operations and production processes through regular evaluations, including the implementation of the *Sustainability PERTAMINA Expectations for HSSE Management Excellence* (SUPREME). The Company has procedures in place for managing the impacts of its products in the event of crude oil or natural gas leaks, which adhere to the standard operating procedures of PT Pertamina (Persero). In 2022, there were no major leaks related to crude oil or natural gas that endangered environmental safety and security.



Komitmen untuk Memberikan Layanan atas Produk dan/atau Jasa yang Setara kepada Konsumen

Commitment to Provide Equal Service for Products and/or Services to Consumers

PHE SHU berkomitmen untuk memberikan pelayanan yang terbaik dan setara bagi seluruh konsumennya sebagai bagian dari praktik penghormatan pada hak asasi manusia. Selain itu, PHE SHU juga memastikan layanan kepada konsumen dapat diperoleh dengan akses yang mudah dan terjangkau.

PHE SHU is committed to providing the best and equal services to all of its customers as part of respecting human rights practices. In addition, PHE SHU also ensures that our services to consumers can be accessed easily and affordably.

Indeks Kepuasan Pelanggan dan Penarikan Produk ^{[F.29][F.30]}

Customer Satisfaction Index and Product Recalls

Secara berkala kami melakukan survei kepuasan pelanggan. Dari hasil survei kepuasan pelanggan pada tahun 2022 diperoleh rata-rata Indeks Kepuasan Pelanggan sebesar 4,30 dari skala 5,00 Pencapaian tersebut lebih baik dari tahun 2021 sebesar 3,97 dan menunjukkan secara umum pelanggan telah menyatakan puas atas layanan yang diberikan dan kualitas produk yang dikirimkan.

We periodically conduct customer satisfaction surveys, and the results of the 2022 survey showed an average Customer Satisfaction Index of 4.30 on a scale of 5.00. This achievement is an improvement from the 2021 score of 3.97, indicating that our customers have generally expressed satisfaction with the services provided and the quality of the products delivered.

Hasil Survei Kepuasan Pelanggan (%)
Customer Satisfaction Survey Results (%)

Kategori Category	2022	2021
Kuantitas Produk Product Quantity	4,31	3,88
Kualitas Produk Product Quality	4,30	3,98
Kualitas Jasa Service Quality	4,29	4,01
Rata-rata Average	4,30	3,97

Catatan:

Pada tahun 2020 belum dilakukan survei kepuasan pelanggan.
Cakupan 2021 dan 2022 telah menjadi PHE SHU.

Note:

In 2020, there was no customer satisfaction survey conducted.
The coverage of the surveys conducted in 2021 and 2022 is within PHE SHU.

Peningkatan nilai kepuasan pada berbagai kategori product quantity, product quality dan service quality relatif kecil menunjukkan bahwa terdapat perbaikan kepuasan, dimana rata-rata pelanggan menyatakan puas dengan kesesuaian volume gas, kesesuaian kualitas pasokan gas, kemudahan koordinasi maupun penanganan keluhan pelanggan. Selama tahun 2022 tidak ada pula penarikan produk oleh pelanggan yang dikarenakan ketidakpuasan.

There has been a slight improvement in customer satisfaction in various categories such as product quantity, product quality, and service quality, indicating that there have been efforts to improve customer satisfaction. On average, customers have expressed satisfaction with the adequacy of gas volume, the suitability of gas supply quality, ease of coordination, and handling of customer complaints. In addition, there were no product recalls by customers due to dissatisfaction during the year 2022.

Inovasi Untuk Keberlanjutan [F.26]

Innovation for Sustainability

PHE Subholding Upstream terus melakukan inovasi untuk mendukung penerapan keberlanjutan. Pengelolaan inovasi dilakukan dengan memperhatikan beberapa hal:

- Keberlanjutan dalam mengelola *upstream oil and gas innovation* dengan fokus *quality & knowledge management, oil & gas exploration, oil & gas development* dan *production*, HSSE, serta bidang yang terkait dalam kegiatan pengelolaan dan penciptaan inovasi & teknologi minyak dan gas;
- Menjalankan prinsip *continuous improvement* dalam pengelolaan inovasi teknologi;
- Memiliki *commercial aspect*, baik internal dan eksternal;
- Memastikan bahwa seluruh kegiatan pengelolaan inovasi teknologi berjalan sesuai dengan strategi, fokus bisnis, serta target pengurangan emisi.

Untuk mendukung inovasi keberlanjutan, Fungsi Upstream Innovation bekerja sama dengan Fungsi Human Capital melalui Subfungsi Quality Management Subholding Upstream mulai melakukan implementasi Pengelolaan Kekayaan Intelektual (KI). Pengelolaan KI dilakukan agar memberikan nilai tambah bagi Perusahaan, dengan harapan KI akan menjadi hal yang bermanfaat ke depannya.

Pengembangan inovasi yang direalisasikan pada tahun 2022 untuk mendukung Program Reduksi Emisi PT PHE, antara lain studi *Carbon Capture & Storage (CCS)* dan studi *Carbon Capture, Utilization and Storage (CCUS)*. Pengembangan terus dilakukan untuk mendorong transformasi bisnis ke arah *green economy* dan ekonomi rendah karbon. Setelah Jatibarang Field, PHE Subholding Upstream terus melakukan kajian potensi dekarbonisasi

PHE Subholding Upstream is continuously innovating to support sustainability. Innovation is managed by considering several aspects:

- Sustainability in managing upstream oil and gas innovation with a focus on quality and knowledge management, oil and gas exploration, oil and gas development and production, HSSE, and related areas in the management and creation of oil and gas innovation and technology;
- Applying the principle of continuous improvement in technology innovation management;
- Having internal and external commercial aspects;
- Ensuring that all technology innovation management activities are in line with the strategy, business focus, and emission reduction targets.

To support sustainable innovation, the Upstream Innovation Function collaborates with the Human Capital Function through the Quality Management Subfunction of Subholding Upstream to begin implementing Intellectual Property (IP) Management. IP management is done to provide added value for the Company, with the expectation that IP will be beneficial in the future.

In 2022, PT PHE has developed various innovations to support its Emissions Reduction Program, including the study of *Carbon Capture & Storage (CCS)* and *Carbon Capture, Utilization, and Storage (CCUS)*. The company continues to develop innovations to promote business transformation towards a green economy and low-carbon economy. Following the success of the Jatibarang Field, PHE Subholding Upstream is currently conducting studies



yang tersebar di berbagai lokasi, di antaranya yang saat ini sedang dilakukan studi adalah Jatibarang, Sukowati, Sunda Asri, Rokan, Gundih, Ramba, Subang, Akasia Bagus dan Betung. Secara total, potensi dekarbonisasi di seluruh area PHE Subholding Upstream mencapai 15 juta ton carbon equivalen. [OGSS-11.2.4]

Inovasi berkelanjutan lainnya adalah memperkuat infrastruktur gas dengan LPG *Booster System* di Kilang LNG Badak di Bontang, Kalimantan Timur. Teknologi tersebut dapat meningkatkan produksi LPG untuk wilayah Bontang hingga 323% sebesar 603 m³ per hari. LPG *Booster System* telah beroperasi sejak Desember 2021, dan diproyeksi terdapat penambahan produksi LPG sebesar 1,56 juta m³ atau 780.000 Metrik Ton selama periode 2022-2027. Inovasi ini akan menghasilkan tambahan produksi LPG nasional sehingga dapat mengurangi impor LPG, dan memperkuat kontribusi gas pada transisi energi, mengingat PHE Subholding Upstream memiliki sumber gas yang masih dapat dikembangkan untuk berproduksi pada tahun 2031.

on the potential for decarbonization in various locations, including Jatibarang, Sukowati, Sunda Asri, Rokan, Gundih, Ramba, Subang, Akasia Bagus, and Betung. In total, the decarbonization potential in all areas of PHE Subholding Upstream reaches 15 million tons of carbon equivalent.

Another sustainable innovation is strengthening gas infrastructure with the LPG *Booster System* at the Badak LNG plant in Bontang, East Kalimantan. This technology can increase LPG production for the Bontang area by up to 323% to 603 m³ per day. The LPG *Booster System* has been operational since December 2021, and it is projected to increase LPG production by 1.56 million m³ or 780,000 metric tons during the period of 2022-2027. This innovation will generate additional national LPG production, reducing LPG imports and strengthening the gas contribution to the energy transition, given that PHE Subholding Upstream still has gas sources that can be developed for production until 2031.





Pernyataan Assuror Independen

Independent Assurance Statement



Independent Assurance Statement

The 2022 Sustainability Report of PT Pertamina Hulu Energi

Number	: 14/000-174/V/2023/SR-Asia/Indonesia
Assurance Type	: Type 1
Assurance Level	: Moderate
Reporting Standards	: GRI Universal Standard 2021 Consolidated, GRI 11 Oil & Gas Sector, SASB Oil & Gas Sector (Exploration and Production EM-EP 2018-10), and IPEICA Sustainability Reporting Guidance for the Oil and Gas Industry 4th edition 2020.
Reporting Regulation	: Sustainable Finance Regulation POJK No.51/2017 (Indonesia)

Dear stakeholders,

This is an Independent Assurance Statement ("the Statement") that describes the results of assurance work performed by **Social Responsibility Asia** ("SR Asia") on the data, information, and disclosures in **the 2022 Sustainability Report** ("the Report") of **PT Pertamina Hulu Energi** ("the Company"). The Reporting Organization is a subsidiary of Indonesia's National Oil Company (NOC) PT Pertamina (Persero) operating in the exploration and production of oil and gas. The Report that has been evaluated by SR Asia presents the efforts of the Company in managing its sustainability commitment and performance from January 1st to December 31st, 2022.

Intended User and Purpose

The Statement serves as a communication channel to the stakeholders regarding the Company's sustainability commitment, practices, and performance during the reporting period. The Statement was prepared and issued as a result of assurance work based on the scope and procedures with some limitations applied. SR Asia advises anyone NOT to use this Statement or the Report as the basis for interpreting the overall performance or sustainability of the Company, except for the areas covered in the scope of assurance work.

Responsibilities

As agreed with Management, SR Asia is responsible for conducting an assessment, NOT an audit, of the Report content and developing recommendations and the Statement as described in the scope of assurance. We accept NO responsibility for any other reason or to any other person or organization. Any reliance placed on the Report by a third party is entirely at their own risk. SR Asia is responsible for presenting assurance results to Management and only evaluated the latest received editorial and data on the final draft as of April 28th, 2023. The Management is exclusively responsible for presenting data, figures, and information in the Report content.

Independence, Impartiality, and Competency

SR Asia ensures the members of the Assuror Team have NO relationship with the Company that can affect their abilities to provide an independent and impartial statement. To ensure independence and freedom from bias and conflict of interest, SR Asia has put in place a particular assurance protocol and ethical code of conduct. The Assuror Team consists of experts with experience in reviewing

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sustainability reports based on knowledge of ISO 26000 and AA1000 AccountAbility standards and principles, have experience in sustainability report assessment, various reporting regulations, standards, and principles.

Type and Level of Assurance Services

1. **Type 1 assurance** on the Report content
2. **A moderate level of assurance** 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 Services

1. Data and information in the Report for the period of **January 1st to December 31st, 2022**.
2. Topics in the Report content that have been identified as “Material” by the Company: **Addressing Climate Change; Protecting Biodiversity; Water Management; Waste Management; Health, safety, and Security; Recruitment, Employee Recruitment, Development, and Retention; Community Engagement and Impact; and Business Ethics**.
3. Evaluation of publicly disclosed information, system, and process of the Company to ensure adherence of the Report content to the reporting principles.
4. Adherence to the following reporting principles, standards, and regulations:
 - a) Regulation of Indonesia Financial Service Authority No.51/POJK.03/2017 regarding the Implementation of Sustainable Finance for Financial Service Institution, Listed, and Public Companies (POJK 51) with reference to Financial Services Authority Circular Letter (SEOJK) 2022 No.16/SEOJK.04/2021.
 - b) Consolidated set of GRI Sustainability Reporting Standards 2021 (GRI Universal Standard) and GRI 11 Oil and Gas Sector (GRI 11 OG) issued by the Global Reporting Initiative.
 - c) Sustainability Accounting Standard for Oil & Gas Sector (Exploration & Production EM-EP 2018-10), issued by the Sustainability Accounting Standard Board (SASB).
 - d) 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 assessor 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 assessor team.
3. Perform a kick-off meeting and initial analysis of the Report draft based on the SR Asia Protocol on Assurance Analysis refers to the standards, principles, and indicators of AA1000AS v3, AA1000APS (2018), AA1000 SES (2015), and standards/regulations used in the Report.

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4. Discuss online the results of the analysis with the 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 release the final Report content.
7. Prepare the Statement and send it to SR Asia International Director 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.

Adherence to AA1000AP (2018) and GRI Universal Standards

Inclusivity – The Company has identified and engaged with various key stakeholders involved in the company's business operations and sustainability. Consequently, stakeholder engagement has been carried out in accordance with the principle of inclusivity. The Company has maintained various communication channels in different units and functions to reflect stakeholders' thoughts and expectations.

Materiality – Based on the material topics presented in the report, we conclude that the overall selection of material topics can describe the sustainability context. We also appreciate that the Company has conducted materiality testing. However, we suggest the process of selecting material topics can be recorded properly and in more detail to serve as evidence for the assurance process.

Responsiveness – As shown in the contents of the Report, the Company has provided access to reporting, namely whistleblowing system for internal parties. Moreover, the Company also accommodates complaints from external parties which are channeled through the head office and offices in their respective work areas. In addition, the Company also develops and communicates responses to stakeholders on an ongoing basis.

Impact – The Company's performance in environmental, social, and economic aspects has generally had a positive impact. In the environmental aspect, the Company strives to increase the utilization of renewable energy every year in order to increase emission reductions. The Company steadily increases the quantity of environmental data disclosure, including the disclosure of carbon emissions of the subsidiary in the Sustainability Report, in order to enhance the quality of environmental data. In order to reduce GHG emissions, the Company controlled and used flaring gas, used eco-friendly products, and injected CO₂ in CCUS applications in 2022. The company has many conservation projects in place to rehabilitate the impacted region from its operations area, some of which have resulted in the wildlife being returned to nature. The Company has handled all waste generated and adheres to the cradle-to-grave approach in terms of managing waste. The Company has a wastewater treatment facility and its water and effluent management does not release effluent under water pressure into water bodies. Since the Company has ISO 45001: 2018, IOGP Related, and OSHA Log 300 for health, safety, and security, the rate of lost time injuries and overall recordable injury rates are declining. The company has evaluated the social return on investment and has management policies for social and environmental responsibility. The Company has upward patterns for revenue and profit in terms of economic performance. As the Company has upward patterns for economic performance, the Company is also able to provide benefits to stakeholders and investors by realizing oil and gas production and lifting targets, thereby optimizing the resulting economic value.



Statement of Use: “with Reference to the GRI Standards” – SR Asia evaluated the Report content against the GRI Universal Standards principles, disclosures, and requirements for reporting. Based on our assessment, the Company has already fulfilled its requirements with publish a GRI Content Index, provide a statement of use, and notify GRI.

GRI Standards Principles – As assurance was taken, we conclude the report content indicates its adherence to sustainability reporting principles (accuracy, balance, clarity, comparability, completeness, sustainability context, timeliness, and verifiability). The Management provided good support during the assurance work by submitting all of the evidence/documents as requested.

Recommendation

1. To conduct a climate risk assessment by assessing its exposure to physical and transition risks associated with climate change, including the impact of changing weather patterns, carbon pricing policies, and the potential for stranded assets.
2. To describe the climate-related risks and opportunities over a period of time.
3. To start calculate GHG Emission Scope 3.
4. To develop an integrated management system across functions, covering sustainability performance data and information following the sustainability reporting standards, approaches, and methodologies.

The assurance provider,

Jakarta, May 5th 2023


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Lampiran

Appendix

LINGKUNGAN

ENVIRONMENT

Unit Operasi Operation Unit	Pengambilan air (<i>freshwater</i>) berdasarkan sumber Water intake (<i>freshwater</i>) by source				
	Air permukaan (m ³) Surface water (m ³)	Air tanah (m ³) Groundwater (m ³)	Air laut (m ³) Sea water (m ³)	Air yang berasal dari pihak ketiga (m ³) External (m ³)	Jumlah air yang diambil (m ³) Total water taken (m ³)
Regional 1 - Sumatra	6,202,394.41	6,126,306.58	5,235.00	615.00	12,334,550.99
Regional 2 - Jawa Regional 2 - Java	350,092.67	93,622.00	-	35,128.00	478,842.67
Regional 3 – Kalimantan	5,406,711.37	775,194.75	-	4,091,972.07	10,273,878.19
Regional 4 – Indonesia Timur Regional 4 – East Indonesia	-	235,612.41	16,240.87	66,127.37	475,327.28
Regional 5 - Internasional Regional 5 - International	-	691,173.00	-	-	691,173.00
PDSI	-	-	-	-	-
Elnusa	-	11,448.00	-	86,773.74	98,221.74
Badak LNG	-	4,448,595.36	-	-	4,448,595.36
PHE Subholding Upstream	12,116,545.08	12,381,952.10	21,475.87	4,280,616.18	28,800,589.23

Jumlah limbah yang dikelola (B3) [306-2] [306-4] [OGSS-11.5.5]

Total of waste managed (B3)

Unit Operasi Operation Unit	Komposisi Limbah Waste Composition	Limbah B3 Waste B3		
		Dihasilkan Produce (ton)	Dikelola pihak ketiga Third party managed (ton)	Sisa disimpan di TPS B3 The remainder is stored in TPS B3 (ton)
Regional 1 - Sumatra	Minyak lumpur Sludge oil	9,141.20	9,034.03	79.12
	Lumpur bor Drilling mud			
	Serbuk bor Drill cuttings	1,453.53	1,453.56	
	Tanah terkontaminasi Contaminated land	1,052.55	1,050.84	1.70
	Oli Bekas Used oil	55.92	89.24	3.34
	Filter bekas Used Filters	83.02	84.43	0.14
	Aki bekas Used Battery	20.62	20.65	0.29
	Majun bekas Used rag	33.46	33.53	1.78
	Kemasan/ drum bekas Used packaging/drums	402.56	398.49	8.99



Unit Operasi Operation Unit	Komposisi Limbah Waste Composition	Limbah B3 Waste B3		
		Dihasilkan Produce (ton)	Dikelola pihak ketiga Third party managed (ton)	Sisa disimpan di TPS B3 The remainder is stored in TPS B3 (ton)
	Electronic waste (lampu TL bekas) Electronic waste (used TL lamp)	534.14	431.02	103.11
	Limbah pada B3 lainnya Other non-hazardous waste	3,989.87	4,147.35	141.55
	Limbah total Total waste	16,766.86	16,743.16	340.01
Regional 2 - Jawa Regional 2 - Java	Minyak lumpur Sludge oil	1,390.63	1,387.53	
	Lumpur bor Drilling mud			
	Serbuk bor Drill cuttings			
	Tanah terkontaminasi Contaminated land	1.58	1.58	
	Oli Bekas Used oil	93.27	93.19	1.83
	Filter bekas Used Filters	6.56	6.47	0.67
	Aki bekas Used Battery	0.97	0.97	
	Majun bekas Used rag	8.38	8.38	0.38
	Kemasan/ drum bekas Used packaging/drums	96.65	96.57	3.42
	Electronic waste (lampu TL bekas) Electronic waste (used TL lamp)	0.32	1.09	0.05
	Limbah pada B3 lainnya Other non-hazardous waste	94.04	93.19	1.83
	Limbah total Total waste	1,692.42	1,688.98	8.19
Regional 3 - Kalimantan	Minyak lumpur Sludge oil	11,460.41	11,461.01	
	Lumpur bor Drilling mud	637.31	637.31	
	Serbuk bor Drill cuttings	33,058.89	33,058.89	
	Tanah terkontaminasi Contaminated land	0.12	0.12	
	Oli Bekas Used oil	159.61	157.10	1.54
	Filter bekas Used Filters	11.86	11.43	0.42
	Aki bekas Used Battery	12.71	12.71	
	Majun bekas Used rag	24.53	24.29	0.24
	Kemasan/ drum bekas Used packaging/drums	55.48	52.46	0.75
	Electronic waste (lampu TL bekas) Electronic waste (used TL lamp)	7.11	7.06	0.05

Unit Operasi Operation Unit	Komposisi Limbah Waste Composition	Limbah B3 Waste B3		
		Dihasilkan Produce (ton)	Dikelola pihak ketiga Third party managed (ton)	Sisa disimpan di TPS B3 The remainder is stored in TPS B3 (ton)
	Limbah pada B3 lainnya Other non-hazardous waste	6,695.14	6,701.11	15.65
	Limbah total Total waste	38,732.89	38,721.27	18.65
Regional 4 – Indonesia Timur Regional 4 – East Indonesia	Minyak lumpur Sludge oil	5.608.21	5,606.16	4,807.46
	Lumpur bor Drilling mud			
	Serbuk bor Drill cuttings	329.92	329.92	
	Tanah terkontaminasi Contaminated land	177.32	177.32	
	Oli Bekas Used oil	35.97	19.18	15.80
	Filter bekas Used Filters	4.20	3.90	2.35
	Aki bekas Used Battery	2.38	2.38	
	Majun bekas Used rag	8.31	5.16	0.83
	Kemasan/ drum bekas Used packaging/drums	14.71	6.15	
	Electronic waste (lampu TL bekas) Electronic waste (used TL lamp)	0.35	0.35	
	Limbah pada B3 lainnya Other non-hazardous waste	467.18	282.55	39.19
	Limbah total Total waste	6.648.54	6,433.05	4,865.62
Region 5 - Internasional	Minyak lumpur Sludge oil	6.06	6.06	
	Lumpur bor Drilling mud			
	Serbuk bor Drill cuttings			
	Tanah terkontaminasi Contaminated land			
	Oli Bekas Used oil	1.04	1.04	
	Filter bekas Used Filters	0.39	0.39	
	Aki bekas Used Battery	2.46	2.46	
	Majun bekas Used rag			
	Kemasan/ drum bekas Used packaging/drums	7.56	7.56	
	Electronic waste (lampu TL bekas) Electronic waste (used TL lamp)			
	Limbah pada B3 lainnya Other non-hazardous waste	0.10	0.10	
	Limbah total Total waste	17.61	17.61	



Unit Operasi Operation Unit	Komposisi Limbah Waste Composition	Limbah B3 Waste B3		
		Dihasilkan Produce (ton)	Dikelola pihak ketiga Third party managed (ton)	Sisa disimpan di TPS B3 The remainder is stored in TPS B3 (ton)
PDSI	Minyak lumpur Sludge oil			
	Lumpur bor Drilling mud			
	Serbuk bor Drill cuttings			
	Tanah terkontaminasi Contaminated land			
	Oli Bekas Used oil	236.50	236.50	
	Filter bekas Used Filters	0.10		
	Aki bekas Used Battery	0.30		
	Majun bekas Used rag	9.70		
	Kemasan/ drum bekas Used packaging/drums	1,256.00	1,256.00	
	Electronic waste (lampu TL bekas) Electronic waste (used TL lamp)			
	Limbah pada B3 lainnya Other non-hazardous waste	236.50	236.50	
	Limbah total Total waste	1,739.10	1,729.00	
Elnusa	Minyak lumpur Sludge oil			
	Lumpur bor Drilling mud			
	Serbuk bor Drill cuttings	8.20	8.20	
	Tanah terkontaminasi Contaminated land			
	Oli Bekas Used oil	76.15	76.15	
	Filter bekas Used Filters	0.40	0.40	
	Aki bekas Used Battery	0.51	0.51	
	Majun bekas Used rag	8.36	8.36	
	Kemasan/ drum bekas Used packaging/drums	38.85	38.85	
	Electronic waste (lampu TL bekas) Electronic waste (used TL lamp)	0.97	0.97	
	Limbah pada B3 lainnya Other non-hazardous waste	103.25	103.25	
	Limbah total Total waste	236.68	236.68	
Badak NGL	Total Waste	358.06	357.79	40.74
PHE Subholding Upstream		66,192.14	65,772.77	5,292.22

**Volume Pengelolaan Air Limbah , dan Total Volume Olahan Air Limbah Digunakan Kembali,
dan Dialirkan Ke Badan Air** [OGSS-11.6.4] [OGSS-11.6.5] [306-4]

Volume of Wastewater Management, and Total Volume of Treated Wastewater Reused, and Distributed to Water Bodies

Regional	Uraian Description	Satuan Unit	2022	2021	2020
Regional 1 - Sumatra	Total air limbah diolah Total wastewater treatment	m ³	10,603,166.87	3.859.229,28	-
	Total olahan air limbah digunakan kembali Total treated wastewater is reused	m ³	-	179.496,00	-
	Total olahan air limbah dilepaskan ke badan air Total treated wastewater is released into water bodies	%	100%	95%	-
Regional 2 - Jawa Regional 2 - Java	Total air limbah diolah Total wastewater treatment	m ³	161,913.00	479.921,81	-
	Total olahan air limbah digunakan kembali Total treated wastewater is reused	m ³	162,031.00	33.169,17	-
	Total olahan air limbah dilepaskan ke badan air Total treated wastewater is released into water -bodies	%	100%	93%	-
Regional 3 - Kalimantan	Total air limbah diolah Total wastewater treatment	m ³	4,468,158.59	8.763.529,44	-
	Total olahan air limbah digunakan kembali Total treated wastewater is reused	m ³	149,841.68	16.935	-
	Total olahan air limbah dilepaskan ke badan air Total treated wastewater is released into water bodies	%	97%	100%	-
Regional 4 – Indonesia Timur Regional 4 – East Indonesia	Total air limbah diolah Total wastewater treatment	m ³	99,834.65	54.518,23	-
	Total olahan air limbah digunakan kembali Total treated wastewater is reused	m ³	2,148.14	1.597,14	-
	Total olahan air limbah dilepaskan ke badan air Total treated wastewater is released into water bodies	%	98%	97%	-
Regional 5	Total air limbah diolah Total wastewater treatment	m ³	491,586.00	66.964	-
	Total olahan air limbah digunakan kembali Total treated wastewater is reused	m ³	-	-	-
	Total olahan air limbah dilepaskan ke badan air Total treated wastewater is released into water bodies	%	100%	100%	-



Regional	Uraian Description	Satuan Unit	2022	2021	2020
PT Badak NGL	Total air limbah diolah Total wastewater treatment	m ³	491,586	346.661	-
	Total olahan air limbah digunakan kembali Total treated wastewater is reused	m ³	-	-	-
	Total olahan air limbah dilepaskan ke badan air Total treated wastewater is released into water bodies	%	100%	100%	-
Elnusa	Total air limbah diolah Total wastewater treatment	m ³	98,221.74		
	Total olahan air limbah digunakan kembali Total treated wastewater is reused	m ³	-		
	Total olahan air limbah dilepaskan ke badan air Total treated wastewater is released into water bodies	%	100%		
Jumlah Total	Total air limbah diolah Total wastewater treatment	m ³	15,922,880.85	13.570.823,77	-
	Total olahan air limbah digunakan kembali Total treated wastewater is reused	m ³	314,020.82	231.197,31	-
	Total olahan air limbah dilepaskan ke badan air Total treated wastewater is released into water bodies	%	98%	98%	-
Entitas PHE PHE Entity	Total air limbah diolah Total wastewater treatment	m ³	-	-	277.697,39
	Total olahan air limbah digunakan kembali Total treated wastewater is reused	m ³	-	-	1.525,1
	Total olahan air limbah dilepaskan ke badan air Total treated wastewater is released into water bodies	%	-	-	99%

Keterangan Note :

- Air yang dibuang dihitung total padatan terlarutnya
The water discharged is calculated for the total dissolved solids
- Tidak tersedia data dari Regional 5 – Internasional dan PDSI
No data available from Regional 5 – International and PDSI

Volume Air Terproduksi dan Volume Air Terproduksi Dikelola [OGSS-11.6.5]
Produced Water Volume and Managed Produced Water Volume

Uraian Description		Satuan Unit	2022	2021	2020
Regional 1 - Sumatra					
Total volume air terproduksi dikelola Total volume of produced water is managed	Sebagai air injeksi As water injection	m ³	427,022,131.52	275.117.265,1	-
	Dilepas ke badan air Released into water bodies	m ³	76,772,776.85	28.291.017,75	-
	Jumlah Total	m ³	503,794,908.37	303.408.282,8	-
Regional 2 - Jawa Regional 2 - Java					
Total volume air terproduksi dikelola Total volume of produced water is managed	Sebagai air injeksi As water injection	m ³	5,923,556.44	6.627.578,38	-
	Dilepas ke badan air Released into water bodies	m ³	74,185,975.13	504.817.937,5	-
	Jumlah Total	m ³	80,109,531.57	511.445.515,9	-
Regional 3 - Kalimantan					
Total volume air terproduksi dikelola Total volume of produced water is managed	Sebagai air injeksi As water injection	m ³	9,808,248.32	19.816.226,48	-
	Dilepas ke badan air Released into water bodies	m ³	18,704,561.23	18.734.773,24	-
	Jumlah Total	m ³	28,512,809.55	38.550.999,73	-
Regional 4 – Indonesia Timur Regional 4 – East Indonesia					
Total volume air terproduksi dikelola Total volume of produced water is managed	Sebagai air injeksi As water injection	m ³	12,449,183.32	18.374.304,27	-
	Dilepas ke badan air Released into water bodies	m ³	737,686.65	1.150.123,575	-
	Jumlah Total	m ³	13,186,869.97	19.524.427,84	-
Regional 5 - Internasional Regional 5 - International					
Total volume air terproduksi dikelola Total volume of produced water is managed	Sebagai air injeksi As water injection	m ³	-	14.254,36	-
	Jumlah Total	m ³	-	14.254,36	-
Jumlah Total		m ³	-	8.729.434.80,6	-



Uraian Description	Satuan Unit	2022	2021	2020
Entitas PHE PHE Entity				
Sebagai air injeksi As water injection	m ³	-	-	11.825.541,27
Dilepas ke badan air Released into water bodies	m ³	-	-	579.588.713
Jumlah Total	m ³	-	-	591.414.254,3

Keterangan Note :

- Air yang dibuang dihitung total padatan terlarutnya
The water discharged is calculated for the total dissolved solids
- Tidak tersedia data dari PDSI, Elnusa, dan Badak LNG
No data available from PDSI, Elnusa, and Badak LNG

Emisi Gas Rumah Kaca (GRK) Langsung (Cakupan 1) (Ton CO₂) [305-1] [OGSS 11-11.1.5]

Direct Greenhouse Gas (GHG) Emissions (Scope 1) (Tons CO₂)

Unit Operasi Operation Unit	Uraian Description	2022
Regional 1 - Sumatra	Pembakaran Dalam dan Luar Internal and External Combustion	1.861.972,56
	Suara Bakar Burn sound	983.129,12
	Process production	6.205,65
	Fugitive	56.648,75
Regional 2 - Jawa Regional 2 - Java	Pembakaran Dalam dan Luar Internal and External Combustion	1.322.556,96
	Suar Bakar Burn sound	1.064.153,26
	Process production	441.200,3
	Fugitive	149.355,02
Regional 3 - Kalimantan	Pembakaran Dalam dan Luar Internal and External Combustion	1.582.084,96
	Suara Bakar Burn sound	272.981,29
	Process production	40.061,20
	Fugitive	149.355,02
Regional 4 – Indonesia Timur Regional 4 – East Indonesia	Pembakaran Dalam dan Luar Internal and External Combustion	540.396,78
	Suara Bakar Burn sound	376.468,77
	Process production	279.606,62
	Fugitive	36.669,33
Regional 5 - Internasional Regional 5 - International	Pembakaran Dalam dan Luar Internal and External Combustion	146.783,08

Unit Operasi Operation Unit	Uraian Description	2022
	Suara Bakar Burn sound	28.254,58
	Process production	1,36
	Fugitive	2.582,56
PDSI	Pembakaran Dalam dan Luar Internal and External Combustion	17.749,14
	Suara Bakar Burn sound	-
	Process production	6,21
	Fugitive	
ELNUSA	Pembakaran Dalam dan Luar Internal and External Combustion	115.527,95
	Suara Bakar Burn sound	
	Process production	3,99
	Fugitive	
PT BADAK	Pembakaran Dalam dan Luar Internal and External Combustion	2.050.172,84
	Suara Bakar Burn sound	99.067,48
	Process production	579.206,6
	Fugitive	0,12
Jumlah Total		12.101.721,10

Emisi Gas Rumah Kaca (GRK) Tidak Langsung (Cakupan 2) (ton CO₂eq) [305-2] [CCE-4 C1] [CCE-4 C2]

Indirect Greenhouse gas (GHG) emission (Scope 2) (tonCO₂eq)

Unit Operasi Operation Unit	2022
Regional 1 - Sumatra	1.523.264,69
Regional 2 - Jawa Regional 2 - Java	10.230,55
Regional 3 - Kalimantan	52.182,19
Regional 4 - Indonesia Timur Regional 4 - East Indonesia	35.126,77
Regional 5 - Internasional Regional 5 - International	129.824,92
PDSI	-
Elnusa	7.269,98
Badak LNG	89,81
Jumlah Total	1.757.988,91

Keterangan Note:

- Emisi dari penggunaan listrik dari pihak ketiga
Emissions from the use of electricity from third parties
- Tidak tersedia data dari PDSI
No data available from PDSI



Hasil Pengukuran Emisi GRK dan Emisi Konvensional Tahun 2022 (tonCO₂eq) [EM-EP-120a.1][CCE-4 C3]

Results of Measurement of GHG Emissions and Conventional Emissions in 2022 (tonCO₂eq)

Jenis Gas Gas Type	Regional 1-Sumatra	Regional 2 - Jawa Regional 2 - Java	Regional 3-Kalimantan	Regional 4 – Indonesia Timur Regional 4 – East Indonesia	Regional 5 - Internasional Regional 5 - International	PDSI	Elnusa	PT Badak	Jumlah Total
Gas Rumah Kaca (GRK) Greenhouse Gas (GHG)									
CH ₄ (metana) CH ₄ (methane)	65.637,75v	110.982,23	179.369,18	61.788,41	2.785,67	29,35	124,09	144.235,06	564.949,74
CO ₂ (karbon dioksida) CO ₂ (carbon dioxide)	4.280.578,17	2.676.085,52	1.884.097,95	1.187.152,29	301.678,55	17,683	122.403,52	2.580.925,66	13.050.604,66
N ₂ O (dinitrogen oksida) N ₂ O (Nitrous oxide)	84.302,29	99.947,91	33.197,53	21.227,77	8.329,79	43	573,79	3.376,178	250.998,2
Emisi Konvensional Emissions of Conventional									
SOx (sulfur oksida) SOx (sulfur oxide)	792,23	292,50	630,48	3.384,86	8,05	32,13	225,57	87,69	5.435,51
NOx (nitrogen oksida) NOx (nitric oxide)	16.072,8	11.006,51	19.836,55	3.597,84	637,32	521,43	3.430,96	3.738,33	58.841,74
VOC (Volatile organic compound)	51.140,63	3.167,63	2.098,69	1.009,97	45,28	1,49	0,8	-	57.464,49
PM (partikulat) PM (particulate)	442,86	380,65	789,54	90,01	14,75	35,40	241,14	30,12	2.024,47
TOC (Total organic compound)	26.862,77	3.172,69	9.199,43	2.637,15	131,49	1,74	0,95	8,67	42.014,89

Keterangan:

Total persentase CH₄ sebesar 0,24% [EM-EP-110a.2]

Perhitungan emisi PHE SHU yang disajikan berdasarkan regional, bukan aktivitas bisnis dari kegiatan produksi minyak dan gas.

Note

Total CH₄ percentage 0.24% [EM-EP-110a.2]

PHE SHU emission calculations are presented based on regional, not business activities from oil and gas production activities.

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Target dan Realisasi Jumlah Jam Pelatihan Pekerja
Target and Actual Number of Training Hours for Workers

Regional	2022			2021			2020		
	Target	Realisasi Realization	%	Target	Realisasi Realization	%	Target	Realisasi Realization	%
Entitas PHE PHE Entity	231.600	303.690	131	239.250	363.547	152%	412.272	453.499,20	110%
Regional I - V	3.051.000	3.895.533	128	1.936.500	2.797.284	144%			
AP Service	849.000	837.272	99	602.000	778.294	129%			

Realisasi Jumlah Jam Pelatihan Pekerja Berdasarkan Regional dan Gender
Realization of Worker Training Hours Based on Regional and Gender

Regional	2022			2021			2020		
	Pria Male	Wanita Female	Jumlah Total	Pria Male	Wanita Female	Jumlah Total	Pria Male	Wanita Female	Jumlah Total
Entitas PHE PHE Entity	209.631	94.059	303.690	236.306	127.241	363.547	294.774	158.725	453.499
Regional I - V	3.397.970	497.563	3.895.533	1.818.235	979.049	2.797.284			
AP Service	703.829	133.443	837.272	654.452	123.842	778.294			

Realisasi Jumlah Jam Pelatihan Pekerja dan Rerata Jam Pelatihan Pekerja
Realization of Total Hours of Employee Training and Average Hours of Training

Regional	2022			2021			2020		
	Jumlah Jam Pelatihan Number of Training Hours	Jumlah Pekerja Peserta Number of Participant Workers	Rerata Average	Jumlah Jam Pelatihan Number of Training Hours	Jumlah Pekerja Peserta Number of Participant Workers	Rerata Average	Jumlah Jam Pelatihan Number of Training Hours	Jumlah Pekerja Peserta Number of Participant Workers	Rerata Average
Entitas PHE PHE Entity	303.690	829	366,33	363.547	957	379,88	453.499	2.398	189,12
Regional I - V	3.895.533	10.194	382,14	2.797.284	10.787	259,32			
AP Service	837.272	3.175	263,71	778.294	3.112	250,09			



Realisasi Jumlah Jam Pelatihan Berdasarkan Tingkat Jabatan dan Gender
Realization of Training Hours Based on Position and Gender

Tingkat Jabatan Position Level	2022			2021			2020		
	Pria Male	Wanita Female	Jumlah Total	Pria Male	Wanita Female	Jumlah Total	Pria Male	Wanita Female	Jumlah Total
Dewan Komisaris Board of Commissioners	360	87	447	81	37	118			
Direksi Board of Directors	9.015	2.477	11.492	12.474	1.322	13.796			
SVP/VP/GM/Setara SVP/VP/GM/ Equivalent	87.551	11.187	98.738	388.065	111.418	499.483			
Senior Manager/ Manager/ Setara Senior Manager/ Manager/ Equivalent	431.043	65.663	496.706	99.516	19.399	118.914			
Asisten Manajer ke bawah Under of Assistant Manager	3.783.461	645.651	4.429.112	2.208.857	1.097.957	3.306.813			
Jumlah Total	4.311.430	725.065	5.036.495	2.708.992	1.230.133	3.939.125			

Pelaksanaan Cuti Melahirkan Tahun 2022
Maternity Leave Implementation in 2021

Keterangan Description	Pekerja Laki-laki Male Employees			Pekerja Perempuan Female Employees		
	Total Pekerja Perempuan Total Female Employees	Pekerja Cuti Employees on Leave	%	Total Pekerja Perempuan Total Female Employees	Pekerja Cuti Employees on Leave	%
Jumlah pekerja yang mendapat cuti melahirkan Total employees who received maternity leave	12.328	287	2	1.870	93	5
Jumlah pekerja yang kembali bekerja setelah cuti melahirkan Total employees returning to work after maternity leave	12.328	287	2	1.870	92	5

Jumlah Pekerja PHE dan Pekerja Lain

Number of PHE Workers and Other Workers

Uraian Description	2022				2021				2020			
	Laki-laki Male	%	Perempuan Female	%	Laki-laki Male	%	Perempuan Female	%	Laki-laki Male	%	Perempuan Female	%
Pekerja PHE Phe Workers	11.476	93,09	1.689	90,32	12.054	93,00	1.723	90,00	1.877	94,00	379	95,00
Pekerja Lain Other Workers	852	6,91	181	9,68	889	7,00	190	10,00	123	6,00	19	5,00
Jumlah Total	12.328	86,83	1.870	13,17	12.943	87,00	1.913	13,00	2	83,00	398	17,00
	14.198				14.856				2.398			

Pekerja PHE: Pekerja dengan HOME Subholding Upstream (AP Hulu), PT Elnusa Tbk.(HO & AP), PT PDSI, PT Badak

Pekerja Lain: Pekerja dari luar HOME Subholding Upstream. Contoh: Pekerja yang ditugaskan ke dari Holding dan Subholding Lain) termasuk BOC & BOD PHE

Employees: Workers with HOME Subholding Upstream (AP Upstream), PT Elnusa Tbk.(HO & AP), PT PDSI, PT Badak

Other Workers: Workers from outside HOME Subholding Upstream. Example: Workers assigned to Holding and Other Subholdings) including BOC & BOD

Jumlah Pekerja dan Pekerja Lain PHE Subholding Upstream Berdasarkan Status Ketenagakerjaan

Number of Upstream Subholding PHE Workers and Other Workers Based on Employment Status

Status Ketenagakerjaan Employment Status	2022				2021				2020			
	Laki-laki Male	%	Perempuan Female	%	Laki-laki Male	%	Perempuan Female	%	Laki-laki Male	%	Perempuan Female	%
Waktu Tidak Tertentu (Tetap) Unspecified Time	11.399	92,46	1.689	90,32	11.706	90,00	1,73	90,00	1.991	100,00	397	100,00
Waktu Tertentu (Kontrak) Certain Time	929	7,54	181	9,68	1.237	10,00	183	10,00	9	0,00	1	0,00
Jumlah Total	12.328	86,83	1.870	13,17	12.943	87,00	1.913	13,00	2	83,00	398	17,00
	14.198				14.856				2.398			

Waktu tidak tertentu (Tetap): Pekerja dengan status PWTT (termasuk BOC & BOD bila ada)

Waktu tertentu (kontrak): Pekerja dengan status PWT (termasuk BOC & BOD bila ada)

Unspecified Time (Fixed): Workers with Unspecified Time Worker status (including BOC & BOD if any)

Certain Time (Contract): Workers with Fixed Time Worker status (including BOC & BOD if any)

Jumlah Pekerja dan Pekerja Lain PHE Subholding Upstream Berdasarkan Latar Belakang Pendidikan

Number of Workers Based on Educational Background

Pendidikan Education Background	2022				2021				2020			
	Laki-laki Male	%	Perempuan Female	%	Laki-laki Male	%	Perempuan Female	%	Laki-laki Male	%	Perempuan Female	%
Doktor (S3) Doctorate Degree	36	0,29	3	0,16	27	0,21	2	0,10	2	0,10	0	0,00
Pascasarjana (S2) Master Degree	2.018	16,37	408	21,82	2.044	15,78	413	21,68	424	21,20	85	21,36



Pendidikan Education Background	2022				2021				2020			
	Laki-laki Male	%	Perempuan Female	%	Laki-laki Male	%	Perempuan Female	%	Laki-laki Male	%	Perempuan Female	%
Sarjana (S1) Bachelor Degree	6.131	49,73	1.244	66,52	6.359	49,10	1.249	65,56	1.072	53,60	274	68,84
Diploma IV Diploma IV	127	1,03	12	0,64	105	0,81	5	0,26	47	2,35	0	0,00
Diploma III Associate Degree	1.428	11,58	160	8,56	1.478	11,41	172	9,03	211	10,55	31	7,79
Diploma I & II Diploma 1 & II	127	1,03	7	0,37	207	1,60	26	1,36	12	0,60	2	0,50
SMA Senior High School	2.447	19,85	36	1,93	2.716	20,97	38	1,99	231	11,55	6	1,51
SMP Junior High School	8	0,06	0	0,00	9	0,07	0	0,00	1	0,05	0	0,00
SD Elementary	6	0,05	0	0,00	6	0,05	0	0,00	0	0,00	0	0,00
Jumlah Total	12.328	86,83	1.870	13,17	12.951	87,00	1.905	13,00	2.000	83,00	398	17,00
	14.198				14.856				2.398			

Jumlah Pekerja dan Pekeja Lain PHE Subholding Upstream Berdasarkan Kelompok Usia

Number of Workers by Age Group

Kelompok Usia Age Group	2022				2021				2020			
	Laki-laki Male	%	Perempuan Female	%	Laki-laki Male	%	Perempuan Female	%	Laki-laki Male	%	Perempuan Female	%
<= 30 Tahun 30 years	1.183	9,60	279	14,92	1.168	9,02	241	12,60	197	9,85	29	7,29
31-40 Tahun 31-40 years	2.447	19,85	308	16,47	4.801	37,09	900	47,05	788	39,40	205	51,51
41-50 Tahun 41-50 years	4.528	36,73	819	43,80	4.681	36,17	524	27,39	623	31,15	112	28,14
>= 51 Tahun 51 years	4.170	33,83	464	24,81	2.293	17,72	248	12,96	392	19,60	52	13,07
Jumlah Total	12.328	86,83	1.870	13,17	12.943	87,00	1.913	13,00	2.000	83,00	398	17,00
	14.198				14.856				2.398			

Jumlah Pekerja PHE Subholding Upstream dan Pekerja Lain Berdasarkan Level Organisasi

Number of Workers for Each Organizational Level

Level Organisasi Organization Level	2022				2021				2020			
	Laki-laki Male	%	Perempuan Female	%	Laki-laki Male	%	Perempuan Female	%	Laki-laki Male	%	Perempuan Female	%
Direktur Board of Directors	32	0,26	6	0,05	24	0,19	5	0,26	6	0,30	0	0,00
General Manager	110	0,89	6	0,05	73	0,56	8	0,42	6	0,30	0	0,00
Vice President	64	0,52	14	0,11	60	0,46	11	0,57	19	0,95	2	0,50
Konsultan Advisor	27	0,22	8	0,06	86	0,66	15	0,78	16	0,80	0	0,00
Manager/ Setara Manager/ Equivalent	871	7,06	117	0,95	720	5,56	79	4,12	129	6,45	16	4,02
Ass.Manager/ Setara Assistant Manager/ Equivalent	1.378	11,18	160	1,30	1.557	12,02	165	8,61	172	8,60	46	11,56
Senior Staf	2.485	20,15	457	3,71	3.866	29,95	493	25,72	266	13,30	45	11,31
Staf	7.363	59,72	1.100	8,92	6.553	50,59	1.141	59,52	1.386	69,30	289	72,61
Jumlah Total	12.330	86,84	1.868	13,16	12.939	87,11	1.917	12,89	2.000	83,40	398	16,60
	14.198				14.856				2.398			

Jumlah Jam Pelatihan Pekerja PHE Subholding Upstream Berdasarkan Region dan Gender

Realization of Worker Training Hours Based on Regional and Gender

Region	2022			2021			2020		
	Laki-laki Male	Perempuan Female	Jumlah Total	Laki-laki Male	Perempuan Female	Jumlah Total	Laki-laki Male	Perempuan Female	Jumlah Total
Subholding Upstream	209.631	94.059,00	303.690	236,31	127	363,55	295	158,73	453
Regional I - V	3.397.970	497.563,00	3.895.533	1.818.235	979	2.797.284			
AP Service*	703.829	133.443,00	837.272	654,45	124	778,29			



Jumlah Jam Pelatihan Pekerja PHE Subholding Upstream Berdasarkan Tingkat Jabatan dan Gender
Realization of Training Hours for PHE Subholding Upstream Workers Based on Position and Gender

Tingkat Jabatan Position Level	2022			2021		
	Laki-laki Male	Perempuan Female	Jumlah Total	Laki-laki Male	Perempuan Female	Jumlah Total
Dewan Komisaris Board of Commissioners	360	87,00	447	81,00	37	118,00
Direksi Board of Directors	9.015	2.477,00	11.492	12,47	1	13,80
SVP/VP/GM/ Setara SVP/VP/GM/Equivalent	87.551	11.187,00	98.738	388,07	111	499,48
Sr Manager/Manager/Setara Senior Manager/Manager/Equivalent	431.043	65.663,00	496.706	99,52	19	118,91
Asisten Manajer ke bawah Under of Assistant Manager	3.783.461	645.651,00	4.429.112	2.208.857	1.097.957	3.306.813
Jumlah Total	4.311.430	725.065,00	5.036.495	2.708.992	1.230.133	3.939.125

PENGHARGAAN

AWARDS

- Pertamina Hulu Mahakam (Best & Kembang Bersinar) *Platinum in Best Environmental Excellence Award (Awarded project "Energizing the Remote Areas in Indonesia with Solar Energy")*
- PEP Sanga Sanga Field (Tante Siska) *Gold in Best Community Programme Award (Awarded project "Eco Friendly Integrated Farming with Circular Economic System")*
- Pertamina Hulu Mahakam (WASTECO) *Global Corporate Sustainability Award 2022 : Great Practice WASTECO Program*
- PEP Tarakan Field (KUBEDISTIK) & PEP Tambun Field (Karawang Berseri) - *Gold in Empowerment Of Women Award (Awarded project "Empowering Gender Equality") International 14th Annual Global CSR Award 2022*
- Penghargaan Subroto Award Bidang Efisiensi Energi 2022 dari Kementerian Energi dan Sumber Daya Mineral untuk 12 Perusahaan dalam Kategori Inovasi Khusus dan 1 Perusahaan dalam Kategori Manajemen Energi.
- Indonesia Excellence Good Corporate Governance 2022: *Implementing a Continuous Process* Kategori Energy and Mining Industry 24 Februari 2022
- Perusahaan Peduli Stunting.
- Peringkat Terbaik II dalam acara Bengkalis CSR Award 2022 dari Pemerintah Kabupaten Bengkalis.
- Peringkat Terbaik 3 dalam Pengelolaan Tanggung Jawab dan Sosial Perusahaan (TJSLP)
- Bendera Emas dalam Implementasi Sistem Manajemen Keselamatan dan Kesehatan Kerja (SMK3) dari Kementerian Tenaga Kerja.
- *Annual Pertamina Quality Awards* berbagai kategori dari PT Pertamina (Persero) sebagai berikut:
 1. Penghargaan dari Kementerian ESDM berupa Dharma Karya Energi dan Sumber Daya Mineral Tahun 2022 kepada Gugus CIP:
 - PC Prove Krayan Reborn Regional 1 PT Pertamina Hulu Rokan
 - FT Prove Thickening Team PT Elnusa Tbk
- Pertamina Hulu Mahakam (Best & Kembang Bersinar) *Platinum in Best Environmental Excellence Award (Awarded project "Energizing the Remote Areas in Indonesia with Solar Energy")*
- PEP Sanga Sanga Field (Tante Siska) *Gold in Best Community Programme Award (Awarded project "Eco Friendly Integrated Farming with Circular Economic System")*
- Pertamina Hulu Mahakam (WASTECO) *Global Corporate Sustainability Award 2022 : Great Practice WASTECO Program*
- PEP Tarakan Field (KUBEDISTIK) & PEP Tambun Field (Karawang Berseri) - *Gold in Empowerment Of Women Award (Awarded project "Empowering Gender Equality") International 14th Annual Global CSR Award 2022*
- 2022 Subroto Award for Energy Efficiency from the Ministry of Energy and Mineral Resources, recognizing 12 Companies in the Special Innovation category and 1 Company in the Energy Management category
- Indonesia Excellence Good Corporate Governance 2022: *Implementing a Continuous Process* in the Energy and Mining Industry Category 24 February 2022
- Company that Cares about Stunting.
- Ranked 2nd best in the 2022 Bengkalis CSR Award from the Bengkalis Regency Government.
- Ranked 3rd best in Corporate Social Responsibility (CSR)
- The Gold Flag in the Implementation of Occupational Health and Safety Management System (OHSMS) from the Ministry of Manpower.
- *Annual Pertamina Quality Awards* in various categories from PT Pertamina (Persero)
 1. Award from the Ministry of Energy and Mineral Resources in the form of Dharma Karya Energi and Mineral Resources for 2022 to the CIP Group:
 - PC Prove Krayan Reborn Regional 1 PT Pertamina Hulu Rokan
 - FT Prove Thickening Team PT Elnusa Tbk



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|---|--|
| <ol style="list-style-type: none"> 2. Penghargaan dari Pemerintah dan Asosiasi Paten Malaysia pada Malaysia Technology Expo (MTE): 2 Penghargaan Emas dan Penghargaan Spesial 3. Penghargaan dari Pemerintah dan Asosiasi Paten Taiwan pada Taiwan Innotech Expo: Platinum Award (Penghargaan tertinggi pada TIE) 4. Penghargaan dari Pemerintah dan Asosiasi Paten Korea pada Seoul Internasional Invention Fair: <ul style="list-style-type: none"> • Penghargaan Emas dan Penghargaan Spesial kepada Gugus CIP FTP Fospor dari Regional 3 PT PHI • Penghargaan Perak dan Penghargaan Spesial kepada Gugus CIP Tim PCP Penguasa Laugan dari PT Elnusa Tbk. • Penghargaan Corporate Social Responsibility (CSR) & Pengembangan Desa Berkelanjutan (PDB) Awards 2022, dari Kementerian Desa, Pembangunan Daerah Tertinggal, dan Transmigrasi, bersama Indonesian Social Sustainability Forum (ISSF) • Rekor Museum Rekor Indonesia (MURI), yaitu rekor Anjungan Lepas Pantai Pertama yang Seluruhnya Beroperasi Menggunakan Energi Surya dan rekor Fasilitas Produksi Migas dan Pemasangan Panel Energi Surya Terbanyak, dari Museum Rekor Indonesia. • Penghargaan Pemanfaatan Gas Suar dalam Kegiatan Usaha Migas Tahun 2022, dari Kementerian ESDM. | <ol style="list-style-type: none"> 2. Awards from Government and Malaysian Patent Association at Malaysia Technology Expo (MTE): 2 Gold Awards and Special Awards 3. Award from the Government and Taiwan Patent Association at Taiwan Innotech Expo: Platinum Award (Highest award at TIE) 4. Awards from the Government and the Korean Patent Association at the Seoul International Invention Fair: <ul style="list-style-type: none"> • Gold Award and Special Award to CIP FTP Phosphorus Group from Regional 3 PT PHI • Silver Award and Special Award to the CIP Team of the Laugan Ruler PCP Team from PT Elnusa Tbk. • Corporate Social Responsibility (CSR) & Sustainable Village Development (SVD) Awards 2022, from the Ministry of Village, Development of Disadvantaged Regions, and Transmigration, together with the Indonesian Social Sustainability Forum (ISSF) • Indonesian Record Museum (MURI) record for the First Offshore Platform to Operate Entirely Using Solar Energy and the record for the Most Oil and Gas Production Facilities and Installation of Solar Energy Panels. • Award for the Utilization of Flare Gas in Oil and Gas Business Activities in 2022 from the Ministry of Energy and Mineral Resources (ESDM). |
|---|--|



Indeks POJK 51, Indeks Isi Standar GRI (2021), GRI Spesifik Indikator: Oil and Gas Sector (2021), SASB: Minyak dan Gas (Eksplorasi dan Produksi) (2018), dan IPIECA Sustainable Guidance

Reference of POJK51, GRI Content Index (2021), GRI Specific indicator: Oil and Gas Sector (2021), SASB: Oil and Gas Exploration and Production) (2018), and IPIECA Sustainable Guidance

POJK No.51/POJK.03/2017

No	Pengungkapan Disclosure	Halaman Page Number
1	Penjelasan Strategi Keberlanjutan Elaboration on Sustainability Strategy	108, 111, 117
2	Ikhtisar Kinerja Aspek Keberlanjutan Summary of Sustainability Aspect Performance	8-13
	Aspek Ekonomi: - Kuantitas produksi atau jasa yang dijual; - Pendapatan atau penjualan; - Laba atau rugi bersih; - Produk ramah lingkungan; dan - Pelibatan pihak lokal yang berkaitan dengan proses bisnis Keuangan Berkelanjutan Economic aspects: - Quantity of products or services offered; - Revenue or sales; - Net profit or loss; - Environmental-friendly products; and - Engagement of local stakeholders concerning the Sustainable Finance business process;	13, 25, 31, 33
	Aspek Lingkungan Hidup: - Penggunaan energi (antara lain listrik dan air); - Pengurangan emisi yang dihasilkan (bagi LJK, Emiten, dan Perusahaan Publik yang proses bisnisnya berkaitan langsung dengan Lingkungan Hidup) - Pengurangan limbah dan efluen (limbah yang telah memasuki lingkungan) yang dihasilkan (bagi LJK, Emiten, dan Perusahaan Publik yang proses bisnisnya berkaitan langsung dengan Lingkungan Hidup); atau - Pelestarian keanekaragaman hayati (bagi LJK, Emiten, dan Perusahaan Publik yang proses bisnisnya berkaitan langsung dengan Lingkungan Hidup) Environmental Aspects: - Energy consumption (including electricity and water); - Total emission reductions (in case of FSI, Issuer and Publicly Listed Company whose business process directly relates to environment); - Reduction of waste and effluents (waste entering the environment) achieved (in case of FSI, Issuer and Publicly Listed Company whose business process directly relates to environment); or - Biodiversity conservation (in case of FSI, Issuer and Publicly Listed Company whose business process directly relates to environment);	8



No	Pengungkapan Disclosure	Halaman Page Number
	Aspek Sosial: Uraian mengenai dampak positif dan negatif penerapan Keuangan Berkelanjutan bagi masyarakat dan lingkungan (termasuk orang, daerah, dan dana) Social Aspects: A description of the positive and negative impacts out of Sustainable Finance application on community and environment (including people, regions, and funds)	10
3	Profil Singkat Perusahaan Brief Company Profile: Visi, misi, dan nilai keberlanjutan Vision, mission, and values of sustainability	6
	Nama, alamat, nomor telepon, nomor faksimili, alamat surat elektronik (e-mail), dan situs/web, serta kantor cabang dan/atau kantor perwakilan Name, address, telephone number, fax number, e-mail adress, and website/web, as well as branch and/or representative offices	30
	Skala usaha: Total aset atau kapitalisasi aset, dan total kewajiban (dalam juta rupiah); Jumlah karyawan yang dibagi menurut jenis kelamin, jabatan, usia, pendidikan, dan status ketenagakerjaan; Persentase kepemilikan saham (publik dan pemerintah); dan Wilayah operasional Enterprise scale: Total assets or asset capitalization, and total liabilities (in millions of rupiah); The number of employees by gender, position, age, education, and employment status; Shareholding percentage (public and government); and Operational area	30-33
	Penjelasan singkat mengenai produk, layanan, dan kegiatan usaha yang dijalankan; Short description on products, services, and business activities;	31
	Keanggotaan pada asosiasi; Membership in association;	34
	Perubahan yang bersifat signifikan, antara lain terkait dengan penutupan atau pembukaan cabang, dan struktur kepemilikan Significant changes, such as those relating to branch office closure or opening and ownership structure.	30
4	Penjelasan Direksi memuat Description on Board of Directors	
	Kebijakan untuk merespons tantangan dalam pemenuhan strategi keberlanjutan, paling sedikit meliputi: • Penjelasan nilai keberlanjutan Perusahaan • Penjelasan respons Perusahaan terhadap isu terkait penerapan Keuangan Berkelanjutan; • Penjelasan komitmen pimpinan Perusahaan dalam pencapaian penerapan Keuangan Berkelanjutan; • Pencapaian kinerja penerapan Keuangan Berkelanjutan; dan • Tantangan pencapaian kinerja penerapan Keuangan Berkelanjutan. Policy to respond to challenges in meeting the sustainability strategy, that must cover at least the following: • Elaboration the Company's sustainability values • Elaboration on the Company's responses towards issues concerning to the implementation of Sustainable Finance; • Elaboration on commitment of Company leadership in achieving Sustainable Finance application; • Achievement of Sustainable Finance application performance ;and • Challenges in Sustainable Finance application performance achievement;	22-27, 60

No	Pengungkapan Disclosure	Halaman Page Number
	Penerapan Keuangan Berkelanjutan: - Pencapaian kinerja penerapan Keuangan Berkelanjutan (ekonomi, sosial, dan lingkungan hidup) dibandingkan dengan target; dan - Penjelasan prestasi dan tantangan termasuk peristiwa penting selama periode pelaporan (bagi LJK yang diwajibkan membuat Rencana Aksi Keuangan Berkelanjutan). Application of Sustainable Finance: - Achievement of Sustainable Finance application (economic, social, and environmental) against targets; and - Elaboration on achievements and challenges including notable events during the reporting period (in case FSI required to make Sustainable Finance Action Plan);	22-27
	Strategi pencapaian target: - Pengelolaan risiko atas penerapan Keuangan Berkelanjutan terkait aspek ekonomi, sosial, dan lingkungan hidup; - Pemanfaatan peluang dan prospek usaha; dan - Penjelasan situasi eksternal ekonomi, sosial, dan lingkungan hidup yang berpotensi mempengaruhi keberlanjutan Perusahaan Target achievement strategy: - Risk management due to the application of Sustainable Finance related to economic, social and environmental aspects; - Utilization of business opportunities and prospects; and - Description on economic, social and environmental external situations that have the potential to affect the Company's sustainability	22-27
5	Tata kelola keberlanjutan memuat Sustainability governance includes	111-113
	Uraian tugas Direksi dan Dewan Komisaris, pegawai, pejabat dan/atau unit kerja yang menjadi penanggung jawab penerapan Keuangan Berkelanjutan Description of tasks performed by Board of Directors and Board of Commissioners, employees, officers and/or work units who are responsible for the implementation of Sustainable Finance	22-27
	Pengembangan kompetensi Direksi, anggota Dewan Komisaris, pegawai, pejabat dan/ atau unit kerja yang menjadi penanggung jawab penerapan Keuangan Berkelanjutan. Development of Board of Directors' competencies, Board of Commissioners, employees, officers and/or work units responsible for implementing Sustainable Finance.	115
	Penjelasan mengenai prosedur Perusahaan dalam mengidentifikasi, mengukur, memantau, dan mengendalikan risiko atas penerapan Keuangan Berkelanjutan terkait aspek ekonomi, sosial, dan lingkungan hidup, termasuk peran Direksi dan Dewan Komisaris dalam mengelola, melakukan telaah berkala, dan meninjau efektivitas proses manajemen risiko Perusahaan. Elaboration on procedure that Company applies in identifying, measuring, monitoring and controlling risks for the implementation of Sustainable Finance related to economic, social and environmental aspects, including the role of the Board of Directors and the Board of Commissioners in managing, conducting periodic reviews, and analyzing the effectiveness of the Company's risk management process.	39, 116-118
	Penjelasan mengenai pemangku kepentingan yang meliputi: - Keterlibatan pemangku kepentingan berdasarkan hasil penilaian (assessment) manajemen; - Pendekatan yang digunakan Perusahaan dalam melibatkan pemangku kepentingan dalam penerapan Keuangan Berkelanjutan. Description on stakeholders that includes: - Stakeholder involvement based on management assessment results. - The approach used by the Company in involving stakeholders in the application of Sustainable Finance.	123
	Permasalahan yang dihadapi, perkembangan, dan pengaruh terhadap penerapan Keuangan Berkelanjutan. Problems faced, progress, and influence to the implementation of Sustainable Finance.	74



No	Pengungkapan Disclosure	Halaman Page Number
6	Kinerja keberlanjutan: Sustainable performance:	
	Penjelasan mengenai kegiatan membangun budaya keberlanjutan di Perusahaan Elaboration on sustainable culture development activities in the Company	110
	Uraian mengenai kinerja ekonomi: • Perbandingan target dan kinerja produksi, portofolio, target pembiayaan, atau investasi, pendapatan dan laba rugi • Perbandingan target dan kinerja portofolio, target pembiayaan, atau investasi pada instrumen keuangan atau proyek yang sejalan dengan penerapan Keuangan Berkelanjutan. Description of economic performance: • Comparison of targets to performance of production, portfolio, financing targets, or investments, revenue as well as profit and loss • Comparison of target to performance of portfolio, financing target, or investments in financial instruments or projects in line with the implementation of Sustainable Finance.	127
	Kinerja sosial: • Komitmen Perusahaan untuk memberikan layanan atas produk dan/atau jasa yang setara kepada konsumen. • Ketenagakerjaan: • Kesetaraan kesempatan bekerja dan ada atau tidaknya tenaga kerja paksa dan tenaga kerja anak; • Persentase remunerasi pegawai tetap di tingkat terendah terhadap upah minimum regional; • Lingkungan bekerja yang layak dan aman; dan • Pelatihan dan pengembangan kemampuan pegawai. • Masyarakat: • informasi kegiatan atau wilayah operasional yang menghasilkan dampak positif dan dampak negatif terhadap masyarakat, sekitar termasuk literasi dan inklusi keuangan; • mekanisme pengaduan masyarakat serta jumlah pengaduan masyarakat yang diterima dan ditindaklanjuti; dan • TJSL yang dapat dikaitkan dengan dukungan pada tujuan pembangunan berkelanjutan meliputi jenis dan capaian kegiatan program pemberdayaan masyarakat Social performance: • The Company's commitment to provide services for equal products and / or services to consumers. • Employment: • Equality of employment opportunities and the presence or absence of forced labor and child labor; • Percentage of permanent employee remuneration at the lowest level of the regional minimum wage; • Decent and safe work environment; and • Training and development of employee skills. • Community: • Information on operational activities or area producing positive and negative impacts on local community including financial literacy and inclusion; • Mechanism of community complaints and number of community complaints received and acted upon; and • CSER relatable to supports to sustainable development objectives including community empowerment programme activity achievements.	68, 83-85, 89, 92
	Kinerja Lingkungan Hidup: • Biaya lingkungan hidup yang dikeluarkan; • Uraian mengenai penggunaan material yang ramah lingkungan, misalnya penggunaan jenis material daur ulang; dan • Uraian mengenai penggunaan energi, paling sedikit memuat: • Jumlah dan intensitas energi yang digunakan; dan • Upaya dan pencapaian efisiensi energi yang dilakukan termasuk penggunaan sumber energi terbarukan; Environmental Performance: • Environmental costs that incur; • Description on the use of environmentally friendly materials such as material of recyclable type; and • Description on the use of energy, at least include: • Amount and intensity of energy consumed; and • Efforts and achievement made for energy efficiency including the use of renewable energy sources;	41, 44-47, 49

No	Pengungkapan Disclosure	Halaman Page Number
	Kinerja Lingkungan Hidup bagi Perusahaan yang proses bisnisnya berkaitan langsung dengan lingkungan hidup: • Kinerja sebagaimana dimaksud dalam huruf d; • Informasi kegiatan atau wilayah operasional yang menghasilkan dampak positif dan dampak negatif terhadap lingkungan hidup sekitar, terutama upaya peningkatan daya dukung ekosistem; • Keanekaragaman hayati, paling sedikit memuat: • Dampak dari wilayah operasional yang dekat atau berada di daerah konservasi atau memiliki keanekaragaman hayati; dan • Usaha konservasi keanekaragaman hayati yang dilakukan, mencakup perlindungan spesies flora atau fauna; • Emisi, paling sedikit memuat: • Jumlah dan intensitas emisi yang dihasilkan berdasarkan jenisnya; dan • Upaya dan pencapaian pengurangan emisi yang dilakukan; • Limbah dan efluen, paling sedikit memuat: • Jumlah limbah dan efluen yang dihasilkan berdasarkan jenis; • Mekanisme pengelolaan limbah dan efluen; dan • Tumpahan yang terjadi (jika ada); dan • Jumlah dan materi pengaduan lingkungan hidup yang diterima dan diselesaikan. Environmental Performance for Companies whose business processes are directly related to the environment: • The performance under point d above; • Information on operational activities or areas producing positive and negative impacts on the surrounding environment, especially efforts to increase the carrying capacity of ecosystems; • Biodiversity, including at least: • Impacts from operational areas close to or in conservation areas or that contain biodiversity; and • Biodiversity conservation business carried run, including protection of flora or fauna species; • Emissions, including at least: • Amount and intensity of emissions produced by type; and • Efforts and achievement of emission reductions; • Waste and effluent, including at least: • Amount of waste and effluent produced by type; • Waste and effluent management mechanisms; and • Spillover that occur (if any); and • Number and content of environmental complaints received and resolved.	41-42, 44-47, 49, 51-56, 59-60, 63-43, 146-148
	Tanggung jawab pengembangan produk dan/atau jasa Keuangan Berkelanjutan: • Inovasi dan pengembangan produk dan/atau jasa Keuangan Berkelanjutan; • Jumlah dan persentase produk dan jasa yang sudah dievaluasi keamanannya bagi pelanggan; • Dampak positif dan dampak negatif yang ditimbulkan dari produk dan/atau jasa Keuangan Berkelanjutan dan proses distribusi, serta mitigasi yang dilakukan untuk menanggulangi dampak negatif; • Jumlah produk yang ditarik kembali dan alasannya; atau • Survei kepuasan pelanggan terhadap produk dan/atau jasa Keuangan Berkelanjutan. Sustainable Finance product and/or service development responsibility at least include: • Sustainable Finance product and/or service innovation and development • Number and percentage of products and services having undergone safety test for customers; • Positive and negative impacts caused by Sustainable Financial products and/or services and the distribution process, as well as mitigation undertaken to mitigate negative impacts; • Number of products recalled and the reasons; or • Customer satisfaction survey of Sustainable Financial products and/or services.	116, 134, 135-137
7	Verifikasi tertulis dari pihak independen (jika ada) Written verification from independent parties (if any)	17



Indeks Isi Standar GRI

GRI Standard Content Index

GRI Indeks GRI Index	Pengungkapan Disclosure		Lokasi Location
Pernyataan Penggunaan Statement of Use	PT Pertamina Hulu Energi telah melaporkan informasi yang dikutip dalam indeks konten GRI untuk periode 1 Januari hingga 31 Desember 2022 dengan referensi pada Standar GRI. PT Pertamina Hulu Energi has reported the information cited in this GRI content index for the period 1 January until 31 December 2022 with reference to the GRI Standards.		
GRI 1 Digunakan GRI 1 Used	GRI 1: Landasan 2022 GRI 1: Foundation 2022		
GRI 2: Pengungkapan Umum 2021 GRI 102: General Disclosures 2021	2-1	Detail Organisasi Organizational details	30-34
	2-2	Entitas yang termasuk dalam pelaporan keberlanjutan organisasi Entities included in the organization's sustainability reporting	16
	2-3	Periode pelaporan, frekuensi, dan titik kontak Reporting period, frequency and contact point	16
	2-4	Penyajian kembali informasi Restatement of information	9, 17, 33, 60
	2-5	Assurance oleh pihak eksternal External assurance	17, lampiran
	2-6	Aktivitas, rantai nilai, dan hubungan bisnis lainnya Activities, value chain and other business relationship	25, 31
	2-7	Karyawan Employees	32, lampiran
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Indeks Sustainability Accounting Standard Board (SASB) – Sektor Keuangan

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EM-EP-160a.3	Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	47
Security, Human Rights & Rights of Indigenous Peoples		
EM-EP-210a.1	Percentage of (1) proved and (2) probable reserves in or near areas of conflict	47
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EM-EP-540a.1	Process Safety Event (PSE) rates for Loss of Primary Containment (LOPC) of greater consequence (Tier 1)	80
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Referensi International Petroleum Industry Environmental Conservation Association (IPIECA)

Reference of International Petroleum Industry Environmental Conservation Association (IPIECA)

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Lembar Umpan Balik

Feedback Form



Laporan Keberlanjutan 2022 PT Pertamina Hulu Energi memberikan gambaran kinerja keberlanjutan Perseroan. Kami mengharapkan masukan dan saran dari Bapak/Ibu/Saudara sekalian melalui e-mail atau formulir ini.

The 2022 PT Pertamina Hulu Energi Sustainability Report aims to provide an overview of the sustainability performance. We would like to receive your input and suggestions by e-mail or through this form.

Mohon lembar umpan balik ini dikirimkan kembali kepada:

Please return this feedback form back to:
PT Pertamina Hulu Energi

Corporate Secretary

PHE Tower, Lantai 21-25
Jl. TB Simatupang Kav 99 Jakarta Selatan
12520, Indonesia

Tel : (021) 29547000

Email : pcc135@pertamina.com

1. Laporan ini mudah dimengerti. | The Report was Easy to Understand.

☐ Tidak setuju | Disagree ☐ Netral | Neutral ☐ Setuju | Agree

2. Laporan ini sudah menggambarkan informasi aspek material Perusahaan, baik dari sisi positif dan negatif.

The report has described positive and negative information of the Company's Material Aspects.

☐ Tidak setuju | Disagree ☐ Netral | Neutral ☐ Setuju | Agree

3. Topik material apa yang paling penting bagi anda (nilai 1=paling penting s/d 5=paling tidak penting)

Material topic(s) which is (are) the most important to you: (score 1=most important up to 5 = Least important)

- Emisi | Emission
- Energi | Energy
- Keanekaragaman Hayati | Biodiversity
- Keselamatan dan Kesehatan Kerja (K3) | Occupational Health and Safety
- Pelatihan dan Pendidikan | Training and Education
- Masyarakat Lokal | Local Community
- Antikorupsi | Anticorruption
- Air dan Efluen | Water and Effluents
- Limbah | Waste

4. Mohon dapat memberikan saran/usul/komentar anda atas laporan ini

Kindly provide your inputs/suggestions/comments about this report

.....

.....

.....

.....

Profil Anda | Your Profile

Nama | Name :

Institusi/Perusahaan :
Institution/Company

Email :

Golongan Pemangku Kepentingan | Stakeholder Group

- ☐ Pemegang Saham | Shareholders
- ☐ Pekerja | Employee
- ☐ Lembaga Legislatif | Legislative Institutions
- ☐ Pemerintah Pusat dan Regulator | Central Government and Regulators
- ☐ Pelanggan | Customers
- ☐ Masyarakat | Communities
- ☐ Mitra Usaha/Bisnis | Business Partners
- ☐ Mitra Kerja (Pemasok/ Kontraktor) | Working Partners
- ☐ Perguruan Tinggi dan Institusi Pendidikan | Universities and Educational Institutions
- ☐ Media
- ☐ Lainnya | Others



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