

Penetapan Baseline Baru Emisi Gas Rumah Kaca (GRK), sebagai Bentuk Implementasi LST di Pertamina.

Determination of New Baseline Green House Gas Emission (GHG), as The ESG Implementation in Pertamina.

Komitmen Indonesia untuk mengurangi emisi sebesar 29% di 2030 ditandai dengan kehadiran Presiden RI Joko Widodo dalam Event KTT Perubahan Iklim Paris 2015 (COP) 21 pada 31 November 2015.

Pertamina, sebagai BUMN Energi terbesar di Indonesia, turut berkontribusi dalam komitmen tersebut dengan melakukan berbagai program pengurangan emisi, transisi energi, serta peningkatan produk Energi Baru dan Terbarukan (EBT), sejalan dengan target bauran energi EBT Indonesia yaitu 23% di 2025.

Program reduksi emisi dilaksanakan sejak 2010, dengan perhitungan baseline emisi dan menetapkan target reduksi emisi 10 tahun hingga 2020. Sampai dengan tahun 2020 telah tercapai pengurangan emisi di Pertamina Group sebanyak 27,08% melampaui targetnya sebesar 26% di tahun tersebut.

Indonesia's commitment to reduce emissions by 29% by 2030 was marked by the presence of President RI Joko Widodo at the UN Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP) 21 on November 31, 2015.

As the largest Energy SOE in Indonesia, Pertamina contributed to the commitment by conducting various emissions reduction programs, energy transitions, and improving New and Renewable Energy (NRE), in line with Indonesia's EBT energy mix target of 23% by 2025.

The emission reduction program has been implemented since 2010, by calculating the emission baseline and setting an emission reduction target of 10 years until 2020. By 2020, the Pertamina Group has achieved 27.08% emission reduction, exceeding the target of 26% in that year.

Dikarenakan dinamika perkembangan bisnis di Pertamina, seperti akuisisi wilayah kerja Hulu yang baru, ekspansi dan pengembangan instalasi produksi, processing, dan distribusi migas, diperlukan pembaharuan perhitungan beban emisi dan kalkulasi ulang atas sumber emisi. Untuk itu pada akhir tahun 2020 Pertamina bekerjasama dengan Pusat Studi Energi (PSE) UGM melakukan "Perhitungan Ulang Beban Emisi (Rebaseline Emisi)" yang dihasilkan dari seluruh kegiatan operasional perusahaan baik di Holding maupun Sub-Holding.

Hal tersebut didasari oleh PERMEN Lingkungan Hidup (LH) No.12 tahun 2012, "Pedoman Penghitungan Beban Emisi Kegiatan Industri Minyak dan Gas Bumi", dimana perusahaan migas wajib melakukan penghitungan emisi dan harus melaporkan ke Menteri LH.

Sumber emisi terdiri dari dua bagian yaitu:

- a. Sumber emisi yang tidak bergerak, yang bersumberkan pada sumber – emisi posisi stasioner. Misalnya, tanki dan engine proses/operasional.
- b. Sumber emisi bergerak, yang dimunculkan karena sumber emisi terkait dalam posisi bergerak. Misalnya, kendaraan transportasi penunjang dan kapal untuk transpor BBM/crude oil.

Adapun sumber emisi yang dapat dihitung antara lain internal & eksternal combustion, flaring, incinerator, sulfur recovery unit, fugitive emission, storage tank, kegiatan loading/ unloading BBM, catalytic cracking unit, CO2 Removal unit, power plant, waste water treatment plant, dll.

Due to the dynamics of business development, e.g. acquisition of new upstream field, expansion, and development of oil and gas production, processing, and distribution facilities, it is necessary to update the emission baseline calculation and recalculate emission sources. For this reason, at the end of 2020, Pertamina has collaborated with the Center for Energy Studies (PSE) UGM to carry out a "Rebase line Emissions Calculation" generated from all company's operational activities both in Holding and Sub-Holding.

This is based on Environmental & Forestry (EF) Ministry Regulations No.12 of 2012, "Guidelines for Calculating Emissions Load of Oil and Gas Industry Activities",

where oil and gas companies are obliged to calculate emissions and must report to the EF Ministry.

The sources of emissions are divided into two parts, namely:

- a. *Immovable emission sources, which are sourced at stationary positional sources. For example, tanks and process/operational engines.*
- b. *Movable emission sources, which are raised because of related emission sources in mobile positions. For example, supporting transportation vehicles and ships for petroleum/crude oil transport.*

The sources of emissions that can be calculated including internal & external combustion, flaring, incinerator, sulfur recovery unit, fugitive emission, storage tank, fuel loading /unloading activities, catalytic cracking unit, CO2 Removal unit, power plant, waste water treatment plant, etc.



Sebagai wujud implementasi LST di Pertamina, Program Pengurangan Emisi GRK yaitu "Sustainable Emission Reduction" menjadi salah satu Key Performance Indicator (KPI) Pertamina sejak tahun 2021 dan seterusnya. Program ini akan berkelanjutan, yang telah dimulai dengan melakukan pengukuran ulang sumber emisi dari kegiatan operasional perusahaan kemudian menetapkan Road Map Jangka Panjang sesuai UU No. 16 tahun 2016 tentang Pengesahan Paris Agreement to the UNFCCC.

Sesuai perhitungan terbaru, diperoleh angka baseline emisi 2020 sebesar total 21,358 Juta Ton CO₂e. Adapun baseline emisi sebelumnya (2010-2020) sebesar 25,078 Juta Ton Co₂e.

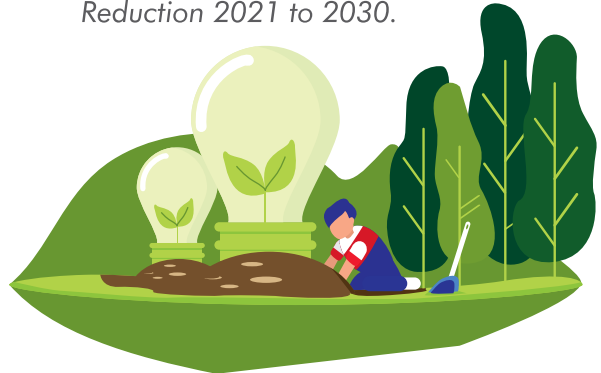
Berikut ini adalah roadmap Reduksi Emisi 2021 s/d 2030.

Tabel Target Jangka Panjang Reduksi
Long Term Table of Pertamina's
Emisi Pertamina
Emission Reduction Target

As a form of ESG implementation in Pertamina, the GHG Emission Reduction Program, namely "Sustainable Emission Reduction" has become one of Pertamina's Key Performance Indicators (KPIs) since 2021 onwards. This program will be sustainable, which has been started by re-measuring the source of emissions from the company's operational activities and then establishing a Long-Term Road Map in accordance with Law No. 16 of 2016 on ratification of the Paris Agreement to the UNFCCC.

According to the newest calculation, baseline emissions in 2020 amounted to a total of 21.358 Million Tons of CO₂e. The previous baseline emissions (2010-2020) were 25.078 million tons of CO₂e.

The following are roadmap for Emission Reduction 2021 to 2030.



reduksi GRK 29%(2030)

Target Jangka Panjang Reduksi Emisi Pertamina Tahun 2021 s/d 2030
Long Term Pertamina's Emission Reduction Target for 2021-2030

2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Rebaseline emisi Emissions rebaseline	0.25% > 26.25%	0.25% > 26.5%	0.5% > 27%	0.5% > 27,5%	0.5% > 28%	0.5% > 28,5%	0.5% > 29%	0.5% > 29,5%	0.25% > 29,75%	0.25% > 30%
100% Terlaksana mendapatkan Baseline. 100% Accomplished to get the baseline.	Baseline emisi 2020 = 21.358.794,34 TON Co ₂ e 2020 Baseline emissions = 21,358,794.34 TON CO ₂ e									

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PERTAMINA

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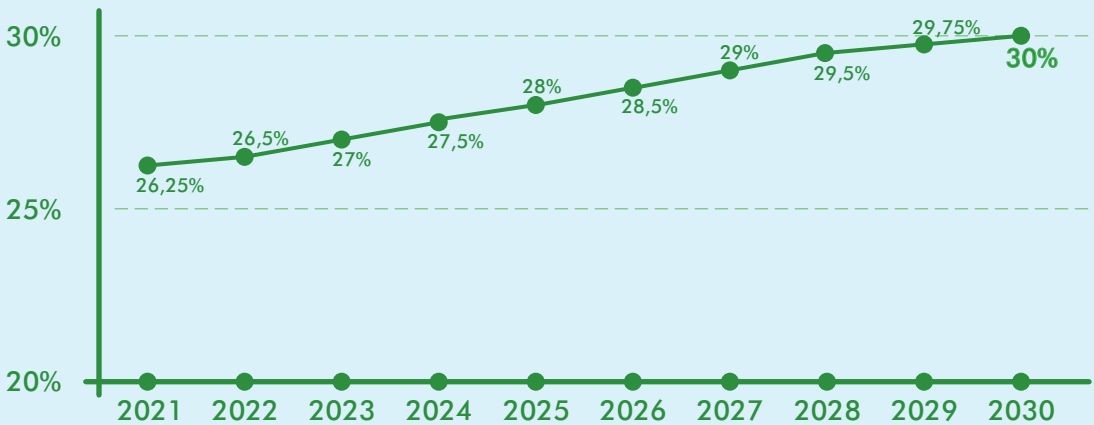


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Movable emission sources, which are raised because of related emission sources in mobile positions. For example, supporting transportation vehicles and ships for petroleum/crude oil.

The following are roadmap for Emission Reduction 2021 to 2030



*Baseline emisi 2020 = 21.358.794,34 TON CO₂e

* Due to the dynamics of Pertamina's business development, it is necessary to update the calculation of emission expenses and recalculate emission sources. The 2020-2030 emission reduction roadmap is made based on the calculation of the emission load generated by the identified emission sources in 2020, If there are additional emission sources as a result of Pertamina's business

