



PT Perusahaan Listrik Negara (Persero)

2025 CDP Corporate Questionnaire 2025

Word version

Important: this export excludes unanswered questions

This document is an export of your organization's CDP questionnaire response. It contains all data points for questions that are answered or in progress. There may be questions or data points that you have been requested to provide, which are missing from this document because they are currently unanswered. Please note that it is your responsibility to verify that your questionnaire response is complete prior to submission. CDP will not be liable for any failure to do so.

[Read full terms of disclosure](#)

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(13.2) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored. 437

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C1. Introduction

(1.1) In which language are you submitting your response?

Select from:

☒ English

(1.2) Select the currency used for all financial information disclosed throughout your response.

Select from:

☒ IDR

(1.3) Provide an overview and introduction to your organization.

(1.3.2) Organization type

Select from:

☒ State owned organization

(1.3.3) Description of organization

Perusahaan Listrik Negara (PLN), Indonesia's state-owned electricity enterprise, was established in 1945 and serves more than 275 million people. The company manages the entire electricity value chain—from power generation to distribution—operating a diverse fleet of coal, gas, geothermal, and hydropower plants. Its extensive transmission network delivers electricity from generation facilities to a nationwide distribution system supplying homes and businesses. Beyond its core operations, PLN engages in energy trading, energy services, and the development of renewable energy. Demonstrating its commitment to sustainable development and environmental stewardship, PLN actively pursues cleaner and more environmentally responsible energy solutions by reducing carbon emissions and adopting renewable energy technologies. The company also implements environmental management initiatives covering water, waste, and biodiversity, while supporting community development programs. In 2024, PLN commissioned 37 electricity infrastructure projects—including power plants, transmission lines, and substations—across 18 provinces, adding 3.2 gigawatts of capacity, more than 80% of which comes from clean energy sources. Renewable energy accounted for 76% of the new generation capacity, aligning with the Electricity Supply Business Plan (RUPTL). Looking ahead, PLN targets a total capacity addition of 100 GW by 2040, with 75 GW sourced from renewable energy plants, significantly reducing greenhouse gas emissions. To meet Indonesia's 2030 Nationally Determined Contribution (NDC) and 2060 Net Zero Emission (NZE) targets, while addressing growing demand for clean electricity, PLN has developed the Accelerated Renewable Energy Development (ARED) scenario. This scenario envisions a renewable capacity mix of 75%, or 61 GW, driven primarily by baseload hydropower and geothermal plants. By 2040, 33 GW of capacity is projected to come from baseload sources, with 28 GW from variable renewable energy (VRE) such as solar and wind, alongside 2.4

GW from nuclear energy. In 2024, total water withdrawals reached 35.4 billion m³, with surface water contributing 45.25% and seawater 49.50%. PLN has a comprehensive water management plan that includes quality monitoring and conservation initiatives. The company is currently conducting a water risk assessment to identify related risks, opportunities, and vulnerabilities. PLN is committed to enhancing water security, reducing water stress, and managing water-related risks through collaboration with government agencies, institutions, and stakeholders. Key efforts include improving power plant water efficiency, adopting water-saving technologies, increasing water reuse for non-potable applications, and protecting water resources by reducing pollution and managing water demand.

[Fixed row]

(1.4) State the end date of the year for which you are reporting data. For emissions data, indicate whether you will be providing emissions data for past reporting years.

(1.4.1) End date of reporting year

12/30/2024

(1.4.2) Alignment of this reporting period with your financial reporting period

Select from:

☒ Yes

(1.4.3) Indicate if you are providing emissions data for past reporting years

Select from:

☒ Yes

(1.4.4) Number of past reporting years you will be providing Scope 1 emissions data for

Select from:

☒ 2 years

(1.4.5) Number of past reporting years you will be providing Scope 2 emissions data for

Select from:

☒ 2 years

(1.4.6) Number of past reporting years you will be providing Scope 3 emissions data for

Select from:

☒ 2 years

[Fixed row]

(1.4.1) What is your organization's annual revenue for the reporting period?

545380000000000

(1.5) Provide details on your reporting boundary.

	Is your reporting boundary for your CDP disclosure the same as that used in your financial statements?
	Select from: ☒ Yes

[Fixed row]

(1.6) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

ISIN code - bond

(1.6.1) Does your organization use this unique identifier?

Select from:

☒ Yes

(1.6.2) Provide your unique identifier

US71568QAB32

ISIN code - equity

(1.6.1) Does your organization use this unique identifier?

Select from:

☒ Yes

(1.6.2) Provide your unique identifier

US71568QAB32

CUSIP number

(1.6.1) Does your organization use this unique identifier?

Select from:

☒ No

Ticker symbol

(1.6.1) Does your organization use this unique identifier?

Select from:

☒ Yes

(1.6.2) Provide your unique identifier

PLNIJ

SEDOL code

(1.6.1) Does your organization use this unique identifier?

Select from:

☒ Yes

(1.6.2) Provide your unique identifier

B89NQT6

LEI number

(1.6.1) Does your organization use this unique identifier?

Select from:

☒ No

D-U-N-S number

(1.6.1) Does your organization use this unique identifier?

Select from:

☒ No

Other unique identifier

(1.6.1) Does your organization use this unique identifier?

Select from:

☒ No

[Add row]

(1.7) Select the countries/areas in which you operate.

Select all that apply

☒ Indonesia

(1.8) Are you able to provide geolocation data for your facilities?

(1.8.1) Are you able to provide geolocation data for your facilities?

Select from:

☒ Yes, for some facilities

(1.8.2) Comment

PLN defines “facilities” as central generation units that produce electricity within the PLN Group’s scope, which including its subsidiaries. These central units comprise 246 power plants, representing 76.03% of PLN’s total electricity generation capacity. Using the WRI Aqueduct Risk Atlas, PLN has identified the locations of generation units situated in water-stressed areas. The assessment found 17 generation units located in areas classified as having High (40–80%) or Extremely High (>80%) water stress levels. These 17 units account for <1% of PLN’s total generation units or contribute 5.28% of its total generation capacity.
[Fixed row]

(1.8.1) Please provide all available geolocation data for your facilities.

Row 1

(1.8.1.1) Identifier

PLTD Pulo Panjang

(1.8.1.2) Latitude

-5.930987

(1.8.1.3) Longitude

106.145385

(1.8.1.4) Comment

High (40-80%) level of water stress.

Row 2

(1.8.1.1) Identifier

ULPLTD Ampenan

(1.8.1.2) Latitude

-8.595616

(1.8.1.3) Longitude

116.076401

(1.8.1.4) Comment

Extremely High (>80%) level of water stress.

Row 3

(1.8.1.1) Identifier

PLTD Taman

(1.8.1.2) Latitude

-8.596828

(1.8.1.3) Longitude

116.107783

(1.8.1.4) Comment

Extremely High (>80%) level of water stress.

Row 4

(1.8.1.1) Identifier

ULPLTD Paokmotong

(1.8.1.2) Latitude

-8.628219

(1.8.1.3) Longitude

116.463647

(1.8.1.4) Comment

Extremely High (>80%) level of water stress.

Row 5

(1.8.1.1) Identifier

ULPLTD Labuhan

(1.8.1.2) Latitude

-8.628219

(1.8.1.3) Longitude

117.404675

(1.8.1.4) Comment

Extremely High (>80%) level of water stress.

Row 6

(1.8.1.1) Identifier

ULPTD Bima

(1.8.1.2) Latitude

-8.475138

(1.8.1.3) Longitude

118.744047

(1.8.1.4) Comment

Extremely High (>80%) level of water stress.

Row 7

(1.8.1.1) Identifier

PLTD Niu

(1.8.1.2) Latitude

-8.489652

(1.8.1.3) Longitude

118.716885

(1.8.1.4) Comment

Extremely High (>80%) level of water stress.

Row 8

(1.8.1.1) Identifier

PLTD Dompu

(1.8.1.2) Latitude

-8.543938

(1.8.1.3) Longitude

118.444203

(1.8.1.4) Comment

Extremely High (>80%) level of water stress.

Row 9**(1.8.1.1) Identifier**

PLTMG Sumbawa

(1.8.1.2) Latitude

-8.447337

(1.8.1.3) Longitude

117.335578

(1.8.1.4) Comment

Extremely High (>80%) level of water stress.

Row 10

(1.8.1.1) Identifier

PLTMG Bima

(1.8.1.2) Latitude

-8.409638

(1.8.1.3) Longitude

118.699422

(1.8.1.4) Comment

Extremely High (>80%) level of water stress.

Row 11

(1.8.1.1) Identifier

PLTA Saguling

(1.8.1.2) Latitude

-6.8638

(1.8.1.3) Longitude

107.350351

(1.8.1.4) Comment

High (40-80%) level of water stress.

Row 12

(1.8.1.1) Identifier

PLTA Mrica PB Soedirman

(1.8.1.2) Latitude

-7.395137

(1.8.1.3) Longitude

109.605391

(1.8.1.4) Comment

High (40-80%) level of water stress.

Row 13

(1.8.1.1) Identifier

PLTP Kamojang Gunung Salak

(1.8.1.2) Latitude

-6.741688

(1.8.1.3) Longitude

106.645672

(1.8.1.4) Comment

High (40-80%) level of water stress.

Row 14

(1.8.1.1) Identifier

PLTP Kamojang

(1.8.1.2) Latitude

-7.140339

(1.8.1.3) Longitude

107.790271

(1.8.1.4) Comment

Extremely High (>80%) level of water stress.

Row 15**(1.8.1.1) Identifier**

PLTDG Pesanggaran

(1.8.1.2) Latitude

-8.717813

(1.8.1.3) Longitude

115.211797

(1.8.1.4) Comment

Extremely High (>80%) level of water stress.

Row 16

(1.8.1.1) Identifier

PLTDG Gilimanuk

(1.8.1.2) Latitude

-8.175538

(1.8.1.3) Longitude

114.442734

(1.8.1.4) Comment

Extremely High (>80%) level of water stress.

Row 17

(1.8.1.1) Identifier

PLTGU Pamaran

(1.8.1.2) Latitude

-8.166747

(1.8.1.3) Longitude

115.009304

(1.8.1.4) Comment

Extremely High (>80%) level of water stress.

[Add row]

(1.16) In which part of the electric utilities value chain does your organization operate?

Electric utilities value chain

- ☒ Distribution
- ☒ Electricity generation
- ☒ Transmission

(1.16.1) For your electricity generation activities, provide details of your nameplate capacity and electricity generation specifics for each technology employed.

Coal - Hard

(1.16.1.1) Own or control operations which use this power generation source

Select from:

- ☒ Yes

(1.16.1.2) Nameplate capacity (MW)

21026.9

(1.16.1.3) Gross electricity generation (GWh)

117973.86

(1.16.1.4) Net electricity generation (GWh)

109736.61

(1.16.1.5) Comment

The data represents the installed capacity and gross production capacity of coal-fired power plants (CFPPs) within the PLN Group.

Lignite

(1.16.1.1) Own or control operations which use this power generation source

Select from:

☒ No

(1.16.1.5) Comment

PLN does not operate this type of power plant.

Oil

(1.16.1.1) Own or control operations which use this power generation source

Select from:

☒ Yes

(1.16.1.2) Nameplate capacity (MW)

3425.94

(1.16.1.3) Gross electricity generation (GWh)

7037.08

(1.16.1.4) Net electricity generation (GWh)

6972.12

(1.16.1.5) Comment

The data represents the installed capacity and gross production capacity of diesel-fired power plants (DFPPs) within the PLN Group.

Gas

(1.16.1.1) Own or control operations which use this power generation source

Select from:

☒ Yes

(1.16.1.2) Nameplate capacity (MW)

18960.12

(1.16.1.3) Gross electricity generation (GWh)

54620.71

(1.16.1.4) Net electricity generation (GWh)

53551.88

(1.16.1.5) Comment

The data represents the installed capacity and gross production capacity of gas-fired power plants (PLTG), gas and steam combined-cycle power plants (PLTGU), and gas engine power plants (PLTMG) within the PLN Group. Particularly for Gas Power Plants, the installed capacity is as written on the nameplate based on the base-load and not on the peak-load.

Sustainable biomass

(1.16.1.1) Own or control operations which use this power generation source

Select from:

☒ No

(1.16.1.5) Comment

PLN does not operate this type of power plant.

Other biomass

(1.16.1.1) Own or control operations which use this power generation source

Select from:

☒ Yes

(1.16.1.2) Nameplate capacity (MW)

0.52

(1.16.1.3) Gross electricity generation (GWh)

0.01

(1.16.1.4) Net electricity generation (GWh)

0.01

(1.16.1.5) Comment

The data represents the installed capacity and gross production capacity of biomass power plants within the PLN Group, which are not yet categorized as sustainable biomass.

Waste (non-biomass)

(1.16.1.1) Own or control operations which use this power generation source

Select from:

☒ No

(1.16.1.5) Comment

PLN does not operate this type of power plant.

Nuclear

(1.16.1.1) Own or control operations which use this power generation source

Select from:

☒ No

(1.16.1.5) Comment

PLN does not operate this type of power plant.

Fossil-fuel plants fitted with carbon capture and storage

(1.16.1.1) Own or control operations which use this power generation source

Select from:

☒ No

(1.16.1.5) Comment

PLN does not operate this type of power plant.

Geothermal

(1.16.1.1) Own or control operations which use this power generation source

Select from:

☒ Yes

(1.16.1.2) Nameplate capacity (MW)

579.26

(1.16.1.3) Gross electricity generation (GWh)

4230.97

(1.16.1.4) Net electricity generation (GWh)

4019.76

(1.16.1.5) Comment

The data represents the installed capacity and gross production capacity of geothermal power plants (PLTP) within the PLN Group.

Hydropower

(1.16.1.1) Own or control operations which use this power generation source

Select from:

☒ Yes

(1.16.1.2) Nameplate capacity (MW)

3710.05

(1.16.1.3) Gross electricity generation (GWh)

11661.38

(1.16.1.4) Net electricity generation (GWh)

11614.77

(1.16.1.5) Comment

The data represents the installed capacity and gross production capacity of hydroelectric power plants (PLTA), mini-hydro power plants (PLTM), and micro-hydro power plants (PLTMH) within the PLN Group.

Wind

(1.16.1.1) Own or control operations which use this power generation source

Select from:

☒ Yes

(1.16.1.2) Nameplate capacity (MW)

0.17

(1.16.1.3) Gross electricity generation (GWh)

0

(1.16.1.4) Net electricity generation (GWh)

0

(1.16.1.5) Comment

The data represents the installed capacity and gross production capacity of wind power plants (PLTB) within the PLN Group. In 2024, wind power plants are not operating.

Solar

(1.16.1.1) Own or control operations which use this power generation source

Select from:

☒ Yes

(1.16.1.2) Nameplate capacity (MW)

37.25

(1.16.1.3) Gross electricity generation (GWh)

19.4

(1.16.1.4) Net electricity generation (GWh)

(1.16.1.5) Comment

The data represents the installed capacity and gross production capacity of solar power plants (PLTS) within the PLN Group.

Marine**(1.16.1.1) Own or control operations which use this power generation source**

Select from:

☒ No

(1.16.1.5) Comment

PLN does not operate this type of power plant.

Other renewable**(1.16.1.1) Own or control operations which use this power generation source**

Select from:

☒ No

(1.16.1.5) Comment

PLN does not operate this type of power plant.

Other non-renewable**(1.16.1.1) Own or control operations which use this power generation source**

Select from:

☒ No

(1.16.1.5) Comment

PLN does not operate this type of power plant.

Total

(1.16.1.2) Nameplate capacity (MW)

47740.21

(1.16.1.3) Gross electricity generation (GWh)

195543.41

(1.16.1.4) Net electricity generation (GWh)

185913.95

(1.16.1.5) Comment

*Total of nameplate capacity and gross electricity generation specifics for each technology employed.
[Fixed row]*

(1.24) Has your organization mapped its value chain?

(1.24.1) Value chain mapped

Select from:

☒ Yes, we have mapped or are currently in the process of mapping our value chain

(1.24.2) Value chain stages covered in mapping

Select all that apply

☒ Upstream value chain

☒ Downstream value chain

(1.24.3) Highest supplier tier mapped

Select from:

☒ Tier 1 suppliers

(1.24.4) Highest supplier tier known but not mapped

Select from:

☒ Tier 2 suppliers

(1.24.7) Description of mapping process and coverage

Tier 1 suppliers refer to suppliers that supply or sell products directly to PLN. One of PLN's tier 1 suppliers is an Independent Power Producer (IPP) that supplies electricity to PLN. Information on local, national, and international suppliers is obtained using datasets from Engineering, Procurement, and Construction (EPC) contracts obtained through the Main Development Unit (Unit Induk Pembangunan / UIP) and PLN Head Office.

[Fixed row]

(1.24.1) Have you mapped where in your direct operations or elsewhere in your value chain plastics are produced, commercialized, used, and/or disposed of?

(1.24.1.1) Plastics mapping

Select from:

☒ Yes, we have mapped or are currently in the process of mapping plastics in our value chain

(1.24.1.2) Value chain stages covered in mapping

Select all that apply

☒ End-of-life management

(1.24.1.4) End-of-life management pathways mapped

Select all that apply

☒ Preparation for reuse

☒ Recycling

[Fixed row]

C2. Identification, assessment, and management of dependencies, impacts, risks, and opportunities

(2.1) How does your organization define short-, medium-, and long-term time horizons in relation to the identification, assessment, and management of your environmental dependencies, impacts, risks, and opportunities?

Short-term

(2.1.1) From (years)

0

(2.1.3) To (years)

1

(2.1.4) How this time horizon is linked to strategic and/or financial planning

PLN revises definition of short-term compared to last year. The time horizon for determining dependencies, impacts, risks, and opportunities on short-term (2025-2026) is linked to the RKAP and aligned with the company's strategic and/or financial planning. Rencana Kerja dan Anggaran Perusahaan (RKAP) of PLN is an annual planning document outlining the company's planned activities, performance targets, and budget allocation for the upcoming fiscal year. It is developed based on medium- and long-term planning documents, such as the Corporate Plan and the Rencana Usaha Penyediaan Tenaga Listrik (RUPTL), and is then adjusted to reflect macroeconomic assumptions, electricity demand projections, and investment priorities for that year. The preparation of the RKAP also takes into account electricity sector regulations, energy market conditions, funding requirements, and strategic objectives, including ESG considerations and the energy transition. Targets on RKAP includes operational performance targets, such as projected electricity sales, generation capacity, infrastructure development (transmission, distribution, and substations), and system reliability—investment plans covering priority projects with cost estimates, funding sources, and implementation schedules, as well as financial plans detailing revenue projections, operating expenses, profit/loss, cash flow, and financing needs.

Medium-term

(2.1.1) From (years)

2

(2.1.3) To (years)

(2.1.4) How this time horizon is linked to strategic and/or financial planning

The medium-term phase, spanning 2027 to 2030, focuses on operational adjustments and the accelerated implementation of projects aimed at exceeding Indonesia's Nationally Determined Contribution (NDC) target, with reference to the Corporate Long-Term Plan (RJPP), which is prepared for a five-year period and updated annually on a rolling basis. This phase prioritizes practical actions, including the expansion of renewable energy capacity, grid modernization, and efficiency enhancements, all designed to achieve measurable emissions reductions within the current decade. As Indonesia's state-owned energy company, PLN acknowledges its critical role in advancing the nation's 2030 NDC and 2060 Net Zero Emission (NZE) objectives through a well-structured energy transition strategy. In alignment with Indonesia's Enhanced Nationally Determined Contribution (ENDC), PLN has established a target to reduce 358 million tCO₂ in the energy sector, serving as a key climate-related metric for greenhouse gas (GHG) emissions reduction.

Long-term

(2.1.1) From (years)

6

(2.1.2) Is your long-term time horizon open ended?

Select from:

☒ No

(2.1.3) To (years)

30

(2.1.4) How this time horizon is linked to strategic and/or financial planning

In the long-term time horizon, PLN's strategic and financial planning is anchored to its commitment to achieve Net Zero Emissions (NZE) by 2060. This entails reducing GHG emissions intensity from 0.89 tons of CO₂e/MWh in 2021 to zero by 2060, alongside cutting absolute GHG emissions by 1.057 million tons CO₂e compared to the business-as-usual (BAU) scenario. Under the ARED scenario, PLN anticipates that by 2040, 75% of its power generation capacity will be sourced from renewable energy and 25% from gas, supported by an increase in baseload renewable energy (NRE) capacity to 33 GW and variable renewable energy (VRE) capacity to 28 GW. These investments and capacity shifts are embedded into PLN's long-term capital allocation, project prioritization, and risk management frameworks. This long-term pathway integrates compliance with Indonesia's enhanced Nationally Determined Contribution (NDC) targets, as well as adherence to non-GHG emission control measures under the Ministry of Environment and Forestry Regulation No. 15/2019 on Thermal Power Plant Emission Standards.

[Fixed row]

(2.2) Does your organization have a process for identifying, assessing, and managing environmental dependencies and/or impacts?

	Process in place	Dependencies and/or impacts evaluated in this process
	Select from: ☒ Yes	Select from: ☒ Both dependencies and impacts

[Fixed row]

(2.2.1) Does your organization have a process for identifying, assessing, and managing environmental risks and/or opportunities?

	Process in place	Risks and/or opportunities evaluated in this process	Is this process informed by the dependencies and/or impacts process?
	Select from: ☒ Yes	Select from: ☒ Both risks and opportunities	Select from: ☒ Yes

[Fixed row]

(2.2.2) Provide details of your organization's process for identifying, assessing, and managing environmental dependencies, impacts, risks, and/or opportunities.

Row 1

(2.2.2.1) Environmental issue

Select all that apply

☒ Water

(2.2.2.2) Indicate which of dependencies, impacts, risks, and opportunities are covered by the process for this environmental issue

Select all that apply

☒ Dependencies

☒ Impacts

☒ Risks

☒ Opportunities

(2.2.2.3) Value chain stages covered

Select all that apply

☒ Direct operations

☒ Downstream value chain

(2.2.2.4) Coverage

Select from:

☒ Full

(2.2.2.7) Type of assessment

Select from:

☒ Qualitative and quantitative

(2.2.2.8) Frequency of assessment

Select from:

☒ Annually

(2.2.2.9) Time horizons covered

Select all that apply

- ☒ Short-term
- ☒ Medium-term
- ☒ Long-term

(2.2.2.10) Integration of risk management process

Select from:

- ☒ Integrated into multi-disciplinary organization-wide risk management process

(2.2.2.11) Location-specificity used

Select all that apply

- ☒ Site-specific
- ☒ Local
- ☒ Sub-national
- ☒ National

(2.2.2.12) Tools and methods used

Commercially/publicly available tools

- ☒ WRI Aqueduct

Enterprise Risk Management

- ☒ Enterprise Risk Management
- ☒ ISO 31000 Risk Management Standard

International methodologies and standards

- ☒ IPCC Climate Change Projections

(2.2.2.13) Risk types and criteria considered

Acute physical

- ☒ Drought
- ☒ Heavy precipitation (rain, hail, snow/ice)

Chronic physical

- ☒ Water stress

Policy

- ☒ Uncertainty and/or conflicts involving land tenure rights and water rights

Reputation

- ☒ Increased partner and stakeholder concern and partner and stakeholder negative feedback

(2.2.2.14) Partners and stakeholders considered

Select all that apply

- ☒ Customers
- ☒ Local communities
- ☒ Suppliers
- ☒ Other, please specify :Public Works Agency

(2.2.2.15) Has this process changed since the previous reporting year?

Select from:

- ☒ No

(2.2.2.16) Further details of process

According to the Director's Regulations No. 0016 of 2023 relating to Integrated Risk Management Strategic Policy of PT PLN (Persero), the risk management process is carried out by identifying, analyzing, recording, monitoring, evaluating, and reporting the risks. The process begins with defining the scope, context, and criteria for risk management. These parameters are established with reference to internationally recognized climate models and energy transition scenarios. During the risk assessment phase, PLN undertakes the following steps: 1. Risk Identification: Physical and reputational risks related to biodiversity loss and water stress are identified across PLN's operational and supply chain locations. 2. Risk Analysis: PLN employs a range of tools and models to support its risk analysis. For biodiversity and water-related risks, the company utilizes the Biodiversity Risk Filter (BRF) and Water Risk Filter (WRF) platforms. The WRF assesses physical, regulatory, and

reputational water risks. PLN has conducted comprehensive water risk assessments to identify power plants operating in water-stressed areas. Using the WRI Aqueduct Water Risk Atlas, PLN evaluated 1.7 thousand power plants and selected 246 units for indepth water stress analysis based on 2022 baseline data. The findings revealed that 17 power plants operate in high (40–80%) and 13 operate in extremely high (>80%) water stress areas. However, one plant is projected to experience reduced water stress by 2030, leaving 16 plants in PLN's long-term water stress mitigation plans. To address water scarcity and prolonged droughts, PLN launched a water risk management strategy in late 2023, integrating WMT. This strategy includes deploying airplanes, UAV drones, and ground-based generators to induce rainfall in targeted areas. In 2024, PLN will pilot WMT programs in three key watersheds: Brantas (Sutami HEPP), Citarum (Cirata HEPP), and Mamasa (Bakaru HEPP) 3. Risk Evaluation: Identified risks are prioritized based on their likelihood and potential impact. This enables PLN to focus on material risks that could significantly affect its operations and assets. Following the assessment, PLN proceeds with risk treatment, implementing mitigation and adaptation measures. To ensure transparency and accountability, PLN maintains comprehensive documentation of its risk assessments, mitigation strategies, and performance results.

Row 2

(2.2.2.1) Environmental issue

Select all that apply

☒ Climate change

(2.2.2.2) Indicate which of dependencies, impacts, risks, and opportunities are covered by the process for this environmental issue

Select all that apply

☒ Dependencies

☒ Impacts

☒ Risks

☒ Opportunities

(2.2.2.3) Value chain stages covered

Select all that apply

☒ Direct operations

☒ Upstream value chain

☒ Downstream value chain

(2.2.2.4) Coverage

Select from:

☒ Full

(2.2.2.5) Supplier tiers covered

Select all that apply

☒ Tier 1 suppliers

(2.2.2.7) Type of assessment

Select from:

☒ Qualitative and quantitative

(2.2.2.8) Frequency of assessment

Select from:

☒ Annually

(2.2.2.9) Time horizons covered

Select all that apply

☒ Short-term

☒ Medium-term

☒ Long-term

(2.2.2.10) Integration of risk management process

Select from:

☒ Integrated into multi-disciplinary organization-wide risk management process

(2.2.2.11) Location-specificity used

Select all that apply

☒ Site-specific

- ☒ Local
- ☒ Sub-national
- ☒ National

(2.2.2.12) Tools and methods used

Enterprise Risk Management

- ☒ Enterprise Risk Management
- ☒ ISO 31000 Risk Management Standard

International methodologies and standards

- ☒ IPCC Climate Change Projections
- ☒ ISO 14001 Environmental Management Standard

Databases

- ☒ Nation-specific databases, tools, or standards
- ☒ Regional government databases

Other

- ☒ Scenario analysis

(2.2.2.13) Risk types and criteria considered

Acute physical

- ☒ Heavy precipitation (rain, hail, snow/ice)

Chronic physical

- ☒ Water stress

Policy

- ☒ Increased difficulty in obtaining operations permits

Market

☒ Other market, please specify :Increase in electricity supply cost

Reputation

☒ Other reputation, please specify :Community rejection of new infrastructure

Technology

☒ Unsuccessful investment in new technologies

Liability

☒ Other liability, please specify :Carbon Tax Risk (Non Allowable Cost)

(2.2.2.14) Partners and stakeholders considered

Select all that apply

☒ Customers

☒ Suppliers

(2.2.2.15) Has this process changed since the previous reporting year?

Select from:

☒ No

(2.2.2.16) Further details of process

PLN manages climate-related and GHG risks through its corporate risk management framework, ensuring that such risks are fully embedded into the Company's overall risk profile. As part of its Energy Transition Analysis, PLN identifies three major categories of risks: physical, financial, and legal. Physical and GHG-related risks are particularly critical, as they directly affect infrastructure reliability, energy security, and long-term transition objectives. Exposure to extreme weather events and gradual shifts in climate variables increases the vulnerability of PLN's electricity infrastructure, threatening grid stability and energy supply. More frequent lightning strikes can disrupt transmission networks and cause blackouts, while heavy rainfall and prolonged droughts impact hydropower generation capacity. These climate-related disruptions create operational and financial pressures, including higher maintenance costs, potential loss of revenue from interrupted supply, and reduced capacity to meet demand. To address these risks, PLN has conducted detailed studies on climate impacts across supply, demand, and infrastructure resilience, translating findings into adaptation measures. Under BOD Regulation No. 0072/2021, the Company established a structured framework for disaster and climate risk management across all assets. Adaptation measures include elevating critical power plant areas to mitigate flooding, constructing tetrapods with FABA waste to counter coastal abrasion, installing advanced lightning detection and protection systems, optimizing hydropower production planning, and upgrading

drainage and flood control infrastructure. These initiatives are complemented by ongoing monitoring and reporting mechanisms overseen by the Directorate of Transmission and System Planning and the TEK Division. By integrating climate-related and GHG risks into enterprise risk management and implementing targeted physical adaptation measures, PLN strengthens its ability to navigate the uncertainties of climate change. This approach not only safeguards operational continuity and reduces financial exposure but also supports PLN's broader commitment to achieving Net Zero Emissions (NZE) by 2060 and sustaining long-term resilience in a changing climate.

[Add row]

(2.2.7) Are the interconnections between environmental dependencies, impacts, risks and/or opportunities assessed?

(2.2.7.1) Interconnections between environmental dependencies, impacts, risks and/or opportunities assessed

Select from:

☒ Yes

(2.2.7.2) Description of how interconnections are assessed

PLN depends heavily on natural resources such as coal, gas, and water to generate electricity, and this reliance creates both environmental impacts and vulnerabilities. For example, coal combustion is still required to ensure energy security, yet it produces significant greenhouse gas (GHG) emissions and pollutants, driving climate change and environmental degradation. Likewise, hydropower depends on stable water supply; overuse can disturb ecosystems, while droughts, floods, and rainfall variability threaten electricity production. These dependencies translate into tangible risks. Physical risks include climate-driven events such as sea level rise, extreme rainfall, and prolonged droughts, all of which may disrupt power plant operations, transmission networks, and grid stability. Transition risks arise from funding constraints for renewable energy, regulatory changes, and delays in renewable project development. If financing gaps persist, projects such as battery energy storage systems (BESS), smart grids, and new renewable plants may be delayed or canceled. This would undermine Indonesia's renewable energy targets, increase reliance on coal and gas, and risk reputational damage due to perceived weak commitment to Net Zero Emissions (NZE) 2060. Financial pressures further intensify these risks. The rising Cost of Electricity Supply (BPP), driven by investment needs, higher fuel prices, and capacity payments to Independent Power Producers, could widen the gap between production costs and selling tariffs, which remain capped to ensure affordability. This creates heavier subsidy burdens for the state and reduces PLN's profit margins, potentially leading to losses if costs grow faster than compensation mechanisms. Delays in the Commercial Operation Date (COD) of renewable energy projects also create financial and environmental consequences, including increased fossil fuel substitution, higher emissions, and greater reputational risk. At the same time, opportunities emerge from proactive strategies. PLN is implementing cofiring programs with biomass, projected to reduce 3.56 million tCO₂e valued at approximately IDR 106 billion under a carbon price of IDR 30,000/tCO₂. In addition, PLN's 3R (reduce, reuse, recycle) program demonstrates efficiency opportunities: in 2024, water savings reached 4.66 million m³ across 42 plants, up from 7.96 million m³ across 39 plants in 2023, reducing both environmental dependencies and operating costs.

[Fixed row]

(2.3) Have you identified priority locations across your value chain?

(2.3.1) Identification of priority locations

Select from:

☒ Yes, we have identified priority locations

(2.3.2) Value chain stages where priority locations have been identified

Select all that apply

☒ Direct operations

(2.3.3) Types of priority locations identified

Locations with substantive dependencies, impacts, risks, and/or opportunities

☒ Locations with substantive dependencies, impacts, risks, and/or opportunities relating to water

(2.3.4) Description of process to identify priority locations

PLN leverages the World Resources Institute (WRI) Aqueduct tools to identify and map its power plants located in areas experiencing water stress. All 17 identified facilities fall under PLN's operational management, ensuring direct oversight and accountability. Each facility has developed tailored mitigation measures to address its specific water-related risks, while PLN maintains comprehensive supervision to ensure the effective implementation of these risk mitigation strategies.

(2.3.5) Will you be disclosing a list/spatial map of priority locations?

Select from:

☒ Yes, we will be disclosing the list/geospatial map of priority locations

(2.3.6) Provide a list and/or spatial map of priority locations

Priority Locations PLN.xlsx

[Fixed row]

(2.4) How does your organization define substantive effects on your organization?

Risks

(2.4.1) Type of definition

Select all that apply

- ☒ Qualitative
- ☒ Quantitative

(2.4.2) Indicator used to define substantive effect

Select from:

- ☒ Direct operating costs

(2.4.3) Change to indicator

Select from:

- ☒ % decrease

(2.4.4) % change to indicator

Select from:

- ☒ Less than 1%

(2.4.6) Metrics considered in definition

Select all that apply

- ☒ Likelihood of effect occurring

(2.4.7) Application of definition

PLN continues to minimize the impact of potential future hazards by two categories: qualitative risk, which is based on various PLN parameter categories, and quantitative risk, which is determined by financial impact. The impact level classification is determined by level risk impact and quantitative parameters of financial impact such as: 1. Very low: ≤Rp1.58 trillion 2. Low: Rp1.58 trillion – Rp3.16 trillion 3. Moderate: Rp3.16 trillion – Rp4.75 trillion 4. High: Rp4.75 trillion – 6.33 trillion 5. Very high: >Rp6.33 trillion The risk assessment evaluates several aspects of the power plant, including climate physical risk and allied hazards, power plant design and layout, utility hazards, process control, loss prevention, exposure to business interruptions, and aspects in management from operations to future inspection of

our assets considering climate change. Evaluating climate-related physical risk and associated hazards is undertaken by examining the potential impact of natural disasters (earthquakes, extreme weather, and floods) on PLN's assets with the level per category are not significant, minor, medium, significant, and very significant. PLN combines qualitative and quantitative approaches to determine its risk appetite, based on the probability and impact levels. The probability requirements associated with each risk are divided into 5 levels based on parameters: Level 5 (certain), with probability >80%-100% (almost certainly occur) Level 4 (likely), with probability >60%-80% (most likely to occur) Level 3 (even chance), with probability >40%-60% (it is equally likely to occur and not occur) Level 2 (unlikely), with probability >20%-40% (less likely to occur) Level 1 (impossible), with probability 0%-20% (almost certainly will not occur)

Opportunities

(2.4.1) Type of definition

Select all that apply

- ☒ Qualitative
- ☒ Quantitative

(2.4.2) Indicator used to define substantive effect

Select from:

- ☒ Capital allocation

(2.4.3) Change to indicator

Select from:

- ☒ Absolute increase

(2.4.5) Absolute increase/ decrease figure

712716914.57

(2.4.6) Metrics considered in definition

Select all that apply

- ☒ Time horizon over which the effect occurs

(2.4.7) Application of definition

This figure is based on the Accelerated Renewable Energy Development (ARED) scenario. The ARED scenario is prepared to maintain energy resilience and meet emissions targets. With ARED, PLN will pursue the portion of renewable energy generation by 75% and gas by 25%. Emissions in 2030 will reach 334 million tCO₂, where these targets are aligned with the national emissions reduction targets outlined in the Enhanced Nationally Determined Contribution (ENDC), which is 358 million tCO₂ (12.5% emissions reduction compared to BAU Scenario based on ENDC in energy sector). Despite incurring high CAPEX, the ARED scenario offers lower OPEX when compared to the Business as Usual (BAU) scenario. Although this scenario will be facing the mismatch between the large scale of renewable energy sources and the epicentrum of demand, PLN will overcome these challenges with the Green Super Grid strategy that can transfer 33 GW of baseload new and renewable energy to demand centers.

[Add row]

(2.5) Does your organization identify and classify potential water pollutants associated with its activities that could have a detrimental impact on water ecosystems or human health?

(2.5.1) Identification and classification of potential water pollutants

Select from:

☒ Yes, we identify and classify our potential water pollutants

(2.5.2) How potential water pollutants are identified and classified

1. How potential water pollutants are identified and classified. At PLN, potential water pollutants are identified through a structured process guided by the Ministry of Environment and Forestry Regulation (PermenLHK) No. 68/2016 and No. 68/2012 for domestic wastewater, with additional requirements under Government Regulation (PP) No. 22/2021 on general water quality standards. For geothermal plants, pollutant identification follows PermenLHK No. 8/2009. These regulations provide the basis for pollutant classification, limit values, and sector-specific requirements to ensure protection of aquatic ecosystems and human health. The identification process begins with mapping all wastewater-generating activities at each power plant (e.g., boiler blowdown, cooling tower blowdown, laboratory effluents, oil handling). Each pollutant parameter is then classified based on potential environmental impact and compliance requirements. Monitoring is performed using accredited laboratories and in-situ devices such as pH meters, flow meters, and automatic samplers, supplemented by grab sampling for laboratory analysis of BOD, COD, TSS, oils and grease, ammonia, heavy metals, and coliform bacteria. Results are compared against statutory limits, and any exceedances are reported in line with environmental permit obligations. 2. Metrics and indicators used include: - pH (6–9) - BOD ≤ 30 mg/L - COD ≤ 100 mg/L - TSS ≤ 30 mg/L - Fats, Oils, and Grease ≤ 5 mg/L - Ammonia (NH₃-N) ≤ 10 mg/L - Total/Fecal Coliform ≤ 3,000 count/100 mL - Additional geothermal-specific parameters (Cr, Cu, Fe, Zn, free chlorine). 3. Example of water metrics monitoring and tracking implementation at one of PLN's power plants: At Diesel Power Plants (PLTD), wastewater from oil handling is treated through an oil catcher WWTP. The primary monitored parameters are COD and oil & grease, tracked through oil content meters and laboratory analysis. For other power plants (coal, gas, geothermal), conventional WWTPs use sedimentation, coagulation, flocculation, and neutralization processes. Monitoring is carried out daily for pH and flow, and monthly to biannual for TSS, oil & grease, and heavy metals, in accordance with environmental permits. This approach ensures that PLN systematically identifies, classifies, and monitors water pollutants, aligning with national regulations and supporting our broader environmental management commitments.

(2.5.1) Describe how your organization minimizes the adverse impacts of potential water pollutants on water ecosystems or human health associated with your activities.

Row 1

(2.5.1.1) Water pollutant category

Select from:

- ☒ Other nutrients and oxygen demanding pollutants

(2.5.1.2) Description of water pollutant and potential impacts

Other nutrients and oxygen-demanding pollutant, such as BOD, COD, ammonia (NH₃-N), fats/oils/grease (FOG), total/fecal coliform, and suspended solids (TSS) are critical for PLN's operational, environmental responsibility, and community health. Elevated BOD and COD reflect high organic/inorganic loads in wastewater, reducing treatment efficiency and raising costs. Ammonia can corrode equipment, while FOG clogs pipelines and TSS causes sediment buildup, lowering cooling efficiency and risking infrastructure damage. Non-compliance exposes PLN to regulatory penalties and lower PROPER ratings. High BOD, COD, and ammonia deplete dissolved oxygen, harming aquatic life, triggering eutrophication, and causing algal blooms or fish kills. Ammonia is toxic to aquatic species, FOG blocks oxygen transfer, and TSS increases turbidity, limiting light for photosynthesis, disrupting food chains, and damaging spawning areas. Organic matter buildup can lead to anoxic conditions detrimental to ecosystems. For community health, high coliform levels signal potential waste contamination, increasing risks of waterborne diseases such as diarrhea and hepatitis A. Excess ammonia, FOG, and TSS degrade water quality, reducing its safety for domestic and industrial use.

(2.5.1.3) Value chain stage

Select all that apply

- ☒ Direct operations

(2.5.1.4) Actions and procedures to minimize adverse impacts

Select all that apply

- ☒ Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements

(2.5.1.5) Please explain

PLN has established procedures to minimize the adverse impacts of potential water pollutants: 1. Wastewater from operations is treated through IPAL units using sedimentation, coagulation, flocculation, neutralization, oxidation, and oil catchers (PLTD). 2. Board Regulation No. 0110.P/DIR/2023 provides the strategic framework for pollution prevention, reuse, and recycling, while unit-level SOPs cover identification, treatment, and monitoring of wastewater. 3. For abnormal conditions, Standard Operation SPLN U2.004-3:2025 guides emergency response, requiring investigation and reporting to KLHK if effluent exceeds standards. Effectiveness is evaluated through KPIs, including compliance of effluent quality with PP 22/2021 and sectoral decrees, adherence to sampling frequency and calibration protocols, monthly ESG dashboard reviews (CWR 3.0), corrective actions and reporting of exceedances, and external assurance through PROPER ratings and ISO 14001 certification. For example, in PLN's geothermal plants, wastewater is monitored for parameters such as pH, TSS, oils, chromium, copper, iron, and zinc using accredited laboratories and calibrated meters. Effluent concentrations are consistently maintained below regulatory standards, demonstrating that procedures effectively minimize risks to water bodies and human health.

[Add row]

C3. Disclosure of risks and opportunities

(3.1) Have you identified any environmental risks which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future?

Climate change

(3.1.1) Environmental risks identified

Select from:

☒ Yes, both in direct operations and upstream/downstream value chain

Water

(3.1.1) Environmental risks identified

Select from:

☒ Yes, both in direct operations and upstream/downstream value chain

Plastics

(3.1.1) Environmental risks identified

Select from:

☒ No

(3.1.2) Primary reason why your organization does not consider itself to have environmental risks in your direct operations and/or upstream/downstream value chain

Select from:

☒ Not an immediate strategic priority

(3.1.3) Please explain

Risks related to plastics are considered insignificant for the company considering its limited application with indirect operations and domestic usage.
[Fixed row]

(3.1.1) Provide details of the environmental risks identified which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future.

Climate change

(3.1.1.1) Risk identifier

Select from:

☒ Risk1

(3.1.1.3) Risk types and primary environmental risk driver

Technology

☒ Unsuccessful investment in new technologies

(3.1.1.4) Value chain stage where the risk occurs

Select from:

☒ Upstream value chain

(3.1.1.6) Country/area where the risk occurs

Select all that apply

☒ Indonesia

(3.1.1.9) Organization-specific description of risk

Funding constraints for energy transition projects pose significant risks to achieving the national clean energy targets. Such limitations may result in delays or even the cancellation of strategic initiatives, including the development of renewable power plants, Battery Energy Storage Systems (BESS), and smart grid infrastructure, ultimately leading to the failure to meet the planned renewable energy mix. This situation may compel PLN to continue relying on coal- and gas-fired power plants, thereby hindering Indonesia's commitment to reducing carbon emissions as outlined in its Nationally Determined Contribution (NDC). Furthermore, limited funding could force the company to depend on high-interest loans from international financial institutions or divert internal funds intended for operational needs, increasing the financial burden and liquidity risk. Should renewable energy power plants fail to commence operations as scheduled, the achievement of the Net Zero Emission (NZE) target by 2060 and the 29 percent emission reduction by 2030 could be jeopardized. In addition, delays in renewable energy projects may erode the confidence of both domestic and international investors and lenders in PLN's and the government's commitment and focus on implementing the energy transition mandate.

(3.1.1.11) Primary financial effect of the risk

Select from:

- ☒ Decreased access to capital

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

- ☒ Short-term
- ☒ Medium-term
- ☒ Long-term
- ☒ The risk has already had a substantive effect on our organization in the reporting year

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

- ☒ Very likely

(3.1.1.14) Magnitude

Select from:

- ☒ High

(3.1.1.15) Effect of the risk on the financial position, financial performance and cash flows of the organization in the reporting year

According to the 2025-2034 RUPTL, PLN's capital expenditure requirements will reach 1,401 trillion for the next 10 years, or an average investment of 140.07 trillion per year. Internal funding sources are only available at 60.2 trillion per year, and existing loans are still limited to 4.4 trillion per year.

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

There is an average funding gap of 75.49 trillion per year for the next 10 years.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

☒ Yes

(3.1.1.18) Financial effect figure in the reporting year (currency)

75490000000000

(3.1.1.19) Anticipated financial effect figure in the short-term – minimum (currency)

178000000000000

(3.1.1.20) Anticipated financial effect figure in the short-term – maximum (currency)

221700000000000

(3.1.1.21) Anticipated financial effect figure in the medium-term – minimum (currency)

249000000000000

(3.1.1.22) Anticipated financial effect figure in the medium-term – maximum (currency)

336200000000000

(3.1.1.23) Anticipated financial effect figure in the long-term – minimum (currency)

110000000000000

(3.1.1.24) Anticipated financial effect figure in the long-term – maximum (currency)

197000000000000

(3.1.1.25) Explanation of financial effect figure

PLN maintains annual funding gap estimates and simulates year-by-year impacts for each risk, enabling alignment with the respective time horizons.

(3.1.1.26) Primary response to risk

Infrastructure, technology and spending

☒ Other infrastructure, technology and spending, please specify :investment for transmission lines and substations

(3.1.1.27) Cost of response to risk

384000000000000

(3.1.1.28) Explanation of cost calculation

The required investment for transmission lines and substations to ensure the integration of renewable energy projects with electricity demand.

(3.1.1.29) Description of response

Encouragement of policies that increase investment certainty, including adjustments to fiscal incentives and price certainty for EBT plants, aim to strengthen system interconnection, improve the quality of project proposals, and utilize innovative financing schemes such as PPP, joint ventures, and blended finance mechanisms to expand access to sustainable funding.

Water

(3.1.1.1) Risk identifier

Select from:

☒ Risk2

(3.1.1.3) Risk types and primary environmental risk driver

Chronic physical

☒ Water stress

(3.1.1.4) Value chain stage where the risk occurs

Select from:

☒ Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

☒ Indonesia

(3.1.1.7) River basin where the risk occurs

Select all that apply

☒ Other, please specify :Three provinces including West Nusa Tenggara, Bandung, and Bali

(3.1.1.9) Organization-specific description of risk

Water stress in 16 identified areas affects several power plants including diesel, gas, geothermal, and hydropower. Water availability will have a significant impact on power production capacity due to the water usage in the cooling mechanism.

(3.1.1.11) Primary financial effect of the risk

Select from:

☒ Disruption in production capacity

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

☒ The risk has already had a substantive effect on our organization in the reporting year

(3.1.1.14) Magnitude

Select from:

☒ Medium-high

(3.1.1.15) Effect of the risk on the financial position, financial performance and cash flows of the organization in the reporting year

A disruption in electricity production capacity can eventually affect the company's revenue.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

☒ Yes

(3.1.1.18) Financial effect figure in the reporting year (currency)

4133044447343

(3.1.1.25) Explanation of financial effect figure

Loss of opportunity from disruption in electricity production capacity

(3.1.1.26) Primary response to risk

Nature based solutions, restoration and conservation

☒ Support catchment and river restoration

(3.1.1.29) Description of response

The weather modification technology is implemented through cloud seeding with drones or airplanes and ground-based generators (GBG). The greenbelt conservation is implemented by planting trees surrounding the catchment area.

Water

(3.1.1.1) Risk identifier

Select from:

☒ Risk3

(3.1.1.3) Risk types and primary environmental risk driver

Chronic physical

☒ Water stress

(3.1.1.4) Value chain stage where the risk occurs

Select from:

☒ Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

☒ Indonesia

(3.1.1.7) River basin where the risk occurs

Select all that apply

☒ Other, please specify :Serayu

(3.1.1.9) Organization-specific description of risk

Water stress due to sedimentation in Mrica hydropower affects the production capacity in the facility.

(3.1.1.11) Primary financial effect of the risk

Select from:

☒ Disruption in production capacity

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

☒ The risk has already had a substantive effect on our organization in the reporting year

(3.1.1.14) Magnitude

Select from:

☒ High

(3.1.1.15) Effect of the risk on the financial position, financial performance and cash flows of the organization in the reporting year

A disruption in electricity production capacity can affect the company's revenue.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

☒ Yes

(3.1.1.18) Financial effect figure in the reporting year (currency)

264119994815

(3.1.1.25) Explanation of financial effect figure

Loss of opportunity from disruption in electricity production capacity

(3.1.1.26) Primary response to risk

Nature based solutions, restoration and conservation

☒ Support catchment and river restoration

(3.1.1.29) Description of response

PLN carries out a dredging mechanism and flushing process in mitigating sedimentation in the Mrica reservoir. The dredging is conducted by excavating the sediment, while the flushing is carried out by ejecting the sedimentation through a drawdown culvert (DDC). This flushing process is monitored weekly in the rainy season, and periodically for the rest of the year. There are two parameters to indicate that the flushing has to be carried out: (1) when the sedimentation is above 1.86 m and (2) when the reservoir elevation is above 231.05 meters above sea level (MDPL). There are no operational costs to carry out the flushing.

Water

(3.1.1.1) Risk identifier

Select from:

☒ Risk4

(3.1.1.3) Risk types and primary environmental risk driver

Chronic physical

☒ Declining water quality

(3.1.1.4) Value chain stage where the risk occurs

Select from:

☒ Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

☒ Indonesia

(3.1.1.7) River basin where the risk occurs

Select all that apply

☒ Other, please specify :Citarum

(3.1.1.9) Organization-specific description of risk

Poor water quality supplying Saguling hydropower can decrease the efficiency or the working condition of the machines (turbines), which will result in increased maintenance costs.

(3.1.1.11) Primary financial effect of the risk

Select from:

☒ Increased indirect [operating] costs

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

☒ Long-term

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

☒ Virtually certain

(3.1.1.14) Magnitude

Select from:

☒ High

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Poor water quality will result in increased maintenance costs.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

☒ No

(3.1.1.26) Primary response to risk

Nature based solutions, restoration and conservation

☒ Implement ecosystem restoration and long-term protection

(3.1.1.29) Description of response

All of the mitigation is aimed to ensure the good quality of water used for hydropower.

Water

(3.1.1.1) Risk identifier

Select from:

☒ Risk5

(3.1.1.3) Risk types and primary environmental risk driver

Policy

☒ Uncertainty and/or conflicts involving land tenure rights and water rights

(3.1.1.4) Value chain stage where the risk occurs

Select from:

☒ Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

☒ Indonesia

(3.1.1.7) River basin where the risk occurs

Select all that apply

☒ Other, please specify :Citarum

(3.1.1.9) Organization-specific description of risk

Discourse related to the water withdrawal from the Saguling reservoir by a drinking water company can reduce water availability for Saguling hydropower, disrupting electricity production capacity.

(3.1.1.11) Primary financial effect of the risk

Select from:

☒ Disruption in production capacity

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

☒ Long-term

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

☒ Very likely

(3.1.1.14) Magnitude

Select from:

☒ Medium-high

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

A disruption in electricity production capacity can affect the company's revenue.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

☒ No

(3.1.1.26) Primary response to risk

Infrastructure, technology and spending

☒ Other infrastructure, technology and spending, please specify

(3.1.1.29) Description of response

This risk is mitigated by conducting communications mediated by the Directorate General of Natural Resources, in addition to correspondence regarding the water withdrawal plan from the drinking water company.

Climate change

(3.1.1.1) Risk identifier

Select from:

☒ Risk6

(3.1.1.3) Risk types and primary environmental risk driver

Market

☒ Other market risk, please specify :Increase in electricity supply costs

(3.1.1.4) Value chain stage where the risk occurs

Select from:

☒ Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

☒ Indonesia

(3.1.1.9) Organization-specific description of risk

The increase in the Cost of Electricity Supply (BPP) under the ARED energy transition scenario poses significant pressures on both the state budget and PLN's financial performance. From a fiscal perspective, higher BPP driven by substantial investment requirements, rising fuel costs, and the purchase of electricity from renewable energy power plants will increase the burden of electricity subsidies and government compensation. Given that electricity tariffs in Indonesia are not fully cost-reflective, the gap between BPP and the selling tariff may widen, resulting in higher subsidy allocations per kWh and compelling the government to dedicate a larger share of the state budget, thereby potentially constraining fiscal space for other national priorities. From a corporate standpoint, rising BPP without proportional revenue adjustments will erode PLN's profit margins. Increased costs from purchasing electricity at higher prices from renewable energy power plants, capacity payments for new Independent Power Producers (IPP), and escalating fuel expenses may raise the proportion of Non-Allowable Costs (NAC), while selling tariffs remain capped to maintain economic stability. This condition could lead to a significant decline in PLN's profitability and, in extreme cases, may result in losses if the pace of cost escalation outstrips the compensation mechanisms in place.

(3.1.1.11) Primary financial effect of the risk

Select from:

- ☒ Increased production costs

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

- ☒ Short-term
- ☒ Medium-term
- ☒ Long-term
- ☒ The risk has already had a substantive effect on our organization in the reporting year

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

- ☒ Very likely

(3.1.1.14) Magnitude

Select from:

- ☒ Medium-low

(3.1.1.15) Effect of the risk on the financial position, financial performance and cash flows of the organization in the reporting year

The Energy Transition under the ARED scenario is projected to increase the Cost of Electricity Supply (BPP) by IDR 2.96 trillion to IDR 5.31 trillion annually compared to the Business-as-Usual (BAU) scenario.

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

The likelihood assessment of the risk of increasing electricity supply costs under the ARED energy transition scenario is based on projected financial performance over the 2025–2040 period. The projections indicate a consistent cost increase throughout this timeframe, resulting in a likelihood rating of “Almost Certain” for the ARED scenario. The impact level was calculated by comparing the average annual BPP increase between the ARED and BAU scenarios, multiplied by the estimated kWh sales (data sourced from the Corporate Strategic Planning Division). The analysis shows that the ARED energy transition scenario would lead to an additional BPP of approximately IDR 2.96 trillion to IDR 5.31 trillion per year compared to the BAU scenario.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

☒ Yes

(3.1.1.18) Financial effect figure in the reporting year (currency)

5310000000000

(3.1.1.19) Anticipated financial effect figure in the short-term – minimum (currency)

5970000000000

(3.1.1.20) Anticipated financial effect figure in the short-term – maximum (currency)

6080000000000

(3.1.1.21) Anticipated financial effect figure in the medium-term – minimum (currency)

13880000000000

(3.1.1.22) Anticipated financial effect figure in the medium-term – maximum (currency)

13950000000000

(3.1.1.23) Anticipated financial effect figure in the long-term – minimum (currency)

16160000000000

(3.1.1.24) Anticipated financial effect figure in the long-term – maximum (currency)

17200000000000

(3.1.1.25) Explanation of financial effect figure

PLN maintains annual funding gap estimates and simulates year-by-year impacts for each risk, enabling alignment with the respective time horizons.

(3.1.1.26) Primary response to risk

Infrastructure, technology and spending

☒ Other infrastructure, technology and spending, please specify :Developing smart control system

(3.1.1.27) Cost of response to risk

8000000000000

(3.1.1.28) Explanation of cost calculation

The costs required for developing a smart control system to enhance grid reliability, flexibility, and integration of renewable energy sources.

(3.1.1.29) Description of response

1. Improving operational efficiency by generating electricity from renewable energy with the lowest LCOE. 2. Selecting existing technologies for renewable energy projects with energy-efficient specifications.

Climate change

(3.1.1.1) Risk identifier

Select from:

☒ Risk7

(3.1.1.3) Risk types and primary environmental risk driver

Policy

☒ Increased difficulty in obtaining operations permits

(3.1.1.4) Value chain stage where the risk occurs

Select from:

☒ Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

☒ Indonesia

(3.1.1.9) Organization-specific description of risk

The delay in the Commercial Operation Date (COD) of renewable energy power plants poses a risk of hindering the achievement of carbon reduction targets. Such delays may result in the substitution of power generation with gas and fuel oil, valued at approximately IDR 6.54 trillion. This condition is assessed to have a moderate level of impact on the Company's financial aspect. Moreover, the increased carbon emission intensity caused by these delays could create a perception that PLN is less committed to achieving its Net Zero Emission (NZE) 2060 target. This, in turn, may negatively affect the Company's reputation among stakeholders, thereby also carrying a moderate level of reputational impact.

(3.1.1.11) Primary financial effect of the risk

Select from:

☒ Increased direct costs

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

☒ Short-term

- ☒ Medium-term
- ☒ Long-term
- ☒ The risk has already had a substantive effect on our organization in the reporting year

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

- ☒ Likely

(3.1.1.14) Magnitude

Select from:

- ☒ Medium

(3.1.1.15) Effect of the risk on the financial position, financial performance and cash flows of the organization in the reporting year

Delays in the COD of renewable energy power plants result in the substitution of power generation fuels with gas and fuel oil valued at approximately IDR 6.54 trillion

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Based on the realization of renewable energy power plant development progress against the 2025 COD target, the probability of COD delays is estimated at 79.2%

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

- ☒ Yes

(3.1.1.18) Financial effect figure in the reporting year (currency)

6540000000000000

(3.1.1.19) Anticipated financial effect figure in the short-term – minimum (currency)

4200000000000

(3.1.1.20) Anticipated financial effect figure in the short-term – maximum (currency)

8500000000000

(3.1.1.21) Anticipated financial effect figure in the medium-term – minimum (currency)

28150000000000

(3.1.1.22) Anticipated financial effect figure in the medium-term – maximum (currency)

56300000000000

(3.1.1.24) Anticipated financial effect figure in the long-term – maximum (currency)

175200000000000

(3.1.1.25) Explanation of financial effect figure

PLN maintains annual funding gap estimates and simulates year-by-year impacts for each risk, enabling alignment with the respective time horizons.

(3.1.1.26) Primary response to risk

Compliance, monitoring and targets

☒ Other compliance, monitoring or target, please specify :establishing a dedicated task force

(3.1.1.27) Cost of response to risk

527500000

(3.1.1.28) Explanation of cost calculation

The estimated cost for establishing a dedicated task force to accelerate the substitution of projects

(3.1.1.29) Description of response

The estimated costs are primarily allocated to two key initiatives. First, the establishment of a breakthrough strategy to accelerate the development of renewable energy power plants, particularly addressing project bottlenecks that have hindered timely completion. Second, securing and expediting funding availability for renewable energy projects requiring additional loan agreements. This involves costs related to roadshows and due diligence/appraisal missions, which are conducted in alignment with market conditions and PLN's financing needs.

Water

(3.1.1.1) Risk identifier

Select from:

☒ Risk8

(3.1.1.3) Risk types and primary environmental risk driver

Chronic physical

☒ Declining water quality

(3.1.1.4) Value chain stage where the risk occurs

Select from:

☒ Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

☒ Indonesia

(3.1.1.7) River basin where the risk occurs

Select all that apply

☒ Other, please specify :Cirata

(3.1.1.9) Organization-specific description of risk

The maintenance of trash booms plays a critical role in safeguarding water quality and preventing sedimentation at power plant water sources. Failure to conduct regular maintenance could result in the accumulation of floating debris and organic waste, leading to deteriorating water quality. Over time, this condition may accelerate sedimentation and cause shallowing of reservoirs or water intake areas, ultimately reducing the efficiency of hydropower generation and increasing operational and maintenance costs. In the longer term, inadequate maintenance could compromise plant reliability, increase the need for costly dredging activities, and potentially affect compliance with environmental regulations.

(3.1.1.11) Primary financial effect of the risk

Select from:

☒ Increased capital expenditures

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

☒ The risk has already had a substantive effect on our organization in the reporting year

(3.1.1.14) Magnitude

Select from:

☒ Low

(3.1.1.15) Effect of the risk on the financial position, financial performance and cash flows of the organization in the reporting year

Overall, risks associated with inadequate trash boom maintenance could lead to a decline in both water quality and water discharge levels, directly affecting the capacity factor of PLN's hydropower plants across its operating units. This reduction in performance would have a significant financial impact, with potential revenue losses estimated at 30–70% depending on the severity of the issue. Beyond immediate financial implications, prolonged deterioration could undermine long-term operational reliability, increase dredging and maintenance costs

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

☒ Yes

(3.1.1.18) Financial effect figure in the reporting year (currency)

22605851006

(3.1.1.25) Explanation of financial effect figure

The difference in electricity production costs from the Cirata Hydropower Plant compared to the average Cost of Electricity Supply (BPP) occurs when the plant is unable to operate due to waste entering the suction pipe. The estimated calculation is: (Average BPP of the Entire PLN System – Average BPP of the Hydropower Plant) x Average Production of the Cirata Hydropower Plant for one week.

(3.1.1.26) Primary response to risk

Infrastructure, technology and spending

☒ Other infrastructure, technology and spending, please specify :Implementation of Trash boom

(3.1.1.27) Cost of response to risk

2000000000

(3.1.1.28) Explanation of cost calculation

The cost of trash boom maintenance is estimated at IDR 100 million annually. We assume that for 20 reservoir area which supplies to PLN's hydropower generation. So the maintenance cost is around Rp2 billion.

(3.1.1.29) Description of response

A trashboom is an essential device installed in reservoirs or rivers to block solid waste such as plastics, wood, and organic materials from entering the power plant's water intake system. Its presence ensures that water flow into the suction pipe remains smooth and turbines operate efficiently. If the trashboom does not function properly and waste enters the suction pipe, the risks can be significant. Water flow may be obstructed, reducing supply capacity to the turbines, while mechanical components face potential damage from blockages or collisions. In some cases, the plant may even lose electricity production if turbines need to be shut down for cleaning. This condition not only decreases technical performance but also increases operational costs and creates a potential cost gap in electricity production compared to the system's average BPP. Trashboom maintenance, for example at Cirata Power Plant requires staged cost allocation. In 2024, Rp100 million is allocated for routine upkeep. For 2025–2026, costs rise to Rp200 million with intensified maintenance. In 2027–2030, technical priorities include potential replacement every five years, around Rp1 billion per unit or Rp4 billion including maintenance. By 2060, total replacement needs are projected at Rp8 billion.

Climate change

(3.1.1.1) Risk identifier

Select from:

☒ Risk9

(3.1.1.3) Risk types and primary environmental risk driver

Acute physical

☒ Heavy precipitation (rain, hail, snow/ice)

(3.1.1.4) Value chain stage where the risk occurs

Select from:

☒ Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

☒ Indonesia

(3.1.1.9) Organization-specific description of risk

Impact on non-renewable assets: reduced burning efficiency of power plants, reduced power output of power plants, impeded power plants' water update, flooding\Impact on NRE assets, damage to ground-mounted solar infrastructure due to flooding, increased frequency for local grid maintenance

(3.1.1.11) Primary financial effect of the risk

Select from:

☒ Disruption in production capacity

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

☒ The risk has already had a substantive effect on our organization in the reporting year

(3.1.1.14) Magnitude

Select from:

☒ Low

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

☒ Yes

(3.1.1.18) Financial effect figure in the reporting year (currency)

353202432000

(3.1.1.26) Primary response to risk

Infrastructure, technology and spending

☒ Improve maintenance of infrastructure

(3.1.1.27) Cost of response to risk

344000000000

(3.1.1.28) Explanation of cost calculation

The figure represents impact cost from reduced in burning efficiency of power plants, power output of power plants, impeded power plants' water update, also damages caused by flooding

(3.1.1.29) Description of response

PLN has implemented various strategies to mitigate the risks associated with heavy precipitation on its power generation, transmission, and distribution systems. These strategies include infrastructure upgrades, such as reinforcing structures and implementing flood protection measures; operational improvements, such as developing emergency response plans and conducting regular inspections; diversification, such as geographically diversifying power generation capacity and diversifying fuel sources; and technology adoption, such as investing in smart grid technology and promoting renewable energy integration.

Water

(3.1.1.1) Risk identifier

Select from:

☒ Risk6

(3.1.1.3) Risk types and primary environmental risk driver

Reputation

☒ Increased partner and stakeholder concern or negative partner and stakeholder feedback

(3.1.1.4) Value chain stage where the risk occurs

Select from:

☒ Downstream value chain

(3.1.1.6) Country/area where the risk occurs

Select all that apply

☒ Indonesia

(3.1.1.7) River basin where the risk occurs

Select all that apply

☒ Other, please specify :Cirata

(3.1.1.9) Organization-specific description of risk

The water supply at the Cirata Hydropower Plant relies on a cascading dam system consisting of the Saguling, Cirata, and Jatiluhur dams. Maintaining water quality at Cirata has a direct impact on the supply chain in Jatiluhur, including irrigation needs and the water supply managed by the Ministry of Public Works' utility company (PDAM) for community consumption.

(3.1.1.11) Primary financial effect of the risk

Select from:

☒ Loss of license to operate

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

☒ Short-term

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

☒ Very unlikely

(3.1.1.14) Magnitude

Select from:

☒ Low

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

☒ No

(3.1.1.26) Primary response to risk

Infrastructure, technology and spending

☒ Other infrastructure, technology and spending, please specify :Trashboom installation

(3.1.1.29) Description of response

A trashboom is an essential device installed in reservoirs or rivers to block solid waste such as plastics, wood, and organic materials from entering the power plant's water intake system. PLN not only installed trash booms but also undertook various efforts to maintain water quality in the Cirata Dam, which cascades downstream to Jatiluhur, ensuring that the water used by communities for irrigation and by PLN's value chain remains well preserved.

Climate change

(3.1.1.1) Risk identifier

Select from:

☒ Risk10

(3.1.1.3) Risk types and primary environmental risk driver

Liability

☒ Other liability risk, please specify :Carbon Tax Risk (Non Allowable Cost)

(3.1.1.4) Value chain stage where the risk occurs

Select from:

☒ Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

☒ Indonesia

(3.1.1.9) Organization-specific description of risk

Based on carbon emissions in 2023 and 2024, the average annual carbon deficit is estimated at 6.7 million tons of CO2. This has the potential to increase non-allowable costs due to carbon tax payments of Rp. 240 billion per year.

(3.1.1.11) Primary financial effect of the risk

Select from:

☒ Increased indirect [operating] costs

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

☒ The risk has already had a substantive effect on our organization in the reporting year

(3.1.1.14) Magnitude

Select from:

☒ Low

(3.1.1.15) Effect of the risk on the financial position, financial performance and cash flows of the organization in the reporting year

Based on carbon emissions in 2023 and 2024, the average annual carbon deficit is estimated at 6.7 million tons of CO2. This has the potential to increase non-allowable costs due to carbon tax payments of Rp. 240 billion per year.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

☒ No

(3.1.1.26) Primary response to risk

Engagement

☒ Other engagement, please specify :Collaboration with legal consultants and tax experts to ensure regulatory compliance

(3.1.1.29) Description of response

Collaboration with legal consultants and tax experts to ensure regulatory compliance while minimizing fiscal burden. In addition, execution of a financial simulation to measure the impact of subsidy reduction and carbon mechanism implementation on the cost structure, which would be used as the basis for precise and measurable budget adjustments.

Climate change

(3.1.1.1) Risk identifier

Select from:

☒ Risk11

(3.1.1.3) Risk types and primary environmental risk driver

Reputation

☒ Other reputation risk, please specify :Community Opposition to New Infrastructure

(3.1.1.4) Value chain stage where the risk occurs

Select from:

☒ Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

☒ Indonesia

(3.1.1.9) Organization-specific description of risk

Community opposition to infrastructure development may generate significant impacts, both quantitative and qualitative. From a financial perspective, land compensation costs can escalate considerably, as developers are often required to provide substantial compensation when communities refuse to release land, particularly when the land is productive, holds high economic value, or carries emotional and cultural importance. From a social standpoint, community resistance frequently triggers conflicts involving local communities, non-governmental organizations, and regional authorities. Such conflicts may strain relations between communities and developers, while also creating political obstacles, including delayed or revoked permits. Furthermore, opposition can cause substantial delays in project execution, driven by protracted negotiations, site relocation, or design revisions, all of which contribute to additional costs. These delays may also hinder the government's ability to achieve its renewable energy mix targets on schedule, resulting in non-compliance with NDC commitments. In addition, the inability to effectively manage community resistance or the failure to respond to social issues in a fair and inclusive manner may damage the reputation of both PLN and the government, eroding public trust in future renewable energy projects and further complicating the realization of the energy transition agenda.

(3.1.1.11) Primary financial effect of the risk

Select from:

☒ Increased indirect [operating] costs

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

☒ The risk has already had a substantive effect on our organization in the reporting year

(3.1.1.14) Magnitude

Select from:

☒ High

(3.1.1.15) Effect of the risk on the financial position, financial performance and cash flows of the organization in the reporting year

The determination of land compensation costs for power plant infrastructure development per 1 MW is influenced by several factors, including project location, land function to be acquired, ownership status, and prevailing market value of the land. For the purpose of analysis, the land acquisition cost from the Batang coal-fired power plant project in Central Java, which is relatively high at approximately IDR 5,000,000 per square meter, is used as a reference for potential risks that PLN needs to anticipate. Based on the projected capacity expansion, the estimated land requirements are approximately 16,600 hectares for solar power plants (PLTS), 5,400 hectares for wind power plants (PLTB), 460 hectares for battery energy storage systems (BESS), and 250 hectares for nuclear power plants (PLTN). In total, the estimated land requirement for renewable energy development across PLTS, PLTB, BESS, and PLTN amounts to 22,710 hectares. Assuming land compensation costs range from IDR 50,000 to IDR 200,000 per square meter for PLTS, PLTN, and BESS, and from IDR 100,000 to IDR 500,000 per square meter for PLTB, the total costs are projected to reach approximately IDR 14 trillion to IDR 61 trillion.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

☒ No

(3.1.1.26) Primary response to risk

Engagement

☒ Engage with local communities

(3.1.1.29) Description of response

Mitigating social and environmental risks in renewable energy projects is essential to ensure smooth implementation and strong community support. One major challenge is the large land requirement for utility-scale projects. PLN must engage affected communities from the earliest planning stages (site selection and compensation design), while ensuring accessible grievance channels and transparent compensation in line with legal requirements. Stakeholder mapping is also critical to design engagement strategies that support project completion while meeting environmental obligations. Cultural risks must be carefully managed, as projects may affect sacred sites and local traditions. Prior studies on cultural values and governance systems are needed, supported by cultural mediators to facilitate dialogue. PLN should commit to respecting and preserving cultural heritage, including relocating infrastructure if necessary, and ensure all consultations follow the principle of Free, Prior, and Informed Consent (FPIC). Another challenge is the lack of public education and information, which can lead to resistance. Broad education programs should explain project benefits and environmental impacts, while meaningful consultations through regular meetings in local languages strengthen trust. Establishing a clear grievance mechanism ensures community feedback is addressed systematically. Projects may also disrupt local natural resources. Comprehensive environmental impact assessments and management plans must include strategies such as habitat restoration, water management, and conservation. PLN can also provide alternative economic opportunities, such as training or benefit-sharing programs. Finally, the absence of dedicated social functions poses risks. Establishing a land acquisition unit and comprehensive social safeguard governance is necessary to ensure compliance, strengthen policies, and integrate social management into all project stages.

Climate change

(3.1.1.1) Risk identifier

Select from:

☒ Risk2

(3.1.1.3) Risk types and primary environmental risk driver

Chronic physical

☒ Water stress

(3.1.1.4) Value chain stage where the risk occurs

Select from:

☒ Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

☒ Indonesia

(3.1.1.9) Organization-specific description of risk

Water stress in 16 identified areas affects several power plants including diesel, gas, geothermal, and hydropower. Water availability will have a significant impact on power production capacity due to the water usage in the cooling mechanism.

(3.1.1.11) Primary financial effect of the risk

Select from:

☒ Disruption in production capacity

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

☒ The risk has already had a substantive effect on our organization in the reporting year

(3.1.1.14) Magnitude

Select from:

☒ Medium-high

(3.1.1.15) Effect of the risk on the financial position, financial performance and cash flows of the organization in the reporting year

A disruption in electricity production capacity can eventually affect the company's revenue.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

☒ Yes

(3.1.1.18) Financial effect figure in the reporting year (currency)

882400000000

(3.1.1.25) Explanation of financial effect figure

(3.1.1.26) Primary response to risk

Nature based solutions, restoration and conservation

☒ Support catchment and river restoration

(3.1.1.29) Description of response

The weather modification technology is implemented through cloud seeding with drones or airplanes and ground-based generators (GBG). The greenbelt conservation is implemented by planting trees surrounding the catchment area.

[Add row]

(3.1.2) Provide the amount and proportion of your financial metrics from the reporting year that are vulnerable to the substantive effects of environmental risks.

Climate change

(3.1.2.1) Financial metric

Select from:

☒ CAPEX

(3.1.2.2) Amount of financial metric vulnerable to transition risks for this environmental issue (unit currency as selected in 1.2)

2410000000000

(3.1.2.3) % of total financial metric vulnerable to transition risks for this environmental issue

Select from:

☒ 1-10%

(3.1.2.4) Amount of financial metric vulnerable to physical risks for this environmental issue (unit currency as selected in 1.2)

0

(3.1.2.5) % of total financial metric vulnerable to physical risks for this environmental issue

Select from:

☒ Less than 1%

(3.1.2.6) Amount of CAPEX in the reporting year deployed towards risks related to this environmental issue

99523162334420

(3.1.2.7) Explanation of financial figures

The financial metrics vulnerable to transition risks are mitigation cost, include the average interconnection cost in 2024 of IDR 1,610,000,000,000 and the average smart grid cost in 2024 of IDR 800,000,000,000. These costs serve as mitigation measures against transition risks, specifically funding constraints for energy transition projects and a potential increase in the Cost of Electricity Supply (BPP) under the ARED energy transition scenario.

Water

(3.1.2.1) Financial metric

Select from:

☒ OPEX

(3.1.2.2) Amount of financial metric vulnerable to transition risks for this environmental issue (unit currency as selected in 1.2)

0

(3.1.2.3) % of total financial metric vulnerable to transition risks for this environmental issue

Select from:

☒ Less than 1%

(3.1.2.4) Amount of financial metric vulnerable to physical risks for this environmental issue (unit currency as selected in 1.2)

20000000000

(3.1.2.5) % of total financial metric vulnerable to physical risks for this environmental issue

Select from:

☒ Less than 1%

(3.1.2.7) Explanation of financial figures

Overall, risks associated with trashboom maintenance may result in declining water quality and reduced water flow, ultimately lowering the capacity factor of PLN's hydropower plants across all units. The cost of trash boom maintenance is estimated at IDR 100 million annually. We assume that for 20 reservoir area which supplies to PLN's hydropower generation. So the maintenance cost is around Rp2 billion. Total financial metric vulnerable are divided by total operating expenses in 2024 amounting to Rp484.75 trillion.

[Add row]

(3.2) Within each river basin, how many facilities are exposed to substantive effects of water-related risks, and what percentage of your total number of facilities does this represent?

Row 1

(3.2.1) Country/Area & River basin

Indonesia

☒ Other, please specify :Loang Baloq River Basin

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

☒ Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

☒ Less than 1%

(3.2.8) % organization's annual electricity generation that could be affected by these facilities

Select from:

☒ Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

☒ Less than 1%

(3.2.11) Please explain

Several PLN power plants depend on river basins that have been identified as located within water-stressed areas, based on WRI Aqueduct. These river basins serve as the primary source of water supply for power generation activities. Exposure to water-related risks such as water stress, drought, or sedimentation that reduces water availability may disrupt the operational performance of the plants. This could lead to interruptions in electricity supply or necessitate the substitution of water from alternative sources, such as groundwater or municipal water utilities. Nevertheless, the potential disruptions in water supply from these risks are not expected to result in an annual electricity generation loss of more than 1%, and only affect global annual revenue by less than 1%.

Row 2

(3.2.1) Country/Area & River basin

Indonesia

☒ Other, please specify :Nuraksa River Basin

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

☒ Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

☒ Less than 1%

(3.2.8) % organization's annual electricity generation that could be affected by these facilities

Select from:

☒ Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

☒ Less than 1%

(3.2.11) Please explain

Several PLN power plants depend on river basins that have been identified as located within water-stressed areas, based on WRI Aqueduct. These river basins serve as the primary source of water supply for power generation activities. Exposure to water-related risks such as water stress, drought, or sedimentation that reduces water availability may disrupt the operational performance of the plants. This could lead to interruptions in electricity supply or necessitate the substitution of water from alternative sources, such as groundwater or municipal water utilities. Nevertheless, the potential disruptions in water supply from these risks are not expected to result in an annual electricity generation loss of more than 1%, and only affect global annual revenue by less than 1%.

Row 3

(3.2.1) Country/Area & River basin

Indonesia

☒ Other, please specify :Bilasundung River Basin

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

☒ Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

☒ Less than 1%

(3.2.8) % organization's annual electricity generation that could be affected by these facilities

Select from:

☒ Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

☒ Less than 1%

(3.2.11) Please explain

Several PLN power plants depend on river basins that have been identified as located within water-stressed areas, based on WRI Aqueduct. These river basins serve as the primary source of water supply for power generation activities. Exposure to water-related risks such as water stress, drought, or sedimentation that reduces water availability may disrupt the operational performance of the plants. This could lead to interruptions in electricity supply or necessitate the substitution of water

from alternative sources, such as groundwater or municipal water utilities. Nevertheless, the potential disruptions in water supply from these risks are not expected to result in an annual electricity generation loss of more than 1%, and only affect global annual revenue by less than 1%.

Row 4

(3.2.1) Country/Area & River basin

Indonesia

☒ Other, please specify :Saliper Ate River Basin

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

☒ Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

☒ Less than 1%

(3.2.8) % organization's annual electricity generation that could be affected by these facilities

Select from:

☒ Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

☒ Less than 1%

(3.2.11) Please explain

Several PLN power plants depend on river basins that have been identified as located within water-stressed areas, based on WRI Aqueduct. These river basins serve as the primary source of water supply for power generation activities. Exposure to water-related risks such as water stress, drought, or sedimentation that reduces water availability may disrupt the operational performance of the plants. This could lead to interruptions in electricity supply or necessitate the substitution of water from alternative sources, such as groundwater or municipal water utilities. Nevertheless, the potential disruptions in water supply from these risks are not expected to result in an annual electricity generation loss of more than 1%, and only affect global annual revenue by less than 1%.

Row 5

(3.2.1) Country/Area & River basin

Indonesia

☒ Other, please specify :Laju River Basin

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

☒ Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

☒ Less than 1%

(3.2.8) % organization's annual electricity generation that could be affected by these facilities

Select from:

☒ Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

☒ Less than 1%

(3.2.11) Please explain

Several PLN power plants depend on river basins that have been identified as located within water-stressed areas, based on WRI Aqueduct. These river basins serve as the primary source of water supply for power generation activities. Exposure to water-related risks such as water stress, drought, or sedimentation that reduces water availability may disrupt the operational performance of the plants. This could lead to interruptions in electricity supply or necessitate the substitution of water from alternative sources, such as groundwater or municipal water utilities. Nevertheless, the potential disruptions in water supply from these risks are not expected to result in an annual electricity generation loss of more than 1%, and only affect global annual revenue by less than 1%.

Row 6

(3.2.1) Country/Area & River basin

Indonesia

☒ Other, please specify :Citarum River Basin

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

☒ Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

☒ Less than 1%

(3.2.8) % organization's annual electricity generation that could be affected by these facilities

Select from:

☒ 1-25%

(3.2.10) % organization's total global revenue that could be affected

Select from:

☒ Less than 1%

(3.2.11) Please explain

Several PLN power plants depend on river basins that have been identified as located within water-stressed areas, based on WRI Aqueduct. These river basins serve as the primary source of water supply for power generation activities. Exposure to water-related risks such as water stress, drought, or sedimentation that reduces water availability may disrupt the operational performance of the plants. This could lead to interruptions in electricity supply or necessitate the substitution of water from alternative sources, such as groundwater or municipal water utilities. Nevertheless, the potential disruptions in water supply from these risks are not expected to result in an annual electricity generation loss of 1-25%, and only affect global annual revenue by less than 1%.

Row 7

(3.2.1) Country/Area & River basin

Indonesia

☒ Other, please specify :Serayu River Basin

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

☒ Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

☒ Less than 1%

(3.2.8) % organization's annual electricity generation that could be affected by these facilities

Select from:

☒ Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

☒ Less than 1%

(3.2.11) Please explain

Several PLN power plants depend on river basins that have been identified as located within water-stressed areas, based on WRI Aqueduct. These river basins serve as the primary source of water supply for power generation activities. Exposure to water-related risks such as water stress, drought, or sedimentation that reduces water availability may disrupt the operational performance of the plants. This could lead to interruptions in electricity supply or necessitate the substitution of water from alternative sources, such as groundwater or municipal water utilities. Nevertheless, the potential disruptions in water supply from these risks are not expected to result in an annual electricity generation loss of more than 1%, and only affect global annual revenue by less than 1%.

Row 8

(3.2.1) Country/Area & River basin

Indonesia

☒ Other, please specify :Cisaketi River Basin

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

☒ Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

☒ Less than 1%

(3.2.8) % organization's annual electricity generation that could be affected by these facilities

Select from:

☒ Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

☒ Less than 1%

(3.2.11) Please explain

Several PLN power plants depend on river basins that have been identified as located within water-stressed areas, based on WRI Aqueduct. These river basins serve as the primary source of water supply for power generation activities. Exposure to water-related risks such as water stress, drought, or sedimentation that reduces water availability may disrupt the operational performance of the plants. This could lead to interruptions in electricity supply or necessitate the substitution of water from alternative sources, such as groundwater or municipal water utilities. Nevertheless, the potential disruptions in water supply from these risks are not expected to result in an annual electricity generation loss of more than 1%, and only affect global annual revenue by less than 1%.

Row 9

(3.2.1) Country/Area & River basin

Indonesia

☒ Other, please specify :Cikaro River Basin

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

☒ Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

☒ Less than 1%

(3.2.8) % organization's annual electricity generation that could be affected by these facilities

Select from:

☒ Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

☒ Less than 1%

(3.2.11) Please explain

Several PLN power plants depend on river basins that have been identified as located within water-stressed areas, based on WRI Aqueduct. These river basins serve as the primary source of water supply for power generation activities. Exposure to water-related risks such as water stress, drought, or sedimentation that reduces water availability may disrupt the operational performance of the plants. This could lead to interruptions in electricity supply or necessitate the substitution of water from alternative sources, such as groundwater or municipal water utilities. Nevertheless, the potential disruptions in water supply from these risks are not expected to result in an annual electricity generation loss of more than 1%, and only affect global annual revenue by less than 1%.

Row 10

(3.2.1) Country/Area & River basin

Indonesia

☒ Other, please specify :Melaya River Basin

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

☒ Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

☒ Less than 1%

(3.2.8) % organization's annual electricity generation that could be affected by these facilities

Select from:

☒ Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

☒ Less than 1%

(3.2.11) Please explain

Several PLN power plants depend on river basins that have been identified as located within water-stressed areas, based on WRI Aqueduct. These river basins serve as the primary source of water supply for power generation activities. Exposure to water-related risks such as water stress, drought, or sedimentation that reduces water availability may disrupt the operational performance of the plants. This could lead to interruptions in electricity supply or necessitate the substitution of water from alternative sources, such as groundwater or municipal water utilities. Nevertheless, the potential disruptions in water supply from these risks are not expected to result in an annual electricity generation loss of more than 1%, and only affect global annual revenue by less than 1%.

Row 11

(3.2.1) Country/Area & River basin

Indonesia

☒ Other, please specify :Tukad Bangka River Basin

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

☒ Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

☒ Less than 1%

(3.2.8) % organization's annual electricity generation that could be affected by these facilities

Select from:

☒ Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

☒ Less than 1%

(3.2.11) Please explain

Several PLN power plants depend on river basins that have been identified as located within water-stressed areas, based on WRI Aqueduct. These river basins serve as the primary source of water supply for power generation activities. Exposure to water-related risks such as water stress, drought, or sedimentation that reduces water availability may disrupt the operational performance of the plants. This could lead to interruptions in electricity supply or necessitate the substitution of water from alternative sources, such as groundwater or municipal water utilities. Nevertheless, the potential disruptions in water supply from these risks are not expected to result in an annual electricity generation loss of more than 1%, and only affect global annual revenue by less than 1%.

[Add row]

(3.3) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

	Water-related regulatory violations	Comment
	Select from: ☒ No	PLN always ensures to comply with applicable policies and regulations in Indonesia.

[Fixed row]

(3.5) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Select from:

☒ Yes

(3.5.1) Select the carbon pricing regulation(s) which impact your operations.

Select all that apply

☒ Indonesia ETS

(3.5.2) Provide details of each Emissions Trading Scheme (ETS) your organization is regulated by.

Indonesia ETS

(3.5.2.1) % of Scope 1 emissions covered by the ETS

74.75

(3.5.2.2) % of Scope 2 emissions covered by the ETS

0

(3.5.2.3) Period start date

12/31/2023

(3.5.2.4) Period end date

12/30/2024

(3.5.2.5) Allowances allocated

119336000

(3.5.2.6) Allowances purchased

0

(3.5.2.7) Verified Scope 1 emissions in metric tons CO2e

116132831.94

(3.5.2.8) Verified Scope 2 emissions in metric tons CO2e

0

(3.5.2.9) Details of ownership

Select from:

☒ Facilities we own and operate

(3.5.2.10) Comment

In 2024, under Indonesia's Emissions Trading Scheme (ETS), PLN's verified emissions for carbon trading participants reached 116,132,831.94 tCO₂e, representing 74.75% of its total Scope 1 emissions of 155,366,681.76 tCO₂e, excluding contributions from Independent Power Producers (IPP). The total allocated allowances amounted to 119.336 million tCO₂e, with no monetary conversion conducted by PLN. Additionally, no allowances were purchased, as there was neither an auction nor a direct purchase process from the government to PLN.

[Fixed row]

(3.5.4) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

In line with Indonesia's energy transition and emission regulatory framework, PLN Group has been proactively aligning its strategies with both current and anticipated requirements. Under prevailing regulations, power plants exceeding their emission limits are required to offset excess emissions by purchasing surplus units from other participants. The initial phase of carbon trading under the Emissions Trading System (ETS) included 78 participants from coal-fired power plants across 30 locations in Indonesia, covering units from Indonesia Power, Nusantara Power, and PLN Holding. Each participant was mandated to submit a Monitoring Emission Plan (MEP), which served as the basis for the Ministry of Energy and Mineral Resources (MEMR) to determine annual emission allowances. For 2024, the emission allowance allocated to PLN Group (PTBAE-PU) was set at approximately 119.39 million metric tons of CO₂e. This was supplemented by a carryover allocation of around 2.5 million metric tons of CO₂e from the previous year, bringing the total available allocation to approximately 121.85 million metric tons of CO₂e. PLN views carbon units not only as compliance instruments but also as a strategic opportunity for product diversification. By integrating carbon trading into its business model, PLN positions itself to support other industries in achieving their net-zero commitments while also generating additional revenue streams. To ensure robust participation in the ETS and compliance with regulatory obligations, PLN's foremost strategy is full adherence to all mandated requirements. This includes preparing comprehensive monitoring documentation, fulfilling mandatory reporting, and participating in government-regulated carbon market mechanisms. Such measures ensure that PLN's operations remain aligned with national policies and global standards in greenhouse gas (GHG) management. Beyond regulatory compliance, PLN has been implementing a broad range of efficiency measures across its generation portfolio. This includes thermal efficiency improvements, operational optimization, and the adoption of modern technologies that reduce the emission intensity per unit of electricity generated. These initiatives contribute directly to emission reduction targets while also delivering cost savings in fuel consumption, thereby creating both environmental and economic value. Equally strategic is PLN's co-firing biomass program, which has been progressively scaled up across coal-fired power plants. By partially substituting coal with biomass, PLN reduces overall emission intensity while simultaneously strengthening the local renewable energy value chain. This initiative supports national decarbonization goals, fosters rural economic development, and enhances PLN's role in advancing renewable energy integration. In circumstances where emission deficits remain after internal abatement efforts, PLN undertakes balancing actions by purchasing emission credits from entities with a surplus.

(3.6) Have you identified any environmental opportunities which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future?

	Environmental opportunities identified
Climate change	<i>Select from:</i> ☒ Yes, we have identified opportunities, and some/all are being realized
Water	<i>Select from:</i> ☒ Yes, we have identified opportunities, and some/all are being realized

[Fixed row]

(3.6.1) Provide details of the environmental opportunities identified which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future.

Climate change

(3.6.1.1) Opportunity identifier

Select from:

☒ Opp1

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Energy source

☒ Participation in carbon market

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☒ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☒ Indonesia

(3.6.1.8) Organization specific description

Establishment of the Certified Emission Reduction (SPE-GRK) scheme as a recognized instrument for emission offsetting.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☒ Increased revenues through access to new and emerging markets

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☒ Medium-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☒ Virtually certain (99–100%)

(3.6.1.12) Magnitude

Select from:

☒ High

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

By participating in the REC scheme and carbon market, PLN aims to grow its business and yield new source of revenues.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☒ Yes

(3.6.1.19) Anticipated financial effect figure in the medium-term - minimum (currency)

37111934445

(3.6.1.20) Anticipated financial effect figure in the medium-term - maximum (currency)

58054214573

(3.6.1.23) Explanation of financial effect figures

The figures represent the projected revenue derived from the total SPE for the period 2027–2030.

(3.6.1.24) Cost to realize opportunity

5000000000

(3.6.1.25) Explanation of cost calculation

SPE issuance activities

(3.6.1.26) Strategy to realize opportunity

PT PLN (Persero) has established a clear strategy to ensure the effective implementation of Greenhouse Gas Emission Reduction Certificates (SPE-GRK). The strategy is designed to strengthen internal governance, develop robust procedures, and align with national climate policies. One of the key measures is the issuance of internal regulations that serve as the governance framework. This includes the enactment of an Implementing Regulation on Standard Procedures for Managing Renewable Energy Market-Based Instruments within PLN, as well as an Implementing Regulation on Standard Procedures for Managing Carbon Economic Value. Together, these regulations provide a solid foundation for transparency, consistency, and accountability in the management of both market-based instruments and carbon economic value across all business units. Another important component of the strategy is stakeholder engagement and policy alignment. PLN actively conducts coordination meetings, projections, and focus group discussions with government bodies and other relevant stakeholders. These efforts ensure that the implementation of SPE-GRK is fully aligned with national regulations and supports Indonesia's climate commitments. By maintaining regular dialogue and collaborative mechanisms, PLN reinforces its role as a key driver in the national decarbonization agenda. Institutional strengthening and the establishment of effective monitoring mechanisms are also central to PLN's approach. The management of SPE-GRK is fully integrated into PLN's corporate procedures, encompassing planning, implementation, monitoring, and evaluation. This integration ensures long-term continuity of the program and its alignment with the company's

decarbonization roadmap. By embedding these processes into its governance and operational framework, PLN enhances its institutional resilience while ensuring measurable progress toward emission reduction targets.

Water

(3.6.1.1) Opportunity identifier

Select from:

☒ Opp1

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Resource efficiency

☒ Use of recycling

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☒ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☒ Indonesia

(3.6.1.6) River basin where the opportunity occurs

Select all that apply

☒ Other, please specify :Citarum, Serayu

(3.6.1.8) Organization specific description

PLN encourages the efficient use of water through the 3R program (reduce, reuse, and recycle). During 2024, our water use savings reached 4,660,977 m³ in 42 power plants. The amount increased from 7,961 million m³ or 7,961,000 ML from 39 plants in 2023.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☒ Reduced indirect (operating) costs

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☒ The opportunity has already had a substantive effect on our organization in the reporting year

(3.6.1.12) Magnitude

Select from:

☒ High

(3.6.1.13) Effect of the opportunity on the financial position, financial performance and cash flows of the organization in the reporting period

The implementation of the 3R (Reduce, Reuse, Recycle) program has contributed to more efficient water management within the company's operations. By reusing and recycling water in power plant processes, the company effectively reduces overall freshwater intake. This operational efficiency leads to a measurable decrease in indirect operating costs associated with water procurement, treatment, and discharge.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☒ Yes

(3.6.1.16) Financial effect figure in the reporting year (currency)

114703875274

(3.6.1.23) Explanation of financial effect figures

The financial effect figure represents the 2024 cost savings generated (in IDR) from 3R initiatives implemented at Saguling Hydropower Plant, Mrica Hydropower Plant, and Pesanggaran Gas Engine Power Plant. These facilities are located within 17 prioritized water-stressed areas and recorded savings among the top three, reflecting a material and significant impact from the 3R program.

(3.6.1.24) Cost to realize opportunity

419540480

(3.6.1.25) Explanation of cost calculation

The financial effect figure represents the 2024 budget allocation for the 3R program (in IDR) at Saguling Hydropower Plant, Mrica Hydropower Plant, and Pesanggaran Gas Engine Power Plant.

(3.6.1.26) Strategy to realize opportunity

PLN has established corporate policies and environmental management systems (ESMS) that mandate water efficiency, strict monitoring of effluent quality, and the optimization of wastewater treatment facilities (WWTP). PLN also integrates water-risk considerations into operational planning, prioritizing investment in units exposed to higher water stress levels. This includes the installation of reuse and recycling systems, such as reusing boiler make-up water, recycling cooling tower blowdown, and reinjecting treated condensate for internal circulation. PLN has mainstreamed the 3R approach into the budgeting and planning cycle, ensuring that both CAPEX and OPEX allocations reflect the cost-saving potential of water efficiency initiatives. This alignment has strengthened PLN's ability to maintain compliance with Indonesian regulations, reduce dependency on external water sources, and mitigate exposure to potential tariff increases or scarcity costs. In addition, PLN consistently measures and discloses performance outcomes, including reductions in freshwater consumption and improvements in wastewater reuse rates, as part of its annual ESG disclosures. By lowering water intake and treatment requirements, PLN reduces indirect operating expenses while simultaneously enhancing resilience in water-stressed regions.

Climate change

(3.6.1.1) Opportunity identifier

Select from:

☒ Opp2

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Energy source

☒ Participation in carbon market

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☒ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☒ Indonesia

(3.6.1.8) Organization specific description

Emerging market opportunity lies in the development of Renewable Energy Certificates (RECs), which certify each 1 MWh of renewable electricity generation.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☒ Increased revenues through access to new and emerging markets

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☒ Medium-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☒ Virtually certain (99–100%)

(3.6.1.12) Magnitude

Select from:

☒ High

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

By participating in the REC scheme and carbon market, PLN aims to grow its business and yield new source of revenues.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☒ Yes

(3.6.1.19) Anticipated financial effect figure in the medium-term - minimum (currency)

348014347956

(3.6.1.20) Anticipated financial effect figure in the medium-term - maximum (currency)

664755313731

(3.6.1.23) Explanation of financial effect figures

The figures represent the projected revenue derived from the total REC for the period 2027–2030.

(3.6.1.24) Cost to realize opportunity

795000000

(3.6.1.25) Explanation of cost calculation

REC issuance activities

(3.6.1.26) Strategy to realize opportunity

PLN continues to increasing the number of power plants supplying green electricity to REC customers to boost REC sales to 3.8 TWh in 2024. There are ix PLN plants are ready to supply green electricity for Renewable Energy Certificate (REC) customers in 2023, namely: 1. Kamojang Geothermal Power Plant (PLTP), Cirata Hydropower Plant (PLTA), Lambur Mini Hydro Power Plant (PLTM) located in the Java Madura Bali electricity system; 2. PLTP Lagendong and PLTA Bakaru which are in the Sulawesi electricity system 3. PLTP Ulubelu which is included in the Sumatra electricity system. In 2023, PLN achieved 3.7 TWh in REC sales

[Add row]

(3.6.2) Provide the amount and proportion of your financial metrics in the reporting year that are aligned with the substantive effects of environmental opportunities.

Climate change

(3.6.2.1) Financial metric

Select from:

☒ Revenue

(3.6.2.2) Amount of financial metric aligned with opportunities for this environmental issue (unit currency as selected in 1.2)

956976951969

(3.6.2.3) % of total financial metric aligned with opportunities for this environmental issue

Select from:

☒ Less than 1%

(3.6.2.4) Explanation of financial figures

The figures represent the projected revenue from the total SPE and REC for the period 2027–2030, amounting to IDR 956,976,951,969, compared to the 2024 total revenue of IDR 545,380,000,000,000 (Rp 545.38 Trillion).

Water

(3.6.2.1) Financial metric

Select from:

☒ OPEX

(3.6.2.2) Amount of financial metric aligned with opportunities for this environmental issue (unit currency as selected in 1.2)

419540480

(3.6.2.3) % of total financial metric aligned with opportunities for this environmental issue

Select from:

☒ 1-10%

(3.6.2.4) Explanation of financial figures

This cost reduction is calculated using the following formula: the budget allocation for the 3R program (in IDR) at the Saguling Hydropower Plant, Mrica Hydropower Plant, and Pesanggaran Gas Engine Power Plant amounting to Rp419,540,480 divided by water OPEX as much as Rp9,271,931,000, which includes power plant maintenance, purchase of chemicals, and other requirements for water management.

[Add row]

C4. Governance

(4.1) Does your organization have a board of directors or an equivalent governing body?

(4.1.1) Board of directors or equivalent governing body

Select from:

☒ Yes

(4.1.2) Frequency with which the board or equivalent meets

Select from:

☒ More frequently than quarterly

(4.1.3) Types of directors your board or equivalent is comprised of

Select all that apply

☒ Executive directors or equivalent

(4.1.4) Board diversity and inclusion policy

Select from:

☒ Yes, and it is publicly available

(4.1.5) Briefly describe what the policy covers

A diversity and inclusion policy is in place and is publicly available through PLN's Respectful Workplace Policy. This policy outlines how the organization ensures diversity and inclusion within the board of directors and equivalent governing bodies, emphasizing fair representation, equal opportunity, and respect for all members.

(4.1.6) Attach the policy (optional)

Respectful Workplace Policy - PLN.pdf
[Fixed row]

(4.1.1) Is there board-level oversight of environmental issues within your organization?

	Board-level oversight of this environmental issue
Climate change	Select from: ☒ Yes
Water	Select from: ☒ Yes
Biodiversity	Select from: ☒ Yes

[Fixed row]

(4.1.2) Identify the positions (do not include any names) of the individuals or committees on the board with accountability for environmental issues and provide details of the board's oversight of environmental issues.

Climate change

(4.1.2.1) Positions of individuals or committees with accountability for this environmental issue

Select all that apply

- ☒ Director on board
- ☒ Chief Executive Officer (CEO)
- ☒ Chief Financial Officer (CFO)
- ☒ Chief Operating Officer (COO)
- ☒ Other C-Suite Officer

(4.1.2.2) Positions' accountability for this environmental issue is outlined in policies applicable to the board

Select from:

☒ Yes

(4.1.2.3) Policies which outline the positions' accountability for this environmental issue

Select all that apply

☒ Board Terms of Reference

☒ Other policy applicable to the board, please specify :1. Director's Regulation No. 0022 of 2023. 2. The Decree of the Directorate Number 0322.K/DIR/2024 concerning the Establishment of the Sustainability Committee of PT PLN (Persero).

(4.1.2.4) Frequency with which this environmental issue is a scheduled agenda item

Select from:

☒ Scheduled agenda item in every board meeting (standing agenda item)

(4.1.2.5) Governance mechanisms into which this environmental issue is integrated

Select all that apply

☒ Reviewing and guiding the assessment process for dependencies, impacts, risks, and opportunities

☒ Overseeing and guiding the development of a climate transition plan

☒ Monitoring the implementation of a climate transition plan

☒ Approving and/or overseeing employee incentives

☒ Other, please specify :SWR, IWR, dan CWR

(4.1.2.7) Please explain

The climate-related issue is discussed in the Board investment forum regarding renewable energy, the Board of Commissioners meeting that involves EVP level position, and the incidental Board of Commissioners meeting. To complement the Climate-Related Strategic Forum, PLN also has implemented dedicated War Room platforms such as Sustainability War Room (SWR). The SWR is a strategic platform coordinating PLN's ESG projects and energy transition roadmap. It centralizes oversight of sustainability programs, progress monitoring, challenge resolution, and cross-functional coordination in alignment with Indonesia's NDC (2030) and Net Zero Emissions (NZE) 2060 targets. Through biweekly meetings with the Board of Directors, the Sustainability Working Group supports the Sustainability Committee in implementing PLN's sustainability plan, ensuring effective oversight and collaboration across functions.

Water

(4.1.2.1) Positions of individuals or committees with accountability for this environmental issue

Select all that apply

- ☒ Director on board
- ☒ Chief Financial Officer (CFO)
- ☒ Chief Operating Officer (COO)
- ☒ Chief Risk Officer (CRO)
- ☒ Other C-Suite Officer

(4.1.2.2) Positions' accountability for this environmental issue is outlined in policies applicable to the board

Select from:

- ☒ Yes

(4.1.2.3) Policies which outline the positions' accountability for this environmental issue

Select all that apply

- ☒ Board Terms of Reference
- ☒ Other policy applicable to the board, please specify :1. Director's Regulation No. 0022 of 2023. 2. The Decree of the Directorate Number 0322.K/DIR/2024 concerning the Establishment of the Sustainability Committee of PT PLN (Persero).

(4.1.2.4) Frequency with which this environmental issue is a scheduled agenda item

Select from:

- ☒ Scheduled agenda item in every board meeting (standing agenda item)

(4.1.2.5) Governance mechanisms into which this environmental issue is integrated

Select all that apply

- ☒ Reviewing and guiding the assessment process for dependencies, impacts, risks, and opportunities
- ☒ Overseeing and guiding the development of a business strategy
- ☒ Monitoring the implementation of the business strategy
- ☒ Approving and/or overseeing employee incentives

(4.1.2.7) Please explain

The responsibility is embedded in the Director of Generation Management role. Water-related issue is embedded in the Sustainability War Room (SWR) agenda. The SWR is a strategic platform coordinating PLN's ESG projects and energy transition roadmap. It centralizes oversight of sustainability programs, progress monitoring, challenge resolution, and cross-functional coordination in alignment with Indonesia's NDC (2030) and Net Zero Emissions (NZE) 2060 targets. Through biweekly meetings with the Board of Directors, the Sustainability Working Group supports the Sustainability Committee in implementing PLN's sustainability plan, ensuring effective oversight and collaboration across functions.

Biodiversity

(4.1.2.1) Positions of individuals or committees with accountability for this environmental issue

Select all that apply

- ☒ Director on board
- ☒ Chief Financial Officer (CFO)
- ☒ Chief Operating Officer (COO)
- ☒ Chief Risk Officer (CRO)
- ☒ Other C-Suite Officer

(4.1.2.2) Positions' accountability for this environmental issue is outlined in policies applicable to the board

Select from:

- ☒ Yes

(4.1.2.3) Policies which outline the positions' accountability for this environmental issue

Select all that apply

- ☒ Board Terms of Reference
- ☒ Other policy applicable to the board, please specify :1. Director's Regulation No. 0022 of 2023. 2. The Decree of the Directorate Number 0322.K/DIR/2024 concerning the Establishment of the Sustainability Committee of PT PLN (Persero).

(4.1.2.4) Frequency with which this environmental issue is a scheduled agenda item

Select from:

- ☒ Scheduled agenda item in every board meeting (standing agenda item)

(4.1.2.5) Governance mechanisms into which this environmental issue is integrated

Select all that apply

- ☒ Reviewing and guiding the assessment process for dependencies, impacts, risks, and opportunities
- ☒ Overseeing and guiding the development of a business strategy
- ☒ Monitoring the implementation of the business strategy
- ☒ Approving and/or overseeing employee incentives

(4.1.2.7) Please explain

The biodiversity issue is coordinated by the Director of Transmission and System Planning, who is responsible for leading, planning, implementing, evaluating, and organizing the functions of transmission planning and power systems.

[Fixed row]

(4.2) Does your organization's board have competency on environmental issues?

Climate change

(4.2.1) Board-level competency on this environmental issue

Select from:

- ☒ Yes

(4.2.2) Mechanisms to maintain an environmentally competent board

Select all that apply

- ☒ Consulting regularly with an internal, permanent, subject-expert working group
- ☒ Engaging regularly with external stakeholders and experts on environmental issues
- ☒ Regular training for directors on environmental issues, industry best practice, and standards (e.g., TCFD, SBTi)
- ☒ Having at least one board member with expertise on this environmental issue

(4.2.3) Environmental expertise of the board member

Academic

☒ Postgraduate education (e.g., MSc/MA/PhD in environment and sustainability, climate science, environmental science, water resources management, forestry, etc.), please specify :PhD in Natural Resource Economics

Experience

☒ Experience in an organization that is exposed to environmental-scrutiny and is going through a sustainability transition

Water

(4.2.1) Board-level competency on this environmental issue

Select from:

☒ Yes

(4.2.2) Mechanisms to maintain an environmentally competent board

Select all that apply

☒ Consulting regularly with an internal, permanent, subject-expert working group

☒ Engaging regularly with external stakeholders and experts on environmental issues

[Fixed row]

(4.3) Is there management-level responsibility for environmental issues within your organization?

	Management-level responsibility for this environmental issue
Climate change	Select from:

	Management-level responsibility for this environmental issue
	☒ Yes
Water	Select from: ☒ Yes
Biodiversity	Select from: ☒ Yes

[Fixed row]

(4.3.1) Provide the highest senior management-level positions or committees with responsibility for environmental issues (do not include the names of individuals).

Climate change

(4.3.1.1) Position of individual or committee with responsibility

Executive level

☒ Chief Executive Officer (CEO)

(4.3.1.2) Environmental responsibilities of this position

Dependencies, impacts, risks and opportunities

☒ Assessing environmental dependencies, impacts, risks, and opportunities

☒ Managing environmental dependencies, impacts, risks, and opportunities

Policies, commitments, and targets

☒ Setting corporate environmental policies and/or commitments

(4.3.1.4) Reporting line

Select from:

- ☒ Reports to the board directly

(4.3.1.5) Frequency of reporting to the board on environmental issues

Select from:

- ☒ More frequently than quarterly

(4.3.1.6) Please explain

The organizational structure for environmental oversight is led by the Chief Executive Officer (CEO) and the Sustainability Committee. Environmental issues are reported directly to the Board of Commissioners, with discussions occurring more frequently than quarterly, including the presentation of corporate risk profiles that cover decarbonization and ESG ratings. Climate-related topics are also regularly addressed in Board of Commissioners' meetings. To ensure effective management, PLN has established the Sustainability War Room (SWR), a strategic initiative designed to drive, coordinate, and accelerate the company's ESG commitments and energy transition strategies. The SWR serves as a central hub for monitoring progress, addressing challenges, and aligning sustainability initiatives with both national and global targets. Through this mechanism, the Sustainability Committee integrates environmental risk assessments and management procedures with other internal functions, enabling data-driven decision-making, structured oversight, and cross-functional collaboration to support Indonesia's NDC by 2030 and Net Zero Emissions by 2060.

Water

(4.3.1.1) Position of individual or committee with responsibility

Executive level

- ☒ Other C-Suite Officer, please specify :Director of Generation Management

(4.3.1.2) Environmental responsibilities of this position

Dependencies, impacts, risks and opportunities

- ☒ Assessing environmental dependencies, impacts, risks, and opportunities
- ☒ Managing environmental dependencies, impacts, risks, and opportunities

Policies, commitments, and targets

- ☒ Setting corporate environmental policies and/or commitments

(4.3.1.4) Reporting line

Select from:

- ☒ Reports to the board directly

(4.3.1.5) Frequency of reporting to the board on environmental issues

Select from:

- ☒ More frequently than quarterly

(4.3.1.6) Please explain

The water-related issues are discussed regularly through the Sustainability War Room (SWR) with all directors involved in the decision-making process, strategy development, and risk management.

Biodiversity

(4.3.1.1) Position of individual or committee with responsibility

Executive level

- ☒ Other C-Suite Officer, please specify :Director of Transmission and System Planning

(4.3.1.2) Environmental responsibilities of this position

Dependencies, impacts, risks and opportunities

- ☒ Assessing environmental dependencies, impacts, risks, and opportunities
- ☒ Managing environmental dependencies, impacts, risks, and opportunities

Policies, commitments, and targets

☒ Setting corporate environmental policies and/or commitments

(4.3.1.4) Reporting line

Select from:

☒ Reports to the board directly

(4.3.1.5) Frequency of reporting to the board on environmental issues

Select from:

☒ As important matters arise

(4.3.1.6) Please explain

The biodiversity-related issues are discussed regularly through the Sustainability War Room (SWR) with all directors involved in the decision-making process, strategy development, and risk management. However, the biodiversity issue is reported as important the matters arise.

[Add row]

(4.5) Do you provide monetary incentives for the management of environmental issues, including the attainment of targets?

Climate change

(4.5.1) Provision of monetary incentives related to this environmental issue

Select from:

☒ Yes

(4.5.2) % of total C-suite and board-level monetary incentives linked to the management of this environmental issue

(4.5.3) Please explain

Yes. Monetary incentives related to environmental issues are embedded in the KPI framework for all members of the Executive Board. Climate-related KPIs account for 10% of the total incentivization package. These incentives apply to all executive positions across divisions, including the President Director, Executive Director of RENKO, Executive Director of MANPRO, Executive Director of TRANS, Executive Director of RISK, and other executive board members. The KPIs tied to these incentives cover a wide range of performance metrics including shifting to a business model compatible with a net-zero carbon future, increasing the proportion of revenue from low environmental impact products and services, achievement of environmental targets, reduction in absolute emissions, and fulfillment of the climate transition plan. By linking performance-based incentives climate (10%), PLN ensures strong accountability of its executive leadership in driving sustainability and environmental performance.

Water

(4.5.1) Provision of monetary incentives related to this environmental issue

Select from:

☒ Yes

(4.5.2) % of total C-suite and board-level monetary incentives linked to the management of this environmental issue

1

(4.5.3) Please explain

Yes. Monetary incentives on environmental issues are integrated into the KPI framework for all Executive Board members. Water-related KPIs account for 1% of the total incentivization package. These apply to the President Director and all Executive Directors across LHC, KIT, RISK, and other divisions. The KPIs tied to these incentives cover a wide range of performance metrics including achievement of environmental targets and reduction in absolute emissions. By integrating water-related KPIs (1%) into the incentive scheme, PLN reinforces executive responsibility in advancing sustainable practices and strengthening overall environmental stewardship.

[Fixed row]

(4.5.1) Provide further details on the monetary incentives provided for the management of environmental issues (do not include the names of individuals).

Climate change

(4.5.1.1) Position entitled to monetary incentive

Board or executive level

- ☒ Board/Executive board

(4.5.1.2) Incentives

Select all that apply

- ☒ Bonus – set figure

(4.5.1.3) Performance metrics

Targets

- ☒ Achievement of environmental targets
- ☒ Reduction in absolute emissions in line with net-zero target

Strategy and financial planning

- ☒ Achievement of climate transition plan
- ☒ Shift to a business model compatible with a net-zero carbon future
- ☒ Increased proportion of revenue from low environmental impact products or services

Emission reduction

- ☒ Implementation of an emissions reduction initiative
- ☒ Reduction in absolute emissions

Resource use and efficiency

- ☒ Energy efficiency improvement

(4.5.1.4) Incentive plan the incentives are linked to

Select from:

- ☒ Short-Term Incentive Plan, or equivalent, only (e.g. contractual annual bonus)

(4.5.1.5) Further details of incentives

Financial incentives linked to environmental performance are granted to Board/Executive Board through the Short-Term Incentive (STI/bonus), based on the achievement of the Organizational Performance Score (NKO), the company's net profit, and the approved Corporate Work Plan and Budget (RKAP). The incentive considers the achievement of 80% of KPIs, which include environmental management performance, particularly climate change. Currently, environmental performance-based incentives are also provided to employees beyond the board/C-suite level, in line with the achievement of their respective Division KPIs.

(4.5.1.6) How the position's incentives contribute to the achievement of your environmental commitments and/or climate transition plan

The KPI framework on climate performance directly supports PLN's climate transition plan. Incentives tied to these KPIs encourage the delivery of key decarbonization initiatives and the execution of PLN's climate transition roadmap, including CO2 emission reduction (NDC), implementation of the Green RUPTL, conversion of diesel to renewables (dedieselisasi), gasification, and expansion of EV charging infrastructure (SPKLU). These actions drive the shift toward a net-zero compatible business model, increase revenue from low environmental impact products and services, achieve environmental targets, reduce absolute emissions, and strengthen implementation of the transition plan. Moving forward, programs such as the Green Enabling Smart Grid will further accelerate Indonesia's energy transition and reinforce the national Net Zero Emission target by 2060.

Water

(4.5.1.1) Position entitled to monetary incentive

Board or executive level

☒ Board/Executive board

(4.5.1.2) Incentives

Select all that apply

☒ Bonus – set figure

(4.5.1.3) Performance metrics

Targets

☒ Progress towards environmental targets

☒ Achievement of environmental targets

(4.5.1.4) Incentive plan the incentives are linked to

Select from:

☒ Short-Term Incentive Plan, or equivalent, only (e.g. contractual annual bonus)

(4.5.1.5) Further details of incentives

Board and Executive Board members receive financial incentives through the Short-Term Incentive (STI/bonus), determined by the Organizational Performance Score (NKO), company net profit, and the approved Corporate Work Plan and Budget (RKAP). These incentives reflect the attainment of at least 80% of KPIs, which incorporate water management performance and stewardship aspects, particularly meeting environmental targets and reducing absolute emissions.

(4.5.1.6) How the position's incentives contribute to the achievement of your environmental commitments and/or climate transition plan

The KPI framework linked to water performance contributes to PLN's environmental commitments and water-related targets through compliance and beyond compliance achievements in the PROPER program initiated by the Ministry of Environment and Forestry (KLHK). This includes increasing the number of units achieving PROPER Blue (minimum compliance) and meeting PROPER Beyond Compliance standards, which recognize environmental performance that exceeds regulatory requirements. These KPIs drive initiatives related to water stewardship, including achievement of environmental targets and reduction in absolute emissions. Looking forward, fulfilling PROPER Beyond Compliance will strengthen PLN's commitment to reducing and eliminating water pollution while advancing sustainable water management practices across its operations.

[Add row]

(4.6) Does your organization have an environmental policy that addresses environmental issues?

	Does your organization have any environmental policies?
	Select from: ☒ Yes

[Fixed row]

(4.6.1) Provide details of your environmental policies.

Row 1

(4.6.1.1) Environmental issues covered

Select all that apply

☒ Climate change

(4.6.1.2) Level of coverage

Select from:

☒ Organization-wide

(4.6.1.3) Value chain stages covered

Select all that apply

☒ Direct operations

(4.6.1.4) Explain the coverage

This climate change policy covers all units and facilities in PLN Group.

(4.6.1.5) Environmental policy content

Environmental commitments

☒ Commitment to comply with regulations and mandatory standards

☒ Commitment to stakeholder engagement and capacity building on environmental issues

Climate-specific commitments

☒ Commitment to net-zero emissions

☒ Commitment to not invest in fossil-fuel expansion

☒ Commitment to not funding climate-denial or lobbying against climate regulations

Additional references/Descriptions

- ☒ Reference to timebound environmental milestones and targets

(4.6.1.6) Indicate whether your environmental policy is in line with global environmental treaties or policy goals

Select all that apply

- ☒ Yes, in line with the Paris Agreement

(4.6.1.7) Public availability

Select from:

- ☒ Publicly available

(4.6.1.8) Attach the policy

Climate Change Policy [All-CDP].pdf

Row 2

(4.6.1.1) Environmental issues covered

Select all that apply

- ☒ Water

(4.6.1.2) Level of coverage

Select from:

- ☒ Organization-wide

(4.6.1.3) Value chain stages covered

Select all that apply

- ☒ Direct operations

(4.6.1.4) Explain the coverage

This environmental policy covers all units and facilities in PLN Group.

(4.6.1.5) Environmental policy content

Environmental commitments

- ☒ Commitment to comply with regulations and mandatory standards
- ☒ Commitment to stakeholder engagement and capacity building on environmental issues
- ☒ Other environmental commitment, please specify : -Commitment to reducing water consumption volume as stated in PLN's ESG Framework. -Commitment to freshwater ecosystem conservation as stated in PLN's ESG Framework. -Commitment to water management and collective actions as stated in ESG Framework.

Water-specific commitments

- ☒ Commitment to reduce water consumption volumes **efficiency, including through 3R programs**
- ☒ Other water-related commitment, please specify : **Commitment to water usage**
- ☒ Commitment to reduce or phase out hazardous substances
- ☒ Commitment to control/reduce/eliminate water pollution
- ☒ Commitment to the conservation of freshwater ecosystems
- ☒ Commitment to water stewardship and/or collective action

(4.6.1.6) Indicate whether your environmental policy is in line with global environmental treaties or policy goals

Select all that apply

- ☒ Yes, in line with Sustainable Development Goal 6 on Clean Water and Sanitation

(4.6.1.7) Public availability

Select from:

- ☒ Publicly available

(4.6.1.8) Attach the policy

Row 3

(4.6.1.1) Environmental issues covered

Select all that apply

☒ Biodiversity

(4.6.1.2) Level of coverage

Select from:

☒ Organization-wide

(4.6.1.3) Value chain stages covered

Select all that apply

☒ Direct operations

(4.6.1.4) Explain the coverage

This biodiversity policy covers all units and facilities in PLN Group.

(4.6.1.5) Environmental policy content

Environmental commitments

☒ Commitment to No Net Loss
environmental issues

☒ Commitment to Net Positive Gain

☒ Commitment to respect legally designated protected areas

☒ Commitment to comply with regulations and mandatory standards

☒ Commitment to avoidance of negative impacts on threatened and protected species

☒ Commitment to stakeholder engagement and capacity building on

(4.6.1.6) Indicate whether your environmental policy is in line with global environmental treaties or policy goals

Select all that apply

☒ Yes, in line with the Kunming-Montreal Global Biodiversity Framework

(4.6.1.7) Public availability

Select from:

☒ Publicly available

(4.6.1.8) Attach the policy

Biodiversity and Land Restoration Policy - PLN.pdf

[Add row]

(4.10) Are you a signatory or member of any environmental collaborative frameworks or initiatives?

(4.10.1) Are you a signatory or member of any environmental collaborative frameworks or initiatives?

Select from:

☒ Yes

(4.10.2) Collaborative framework or initiative

Select all that apply

☒ Alliance for Water Stewardship (AWS)

☒ UN Global Compact

(4.10.3) Describe your organization's role within each framework or initiative

PLN is a member of the Alliance for Water Stewardship (AWS) since 2024 and actively engages in communication and collaboration with other AWS members, including PT Nestlé. In addition, PLN participates in the UN Global Compact (UNGC), where it regularly discloses sustainability-related matters through its Sustainability Report, TCFD Report, and ESG Performance Report.

[Fixed row]

(4.11) In the reporting year, did your organization engage in activities that could directly or indirectly influence policy, law, or regulation that may (positively or negatively) impact the environment?

(4.11.1) External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the environment

Select all that apply

☒ Yes, we engaged directly with policy makers

(4.11.2) Indicate whether your organization has a public commitment or position statement to conduct your engagement activities in line with global environmental treaties or policy goals

Select from:

☒ Yes, we have a public commitment or position statement in line with global environmental treaties or policy goals

(4.11.3) Global environmental treaties or policy goals in line with public commitment or position statement

Select all that apply

☒ Paris Agreement

☒ Sustainable Development Goal 6 on Clean Water and Sanitation

(4.11.4) Attach commitment or position statement

SR-PLN-2024-LO7-Final_Sambutan.pdf

(4.11.5) Indicate whether your organization is registered on a transparency register

Select from:

☒ No

(4.11.8) Describe the process your organization has in place to ensure that your external engagement activities are consistent with your environmental commitments and/or transition plan

In the reporting year, PLN actively engaged in global policy dialogue through its participation in the 29th UNFCCC Conference of the Parties (COP29) in Baku, Azerbaijan. During the event, PLN took part as a speaker, hosted discussions, and signed several bilateral agreements to advance Indonesia's energy transition agenda. PLN's position statement is presented in the Board of Directors' message in the Sustainability Report. As part of this initiative, PLN established five strategic collaborations with international partners (United Kingdom Export Finance (UKEF), Kreditanstalt für Wiederaufbau (KfW), Sembcorp Utilities Pte Ltd, Transportasi Gas Indonesia (TGI), and the Global Energy Alliance for People and Planet (GEAPP)). These collaborations, formalized through Memoranda of Understanding and Grant Agreements, focus on green financing, renewable energy projects, clean energy integration, and Environmental and Social Impact Assessments (ESIA). Through these efforts, PLN contributes to shaping the global and national discourse on sustainable energy transition while supporting Indonesia's Enhanced Nationally Determined Contribution (NDC) and the achievement of net zero emissions (NZE) by 2060 or earlier.

[Fixed row]

(4.11.1) On what policies, laws, or regulations that may (positively or negatively) impact the environment has your organization been engaging directly with policy makers in the reporting year?

Row 1

(4.11.1.1) Specify the policy, law, or regulation on which your organization is engaging with policy makers

Presidential Regulation No. 98 of 2021 (PERPRES 98/2021): The Implementation of Carbon Economic Value for Achieving Nationally Determined Contribution Targets and Controlling Greenhouse Gas Emissions in National Development

(4.11.1.2) Environmental issues the policy, law, or regulation relates to

Select all that apply

☒ Climate change

(4.11.1.3) Focus area of policy, law, or regulation that may impact the environment

Environmental impacts and pressures

☒ Emissions – CO2

(4.11.1.4) Geographic coverage of policy, law, or regulation

Select from:

☒ National

(4.11.1.5) Country/area/region the policy, law, or regulation applies to

Select all that apply

☒ Indonesia

(4.11.1.6) Your organization's position on the policy, law, or regulation

Select from:

☒ Support with no exceptions

(4.11.1.8) Type of direct engagement with policy makers on this policy, law, or regulation

Select all that apply

☒ Discussion in public forums

(4.11.1.9) Funding figure your organization provided to policy makers in the reporting year relevant to this policy, law, or regulation (currency)

0

(4.11.1.10) Explain the relevance of this policy, law, or regulation to the achievement of your environmental commitments and/or transition plan, how this has informed your engagement, and how you measure the success of your engagement

PERPRES 98/2021 is one of the important legal bases for the Government's efforts to achieve Indonesia's Nationally Determined Contribution (NDC), which is 29% independently and 41% with international cooperation by 2030. PR 98/2021 introduces specific mechanisms to implement the Carbon Economic Value, including: 1. Carbon trading. 2. Result-based payments. 3. Carbon levies. Through PLN's participation in 29th UNFCCC Conference of the Parties (COP29) in Azerbaijan, PLN is also committed to climate change adaptation based on the implementation of Indonesia's Enhanced NDC, green financing, renewable energy projects, clean energy integration, and Environmental and Social Impact Assessments (ESIA). Aligned with the Indonesia ENDC dan NZE aspiration by 2060, PLN has a target of reducing CO2 emissions, as well as PLN's readiness to enter the Indonesian Carbon Exchange in accordance with government regulations. Several pilot projects have been carried out by PLN, including PLTGU Block 3 Muara Karang which has a Certificate of Emission Reduction (SPE). The SPE was obtained through a non-conversion mechanism with an international mechanism.

(4.11.1.11) Indicate if you have evaluated whether your organization's engagement on this policy, law, or regulation is aligned with global environmental treaties or policy goals

Select from:

☒ Yes, we have evaluated, and it is aligned

(4.11.1.12) Global environmental treaties or policy goals aligned with your organization's engagement on this policy, law or regulation

Select all that apply

☒ Paris Agreement

Row 2

(4.11.1.1) Specify the policy, law, or regulation on which your organization is engaging with policy makers

Minister of Energy and Mineral Resources Regulation No. 5 of 2025 (PERMEN ESDM 5/2025): Guidelines for Power Purchase Agreements from Power Plants Utilizing Renewable Energy Sources

(4.11.1.2) Environmental issues the policy, law, or regulation relates to

Select all that apply

☒ Climate change

(4.11.1.3) Focus area of policy, law, or regulation that may impact the environment

Energy and renewables

☒ Green electricity tariffs/renewable energy PPAs

(4.11.1.4) Geographic coverage of policy, law, or regulation

Select from:

☒ National

(4.11.1.5) Country/area/region the policy, law, or regulation applies to

Select all that apply

☒ Indonesia

(4.11.1.6) Your organization's position on the policy, law, or regulation

Select from:

☒ Support with no exceptions

(4.11.1.8) Type of direct engagement with policy makers on this policy, law, or regulation

Select all that apply

☒ Discussion in public forums

(4.11.1.9) Funding figure your organization provided to policy makers in the reporting year relevant to this policy, law, or regulation (currency)

0

(4.11.1.10) Explain the relevance of this policy, law, or regulation to the achievement of your environmental commitments and/or transition plan, how this has informed your engagement, and how you measure the success of your engagement

PERMEN ESDM 5/2025 provides standardized frameworks for renewable energy Power Purchase Agreements (PPAs), which are critical to accelerating Indonesia's renewable energy development. The policy is closely tied to PLN's transition plan as it facilitates greater integration of renewable energy into the national power system, supports the achievement of Indonesia's Enhanced Nationally Determined Contribution (NDC), and advances PLN's commitment to increasing the share of renewables in their generation portfolio. PLN's engagement included active participation in consultations and dialogues to ensure that the regulation reflects practical implementation considerations.

(4.11.1.11) Indicate if you have evaluated whether your organization's engagement on this policy, law, or regulation is aligned with global environmental treaties or policy goals

Select from:

☒ Yes, we have evaluated, and it is aligned

(4.11.1.12) Global environmental treaties or policy goals aligned with your organization's engagement on this policy, law or regulation

Select all that apply

☒ Paris Agreement

Row 3

(4.11.1.1) Specify the policy, law, or regulation on which your organization is engaging with policy makers

The Minister of Environment Regulation No 8 of 2009 (PERMENLH 8/2009): The Water Quality Standard for Industrial Wastewater

(4.11.1.2) Environmental issues the policy, law, or regulation relates to

Select all that apply

☒ Water

(4.11.1.3) Focus area of policy, law, or regulation that may impact the environment

Environmental impacts and pressures

☒ Hazardous substances

☒ Use of pesticides and agrochemicals

☒ Water pollution

(4.11.1.4) Geographic coverage of policy, law, or regulation

Select from:

☒ National

(4.11.1.5) Country/area/region the policy, law, or regulation applies to

Select all that apply

☒ Indonesia

(4.11.1.6) Your organization's position on the policy, law, or regulation

Select from:

☒ Support with no exceptions

(4.11.1.8) Type of direct engagement with policy makers on this policy, law, or regulation

Select all that apply

☒ Discussion in public forums

(4.11.1.9) Funding figure your organization provided to policy makers in the reporting year relevant to this policy, law, or regulation (currency)

0

(4.11.1.10) Explain the relevance of this policy, law, or regulation to the achievement of your environmental commitments and/or transition plan, how this has informed your engagement, and how you measure the success of your engagement

PLN engaged directly with Ministry of Environment and Forestry on The Minister of Environment Regulation No. 8 of 2009 (PERMENLH 8/2009): The Water Quality Standard for Industrial Wastewater. This regulation is highly relevant to PLN's environmental commitments and transition plan, as it sets the benchmark for wastewater management practices and supports the company's objective of minimizing environmental impacts from operational activities. Compliance with this regulation positively influences PLN's public commitments on environmental stewardship and responsible resource management. To influence this positively, PLN actively conducts regular Focus Group Discussions (FGDs) with the Ministry of Environment and Forestry (KLHK). These engagements provide a platform to align PLN's practices with the latest regulatory requirements, seek clarification on technical aspects, and contribute inputs during regulatory updates. This collaborative approach allows PLN to not only ensure compliance but also to anticipate potential changes that may affect future operations.

(4.11.1.11) Indicate if you have evaluated whether your organization's engagement on this policy, law, or regulation is aligned with global environmental treaties or policy goals

Select from:

☒ Yes, we have evaluated, and it is aligned

(4.11.1.12) Global environmental treaties or policy goals aligned with your organization's engagement on this policy, law or regulation

Select all that apply

☒ Sustainable Development Goal 6 on Clean Water and Sanitation

[Add row]

(4.12) Have you published information about your organization's response to environmental issues for this reporting year in places other than your CDP response?

Select from:

☒ Yes

(4.12.1) Provide details on the information published about your organization's response to environmental issues for this reporting year in places other than your CDP response. Please attach the publication.

Row 1

(4.12.1.1) Publication

Select from:

☒ In mainstream reports, in line with environmental disclosure standards or frameworks

(4.12.1.2) Standard or framework the report is in line with

Select all that apply

☒ GRI

☒ IFRS

☒ TCFD

☒ TNFD

(4.12.1.3) Environmental issues covered in publication

Select all that apply

☒ Climate change

☒ Water

☒ Biodiversity

(4.12.1.4) Status of the publication

Select from:

☒ Complete

(4.12.1.5) Content elements

Select all that apply

☒ Strategy

☒ Governance

☒ Emission targets

☒ Emissions figures

☒ Risks & Opportunities

☒ Dependencies & Impacts

☒ Biodiversity indicators

☒ Water accounting figures

☒ Water pollution indicators

☒ Content of environmental policies

(4.12.1.6) Page/section reference

All pages in the attached file.

(4.12.1.7) Attach the relevant publication

SR PLN 2024 - LO9 - LowRes - 11 Sept.pdf

(4.12.1.8) Comment

In addition to the CDP response, PLN has published information on its response to environmental issues in its Sustainability Report for the reporting year. The report is prepared in accordance with recognized international standards and frameworks, including the Global Reporting Initiative (GRI) as well as the International Financial Reporting Standards (IFRS), the Task Force on Climate-related Financial Disclosures (TCFD), and the Taskforce on Nature-related Financial Disclosures (TNFD). Through these frameworks, PLN discloses its strategies, targets, and progress in managing key environmental issues such as climate change, water and waste management, biodiversity protection, and energy transition. This ensures that stakeholders can access transparent, consistent, and comparable information on PLN's environmental performance and commitments.

[Add row]

C5. Business strategy

(5.1) Does your organization use scenario analysis to identify environmental outcomes?

Climate change

(5.1.1) Use of scenario analysis

Select from:

☒ Yes

(5.1.2) Frequency of analysis

Select from:

☒ Annually

Water

(5.1.1) Use of scenario analysis

Select from:

☒ Yes

(5.1.2) Frequency of analysis

Select from:

☒ Annually

[Fixed row]

(5.1.1) Provide details of the scenarios used in your organization's scenario analysis.

Climate change

(5.1.1.1) Scenario used

Physical climate scenarios

☒ RCP 4.5

(5.1.1.2) Scenario used SSPs used in conjunction with scenario

Select from:

☒ No SSP used

(5.1.1.3) Approach to scenario

Select from:

☒ Quantitative

(5.1.1.4) Scenario coverage

Select from:

☒ Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

☒ Acute physical

(5.1.1.6) Temperature alignment of scenario

Select from:

☒ 2.0°C - 2.4°C

(5.1.1.7) Reference year

2023

(5.1.1.8) Timeframes covered

Select all that apply

- ☒ 2025
- ☒ 2030
- ☒ 2040
- ☒ 2050

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

- ☒ Climate change (one of five drivers of nature change)

Stakeholder and customer demands

- ☒ Impact of nature service delivery on consumer

Regulators, legal and policy regimes

- ☒ Global targets

Relevant technology and science

- ☒ Other relevant technology and science driving forces, please specify :Implementation of hydrogen, CCUS, and other new energy and technology studies

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

RCP 4.5 represents a medium baseline scenario with stable radiation intensity of 4.5 W/m² (around 650 ppm CO₂e after 2100), combining mitigation and adaptation measures. For PLN, climate change projections under RCP 4.5 suggest electricity demand may increase by 1.2% in the 2020s and 2% in the 2040s compared to BAU, while hydro power output could decline by 1%, coal-fired power plant efficiency may decrease by 0.1–0.4%, natural gas plants in Java-Bali risk 0.8% capacity loss by 2040, and solar output could fall by 0.5–0.6% in the 2020s and 0.8–1.1% in the 2040s, resulting in production costs reaching USD 77.9 billion. These estimates assume steady deployment of renewable energy technologies to lower GHG emissions, though uncertainties remain regarding technology adoption speed and integration. At the global level, the 2060 NZE target and Indonesia's NDC 2050 pathway have not yet aligned with a below 1.5°C trajectory, creating uncertainty for PLN's long-term strategy as emission cuts may not meet future international commitments. Domestically, the RUPTL 2025–2034 projects electricity demand growth averaging 4.9% annually, with sales increasing from 257 TWh in 2021 to over 430 TWh by 2030 and about 40.6 GW of new capacity planned, yet risks persist from macroeconomic volatility, tax adjustments, and financing challenges. Meanwhile, Indonesia's macroeconomic growth is expected to remain supported by strong domestic demand, government spending, and investment despite weakening exports from global slowdown and US tariff policies. Inflation is projected at 2.6% by

end-2024, BI interest rates are expected to stay at 6.00% before gradually falling to 5.5% in 2025, and the fiscal deficit is set to widen from 2.1% of GDP in 2024 to 2.5% in 2025 as spending prioritizes social protection, infrastructure, health, education, and food security.

(5.1.1.11) Rationale for choice of scenario

PLN uses RCP 4.5 to consider the climate impact on aspects of PLN's operations, where this scenario is adapted from the Intergovernmental Panel on Climate Change (IPCC). The RCP 4.5 and RCP 8.5 study is simulated for the period 2018-2050.

Water

(5.1.1.1) Scenario used

Water scenarios

- ☒ WRI Aqueduct

(5.1.1.3) Approach to scenario

Select from:

- ☒ Qualitative and quantitative

(5.1.1.4) Scenario coverage

Select from:

- ☒ Business activity

(5.1.1.5) Risk types considered in scenario

Select all that apply

- ☒ Chronic physical

(5.1.1.7) Reference year

2023

(5.1.1.8) Timeframes covered

Select all that apply

- ☒ 2030
- ☒ 2050
- ☒ 2080

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

- ☒ Changes to the state of nature
- ☒ Climate change (one of five drivers of nature change)

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

Baseline scenario and future 3 scenarios based on WRI Aqueduct Tools: (1) The "optimistic" scenario (SSP1 RCP2.6); (2) The "business as usual" scenario (SSP3 RCP7.0); and (3) The "pessimistic" scenario (SSP5 RCP8.5).

(5.1.1.11) Rationale for choice of scenario

These scenarios are crucial for PLN due to water's importance in power generation. By analyzing these, PLN can assess risks, identify vulnerabilities, develop strategies, explore alternatives, and engage in policy discussions. This framework helps PLN understand future water impacts and make informed decisions for sustainable operations and climate resilience.

Climate change

(5.1.1.1) Scenario used

Physical climate scenarios

- ☒ RCP 8.5

(5.1.1.2) Scenario used SSPs used in conjunction with scenario

Select from:

☒ No SSP used

(5.1.1.3) Approach to scenario

Select from:

☒ Quantitative

(5.1.1.4) Scenario coverage

Select from:

☒ Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

☒ Acute physical

(5.1.1.6) Temperature alignment of scenario

Select from:

☒ 4.0°C and above

(5.1.1.7) Reference year

2023

(5.1.1.8) Timeframes covered

Select all that apply

☒ 2025

☒ 2030

☒ 2040

☒ 2050

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

☑ Climate change (one of five drivers of nature change)

Stakeholder and customer demands

☑ Impact of nature service delivery on consumer

Regulators, legal and policy regimes

☑ Global targets

Relevant technology and science

☑ Other relevant technology and science driving forces, please specify :Implementation of hydrogen, CCUS, and other new energy and technology studies

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

RCP 8.5 represents an extreme high-emission baseline scenario with radiation intensity of 8.5 W/m², projecting severe climate impacts on the power sector. For PLN, climate change assumptions indicate rising temperatures could increase electricity demand by 1.2% in the 2020s and 2% in the 2040s compared to BAU. Hydropower production is expected to fall slightly, coal-fired power plant efficiency may decline by 0.03–0.3%, natural gas power plants in Java-Bali could experience up to 4.3% capacity loss by 2040, and solar capacity may decrease by 0.5–0.6% in the 2020s and up to 1.1% in the 2040s, leading to production costs of around USD 78.4 billion. These projections assume steady technological deployment and energy transition progress, but uncertainties remain in terms of renewable integration, infrastructure readiness, and system reliability under extreme weather conditions. On global targets, neither the 2060 net zero commitments nor Indonesia's NDC pathway to 2050 are yet aligned with limiting warming below 1.5°C, posing uncertainty for PLN's long-term strategy and compliance with future international expectations. Domestically, the RUPTL 2025–2034 projects average annual electricity demand growth of 4.9%, with sales increasing from 257 TWh in 2021 to over 430 TWh in 2030, supported by around 40.6 GW of new capacity additions. These assumptions depend heavily on stable economic growth, policy consistency, and investment flows, but constraints could emerge from financing limitations and regulatory shifts. In terms of market dynamics, Indonesia's macroeconomic outlook suggests GDP growth remains supported by robust domestic demand, government expenditure, and investment, despite headwinds from slowing exports, global economic uncertainty, and US tariff policies. Inflation is projected to reach 2.6% by end-2024, driven by VAT adjustments and food price rebound, while Bank Indonesia is expected to hold interest rates at 6.00% through 2024 before gradually lowering them to 5.5% in 2025 to maintain rupiah stability and attract foreign inflows. The fiscal deficit is projected at 2.1% of GDP in 2024, widening to 2.5% in 2025 as spending priorities focus on social protection, infrastructure, health, education, and food security.

(5.1.1.11) Rationale for choice of scenario

PLN use RCP 8.5 to consider the climate impact on aspects of PLN's operations, where this scenario is adapted from the Intergovernmental Panel on Climate Change (IPCC). The RCP 4.5 and RCP 8.5 study is simulated for the period 2018-2050.

Climate change

(5.1.1.1) Scenario used

Climate transition scenarios

☒ Bespoke climate transition scenario

(5.1.1.3) Approach to scenario

Select from:

☒ Qualitative and quantitative

(5.1.1.4) Scenario coverage

Select from:

☒ Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

☒ Policy

☒ Market

☒ Technology

(5.1.1.6) Temperature alignment of scenario

Select from:

☒ 2.0°C - 2.4°C

(5.1.1.7) Reference year

2020

(5.1.1.8) Timeframes covered

Select all that apply

- ☒ 2030
- ☒ 2040
- ☒ 2050
- ☒ 2060

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

- ☒ Climate change (one of five drivers of nature change)

Regulators, legal and policy regimes

- ☒ Global targets

Relevant technology and science

- ☒ Other relevant technology and science driving forces, please specify :Implementation of hydrogen, CCUS, and other new energy and technology studies

Macro and microeconomy

- ☒ Domestic growth
- ☒ Globalizing markets

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

The ARED transition scenario assumes a measured coal phase-down strategy supported by biomass co-firing, CCS deployment, and large-scale renewable expansion. Projections indicate PLN's emissions will peak at 326 million tons of CO₂ by 2030 with intensity at 0.74 tonCO₂/MWh, then decline to 0.50 in 2040, 0.21 in 2050, and reach zero by 2060, aligning with Indonesia's long-term NZE commitment. This pathway anticipates 61 GW of renewable capacity (75% of generation) and 20 GW of gas by 2040, with baseload hydro and geothermal complemented by 28 GW of variable solar and wind, plus 2.4 GW of nuclear. Assumptions center on sustained technology cost declines, availability of financing, and readiness of advanced solutions. Uncertainties include scalability of CCS, integration of VRE, and timely nuclear deployment, while constraints arise from legacy CFPP assets and transmission adequacy. At the global level, Indonesia's 2060 NZE and 2050 NDC targets remain above the 1.5°C threshold, creating uncertainty around future policy tightening, carbon market pressures, and alignment with international trade and finance expectations. Domestically, RUPTL 2025–2034 projects electricity demand to grow 4.9% annually, from 257 TWh in 2021 to 430 TWh by 2030, supported by 40.6 GW of new capacity, though uncertainties remain in demand elasticity, investment mobilization, and regulatory reforms. From a macroeconomic perspective,

growth will rely on domestic demand, investment, and government spending, while exports face headwinds from global slowdown and US tariff measures. Inflation is projected at 2.6% by end-2024, with interest rates at 6.00% before easing to 5.5% in 2025. Fiscal deficits are projected at 2.1% of GDP in 2024 and 2.5% in 2025, reflecting social and infrastructure priorities. Uncertainties include external shocks, global protectionism, and efficiency of fiscal absorption, while constraints lie in limited fiscal space and balancing affordability with energy transition investments.

(5.1.1.11) Rationale for choice of scenario

The Accelerated Renewable Energy Development (ARED) scenario is customized to reflect the company's specific conditions. Different from the RCPs, ARED scenario is focusing on how PLN reaches the NDC 2030 and NZE 2060 with the energy transition to renewable energy programs. Before the implementation of the ARED scenario, PLN had undertaken a study to analyze several scenarios. From the three criteria that are used in assessing climate-related scenarios, ARED is chosen as a scenario that can push emission reductions while maintaining affordability and reliability. The emission in 2030 is also projected below the enhanced NDC target that is 358 million tons of CO₂, which aligns with the government's goals. With this decreasing emission, this scenario will also support PLN in achieving NZE in 2060, based on Indonesia's commitment to the Paris Agreement of 2015. With the ARED scenario, PLN will pursue the portion of renewable energy generation by 75% and gas by 25%. Based on the Business as Usual (BAU) scenario, the power plants rely heavily on gas and coal and offer low CAPEX and rapid construction. However, it poses a risk to energy resilience due to its dependence on a single primary energy source, and it is also contributing to higher emissions. Different from BAU, the ARED scenario can maintain energy resilience and meet emissions targets with 75% NRE and 25% from gas. Despite incurring high CAPEX, this scenario offers lower OPEX when compared to the BAU scenario.

Climate change

(5.1.1.1) Scenario used

Climate transition scenarios

☒ Bespoke climate transition scenario

(5.1.1.3) Approach to scenario

Select from:

☒ Qualitative and quantitative

(5.1.1.4) Scenario coverage

Select from:

☒ Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

- ☒ Policy
- ☒ Market
- ☒ Technology

(5.1.1.6) Temperature alignment of scenario

Select from:

- ☒ 4.0°C and above

(5.1.1.7) Reference year

2023

(5.1.1.8) Timeframes covered

Select all that apply

- ☒ 2030
- ☒ 2040
- ☒ 2050
- ☒ 2060

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

- ☒ Climate change (one of five drivers of nature change)

Regulators, legal and policy regimes

- ☒ Global targets

Relevant technology and science

- ☒ Other relevant technology and science driving forces, please specify

Macro and microeconomy

- ☑ Domestic growth
- ☑ Globalizing markets

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

The Business as Usual (BAU) scenario presents major risks for PLN as it reflects continued reliance on coal with limited acceleration of clean energy transition. Under this pathway, annual carbon emissions are projected to rise sharply, reaching 447 million tons of CO₂ in 2030, 623 million tons in 2040, 780 million tons in 2050, and 1,057 million tons in 2060, equal to a 300–400% increase from current levels. This trajectory underscores the conflict between short-term economic priorities and long-term sustainability imperatives. The main uncertainty lies in how quickly PLN can diversify its generation mix, while constraints include stranded asset risks, financing pressures, and intensifying demands from regulators and global investors for faster decarbonization. Globally, the 2060 Net Zero target and Indonesia's 2050 NDC pathway remain misaligned with the below 1.5°C ambition, creating strategic uncertainty. Delays in alignment expose PLN to transition risks, including reputational pressure and potential trade barriers. Domestically, the RUPTL 2025–2034 projects average annual electricity demand growth of 4.9%, with sales increasing from 257 TWh in 2021 to more than 430 TWh in 2030, supported by around 40.6 GW of new capacity. This expansion secures demand growth but risks reinforcing fossil-heavy infrastructure if renewable integration lags. The assumptions rely on macroeconomic stability, but challenges persist around financing and balancing affordability with sustainability. From the globalizing market perspective, Indonesia's GDP outlook is supported by strong domestic demand, government spending, and investment, while exports face headwinds from global slowdown and US tariff policies. Inflation is forecast at 2.6% by end-2024, with Bank Indonesia expected to hold interest rates at 6.00% through 2024 before lowering to 5.5% in 2025 to stabilize the rupiah and attract capital inflows. The fiscal deficit is projected at 2.1% of GDP in 2024 and 2.5% in 2025 as spending focuses on social protection, infrastructure, health, education, and food security. These conditions support electricity demand but create fiscal and policy uncertainties, with constraints in efficient budget absorption and fiscal sustainability.

(5.1.1.11) Rationale for choice of scenario

BAU scenario serves as benchmark for PLN climate risk assessment. It underscores the substantial transition risks inherent in maintaining the status quo without a strategy for energy diversification or decarbonization. As a foundational analytical tool the BAU scenario enables systematic identification of operational and financial exposures within PLN's current business model, directly informing the company's risk prioritization matrix, resilience planning protocols, and strategic transition roadmaps.

[Add row]

(5.1.2) Provide details of the outcomes of your organization's scenario analysis.

Climate change

(5.1.2.1) Business processes influenced by your analysis of the reported scenarios

Select all that apply

- ☒ Risk and opportunities identification, assessment and management
- ☒ Strategy and financial planning
- ☒ Target setting and transition planning

(5.1.2.2) Coverage of analysis

Select from:

- ☒ Organization-wide

(5.1.2.3) Summarize the outcomes of the scenario analysis and any implications for other environmental issues

Based on PLN's climate scenario analysis, which includes RCP 4.5, RCP 8.5, ARED, and BAU scenario, each scenario presents different outcomes and implications for climate change and related environmental issues such as water stress. The ARED (Accelerated Renewable Energy Development) scenario is designed to support the achievement of Net Zero Emissions by 2060 through increasing the renewable energy mix to 75% by 2030. This approach significantly contributes to reducing GHG emissions while decreasing reliance on coal-based thermal power plants, which are both carbon and water intensive. Although the use of hydropower may increase water dependency, ARED is overall viewed as having a positive impact on mitigating pressure on water resources compared to other scenarios. Conversely, the Business as Usual (BAU) scenario and physical climate projections based on RCP 4.5 and RCP 8.5 indicate greater environmental risks. Under the BAU scenario, GHG emissions are expected to remain high and exacerbate climate change, while RCP 8.5 represents a high-emissions trajectory that could result in a global temperature increase of up to 4°C by the end of the century. Such conditions are likely to lead to decreased rainfall in certain regions, more frequent heatwaves, and prolonged droughts—all of which directly impact water availability for power generation, particularly for hydro and thermal plants. These findings highlight the critical need for PLN to integrate climate resilience and water stress risk management into the company's long-term strategic planning.

Water

(5.1.2.1) Business processes influenced by your analysis of the reported scenarios

Select all that apply

- ☒ Risk and opportunities identification, assessment and management
- ☒ Strategy and financial planning
- ☒ Resilience of business model and strategy

(5.1.2.2) Coverage of analysis

Select from:

☒ Business activity

(5.1.2.3) Summarize the outcomes of the scenario analysis and any implications for other environmental issues

PLN assessed potential water-related impacts in Indonesia using three scenarios from the WRI Aqueduct Tools: optimistic (strong climate action), business-as-usual (continuation of current trends), and pessimistic (high emissions). Given the critical role of water in power generation, particularly for hydropower, these scenarios enable PLN to evaluate risks, pinpoint vulnerabilities and opportunities, formulate strategies, consider alternative approaches, and participate in policy dialogues. The company integrates this risk and opportunity assessment with its long-term strategic planning (RUPTL), providing a structured framework to anticipate future water challenges and support informed, sustainable, and climate-resilient operational decisions.

[Fixed row]

(5.2) Does your organization's strategy include a climate transition plan?

(5.2.1) Transition plan

Select from:

☒ Yes, but we have a climate transition plan with a different temperature alignment

(5.2.2) Temperature alignment of transition plan

Select from:

☒ 2°C aligned

(5.2.3) Publicly available climate transition plan

Select from:

☒ Yes

(5.2.4) Plan explicitly commits to cease all spending on, and revenue generation from, activities that contribute to fossil fuel expansion

Select from:

☒ Yes

(5.2.5) Description of activities included in commitment and implementation of commitment

Increase the number of power plants integrated with co-firing and other plants besides fossil fuel power plants.

(5.2.7) Mechanism by which feedback is collected from shareholders on your climate transition plan

Select from:

☒ Our climate transition plan is voted on at AGMs and we also have an additional feedback mechanism in place

(5.2.8) Description of feedback mechanism

Evaluation of SOE KPIs every 3 months and through the GMS mechanism

(5.2.9) Frequency of feedback collection

Select from:

☒ More frequently than annually

(5.2.10) Description of key assumptions and dependencies on which the transition plan relies

The ARED scenario presents a superior emissions performance relative to the BAU Coal/Gas scenario. As of 2024, projections show that PLN's carbon emissions are expected to peak at approximately 326 million tons of CO₂ by 2030. The trajectory continues its downward trend with emissions projected to further achieve NZE by 2060.

(5.2.11) Description of progress against transition plan disclosed in current or previous reporting period

GHG emission intensity slightly decreased to 0.774 tCO₂ e per MWh in 2023, indicating improved energy efficiency. Emissions from power generation increased by 6.82 percent, while emissions from non-power generation activities rose by 7.2 percent. Additionally, emissions per unit of gross revenue declined to 0.49 per million Rupiah and 7,752 per million USD, reflecting a 0.2 percent decrease compared to the previous year (in USD terms). These results demonstrate ongoing efforts to improve operational efficiency and implement emission reduction strategies across both production and non-production activities.

(5.2.12) Attach any relevant documents which detail your climate transition plan (optional)

IFRS 2 LO34.pdf, IFRS 2 LO34.pdf

(5.2.13) Other environmental issues that your climate transition plan considers

Select all that apply

☒ No other environmental issue considered

(5.2.15) Primary reason for not having a climate transition plan that aligns with a 1.5°C world

Select from:

☒ Lack of internal resources, capabilities, or expertise (e.g., due to organization size)

(5.2.16) Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world

PLN is aligning its long-term transition plan with Indonesia's NDC.

[Fixed row]

(5.3) Have environmental risks and opportunities affected your strategy and/or financial planning?

(5.3.1) Environmental risks and/or opportunities have affected your strategy and/or financial planning

Select from:

☒ Yes, both strategy and financial planning

(5.3.2) Business areas where environmental risks and/or opportunities have affected your strategy

Select all that apply

☒ Products and services

☒ Upstream/downstream value chain

☒ Investment in R&D

☒ Operations

[Fixed row]

(5.3.1) Describe where and how environmental risks and opportunities have affected your strategy.

Products and services

(5.3.1.1) Effect type

Select all that apply

- ☒ Risks
- ☒ Opportunities

(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

- ☒ Climate change

(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

High rainfall presents an opportunity by ensuring adequate water supply for hydropower generation, whereas periods of low rainfall and high temperatures pose a risk to water-dependent plants. To mitigate this, PLN leverages solar energy generation to supplement operations during dry and hot periods, ensuring continuity and flexibility in energy supply. Climate change issues have created opportunities for product diversification, such as renewable energies, voluntary REC for customers, and EV charging ecosystem.

Upstream/downstream value chain

(5.3.1.1) Effect type

Select all that apply

- ☒ Risks
- ☒ Opportunities

(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

- ☒ Climate change
- ☒ Water

(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

Climate change issues have resulted in the development of voluntary REC from customers. Moreover, relevant stakeholders in power plants are progressively concerned about environmental standards, one of which is regarding how water conditions affect the supply chain.

Investment in R&D

(5.3.1.1) Effect type

Select all that apply

- ☒ Risks
- ☒ Opportunities

(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

- ☒ Climate change

(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

PLN has invested in flood forecasting mechanism which is a collaborative research with the Meteorology, Climatology, and Geophysical Agency. Moreover, PLN has also invested in research regarding efficiency, CCUS, biomass, and other clean energy technologies.

Operations

(5.3.1.1) Effect type

Select all that apply

- ☒ Risks
- ☒ Opportunities

(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

- ☒ Climate change

☒ Water

(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

Risks and opportunities in climate change and water aspects have affected PLN's main business operation, which is power generation. Different mechanisms are implemented in mitigating the risks and leveraging the opportunities simultaneously. PLN has integrated smart control systems to enhance climate adaptation across operations. These systems enable real-time monitoring of water levels in reservoirs and hydropower plants, as well as transmission infrastructure, including lightning intensity. This adaptive monitoring allows PLN to respond proactively to climate variability, optimize generation dispatch, and maintain grid reliability.
[Add row]

(5.3.2) Describe where and how environmental risks and opportunities have affected your financial planning.

Row 1

(5.3.2.1) Financial planning elements that have been affected

Select all that apply

☒ Capital expenditures

(5.3.2.2) Effect type

Select all that apply

☒ Risks

☒ Opportunities

(5.3.2.3) Environmental issues relevant to the risks and/or opportunities that have affected these financial planning elements

Select all that apply

☒ Climate change

☒ Water

(5.3.2.4) Describe how environmental risks and/or opportunities have affected these financial planning elements

Aligned with its strategic plans in developing renewable energy, PLN is allocating its CAPEX to establish renewable power plants for several years ahead. Additionally, PLN is also retrofitting its existing power plants with different technologies such as co-firing, clean technology, and so on. Moreover, PLN is also allocating CAPEX to establish some installations to meet environmental standards, one of the facilities is a wastewater treatment plant (WWTP).

Row 2

(5.3.2.1) Financial planning elements that have been affected

Select all that apply

☒ Revenues

(5.3.2.2) Effect type

Select all that apply

☒ Opportunities

(5.3.2.3) Environmental issues relevant to the risks and/or opportunities that have affected these financial planning elements

Select all that apply

☒ Climate change

(5.3.2.4) Describe how environmental risks and/or opportunities have affected these financial planning elements

PLN is expected to generate revenues from REC scheme and carbon market.

Row 3

(5.3.2.1) Financial planning elements that have been affected

Select all that apply

☒ Indirect costs

(5.3.2.2) Effect type

Select all that apply

- ☒ Risks
- ☒ Opportunities

(5.3.2.3) Environmental issues relevant to the risks and/or opportunities that have affected these financial planning elements

Select all that apply

- ☒ Climate change
- ☒ Water

(5.3.2.4) Describe how environmental risks and/or opportunities have affected these financial planning elements

In supporting its transition plan, PLN is expected to increase its allocation for indirect operating costs, that apply to power generation, capacity buildings, insurance, recovery costs, and other indirect costs.

[Add row]

(5.4) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

	Identification of spending/revenue that is aligned with your organization's climate transition	Methodology or framework used to assess alignment with your organization's climate transition
	Select from: ☒ Yes	Select all that apply ☒ Other methodology or framework

[Fixed row]

(5.4.1) Quantify the amount and percentage share of your spending/revenue that is aligned with your organization's climate transition.

Row 1

(5.4.1.1) Methodology or framework used to assess alignment

Select from:

☒ Other, please specify :TKBI

(5.4.1.5) Financial metric

Select from:

☒ CAPEX

(5.4.1.6) Amount of selected financial metric that is aligned in the reporting year (currency)

100700000000

(5.4.1.7) Percentage share of selected financial metric aligned in the reporting year (%)

15.9

(5.4.1.8) Percentage share of selected financial metric planned to align in 2025 (%)

16.69

(5.4.1.9) Percentage share of selected financial metric planned to align in 2030 (%)

0

(5.4.1.12) Details of the methodology or framework used to assess alignment with your organization's climate transition

In 2024, PLN demonstrated its commitment to sustainable development through strategic capital allocation, directing IDR 63.6 trillion in total CAPEX toward infrastructure and operational investments. Of this amount, IDR 10.07 trillion (15.9%) was specifically allocated to climate-related initiatives supporting the energy transition plan, reflecting the company's prioritization of decarbonization efforts within its broader investment portfolio. The remaining IDR 53.48 trillion (84.2%) supported essential grid modernization, baseload generation, and operational resilience projects. PLN's 2024 investment distribution highlights its dual mandate of driving Indonesia's energy transition while maintaining financial and operational resilience. By strategically allocating 15.9% of CAPEX to climate initiatives. Currently,

PLN can only project investment plans until 2030 from the generation side, so PLN is not yet able to calculate spending/revenue that is aligned with the organization's climate transition in 2030.
[Add row]

(5.5) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

(5.5.1) Investment in low-carbon R&D

Select from:
☒ Yes

(5.5.2) Comment

In supporting the decarbonization program, PLN consistently conducts various research and development activities related to low-carbon technology carried out by its Units and Subsidiaries. The research conducted in 2024 some of which are carbon capture, utilization, and storage (CCUS), and smart grid, also hydropower generation on pilot demonstration phase, and solar energy on small scale commercial deployment.
[Fixed row]

(5.5.7) Provide details of your organization's investments in low-carbon R&D for your sector activities over the last three years.

Row 1

(5.5.7.1) Technology area

Select from:
☒ Carbon capture, utilization, and storage (CCUS)

(5.5.7.2) Stage of development in the reporting year

Select from:

☒ Basic academic/theoretical research

(5.5.7.3) Average % of total R&D investment over the last 3 years

4.21

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

6564000

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

3.37

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

R&D investments in low-carbon technologies are undertaken to support the achievement of the Net Zero Emissions (NZE) 2060 target.

Row 2

(5.5.7.1) Technology area

Select from:

☒ Battery storage

(5.5.7.2) Stage of development in the reporting year

Select from:

☒ Basic academic/theoretical research

(5.5.7.3) Average % of total R&D investment over the last 3 years

3.58

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

3098281900

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

3.05

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

R&D investments in low-carbon technologies are undertaken to support the achievement of the Net Zero Emissions (NZE) 2060 target.

Row 3

(5.5.7.1) Technology area

Select from:

☒ Ocean thermal energy generation

(5.5.7.2) Stage of development in the reporting year

Select from:

☒ Applied research and development

(5.5.7.3) Average % of total R&D investment over the last 3 years

19.22

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

10576784742

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

17.21

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

R&D investments in low-carbon technologies are undertaken to support the achievement of the Net Zero Emissions (NZE) 2060 target.

Row 4

(5.5.7.1) Technology area

Select from:

☒ Other, please specify :Bioenergy

(5.5.7.2) Stage of development in the reporting year

Select from:

☒ Applied research and development

(5.5.7.3) Average % of total R&D investment over the last 3 years

11.78

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

3828130865

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

16.14

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

R&D investments in low-carbon technologies are undertaken to support the achievement of the Net Zero Emissions (NZE) 2060 target.

Row 5

(5.5.7.1) Technology area

Select from:

☒ Other, please specify :Hydrogen & Ammonia Utilization

(5.5.7.2) Stage of development in the reporting year

Select from:

☒ Applied research and development

(5.5.7.3) Average % of total R&D investment over the last 3 years

4.2

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

5055469278

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

10.53

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

R&D investments in low-carbon technologies are undertaken to support the achievement of the Net Zero Emissions (NZE) 2060 target.

Row 6

(5.5.7.1) Technology area

Select from:

☒ Other, please specify :Hydrogen Production, Transport, and Storage

(5.5.7.2) Stage of development in the reporting year

Select from:

☒ Basic academic/theoretical research

(5.5.7.3) Average % of total R&D investment over the last 3 years

0

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

410813980

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

3.95

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

R&D investments in low-carbon technologies are undertaken to support the achievement of the Net Zero Emissions (NZE) 2060 target.

Row 7

(5.5.7.1) Technology area

Select from:

☒ Smart grid integration

(5.5.7.2) Stage of development in the reporting year

Select from:

☒ Applied research and development

(5.5.7.3) Average % of total R&D investment over the last 3 years

11.31

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

3362606365

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

7.9

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

R&D investments in low-carbon technologies are undertaken to support the achievement of the Net Zero Emissions (NZE) 2060 target.

Row 8

(5.5.7.1) Technology area

Select from:

☒ Solar energy generation

(5.5.7.2) Stage of development in the reporting year

Select from:

☒ Applied research and development

(5.5.7.3) Average % of total R&D investment over the last 3 years

4.73

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

4644299840

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

1.13

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

R&D investments in low-carbon technologies are undertaken to support the achievement of the Net Zero Emissions (NZE) 2060 target.

Row 9

(5.5.7.1) Technology area

Select from:

☒ Wind energy generation

(5.5.7.2) Stage of development in the reporting year

Select from:

☒ Basic academic/theoretical research

(5.5.7.3) Average % of total R&D investment over the last 3 years

0.74

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

280000000

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

2.85

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

R&D investments in low-carbon technologies are undertaken to support the achievement of the Net Zero Emissions (NZE) 2060 target.

[Add row]

(5.7) Break down, by source, your organization's CAPEX in the reporting year and CAPEX planned over the next 5 years.

Coal – hard

(5.7.1) CAPEX in the reporting year for power generation from this source (unit currency as selected in 1.2)

8836609867616

(5.7.2) CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

45.53

(5.7.3) CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

2.94

(5.7.4) Most recent year in which a new power plant using this source was approved for development

2023

(5.7.5) Explain your CAPEX calculations, including any assumptions

Comparison of power generation CAPEX against the total overall CAPEX, including investments in pump storage and Battery Energy Storage System (BESS).

Lignite

(5.7.1) CAPEX in the reporting year for power generation from this source (unit currency as selected in 1.2)

0

(5.7.2) CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

(5.7.3) CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

(5.7.5) Explain your CAPEX calculations, including any assumptions

PLN does not operate and will develop this type of power plant.

Oil

(5.7.1) CAPEX in the reporting year for power generation from this source (unit currency as selected in 1.2)

305495057083

(5.7.2) CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

1.57

(5.7.3) CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

(5.7.4) Most recent year in which a new power plant using this source was approved for development

2024

(5.7.5) Explain your CAPEX calculations, including any assumptions

Over the past ten years, no new oil-fueled power plants have been developed. However, leasing arrangements remain in place, making rental costs for diesel power plants (PLTD) and oil fuel expenses a continuing component of operating expenditures (OPEX).

Gas

(5.7.1) CAPEX in the reporting year for power generation from this source (unit currency as selected in 1.2)

6520572873730.35

(5.7.2) CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

33.6

(5.7.3) CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

50.29

(5.7.4) Most recent year in which a new power plant using this source was approved for development

2024

(5.7.5) Explain your CAPEX calculations, including any assumptions

Comparison of power generation CAPEX against the total overall CAPEX, including investments in pump storage and Battery Energy Storage System (BESS).

Sustainable biomass

(5.7.1) CAPEX in the reporting year for power generation from this source (unit currency as selected in 1.2)

0

(5.7.2) CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

(5.7.3) CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

(5.7.5) Explain your CAPEX calculations, including any assumptions

PLN does not operate and will develop this type of power plant.

Other biomass

(5.7.1) CAPEX in the reporting year for power generation from this source (unit currency as selected in 1.2)

0

(5.7.2) CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

(5.7.3) CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

(5.7.5) Explain your CAPEX calculations, including any assumptions

Biomass power generation is currently limited to co-firing with coal-fired power plants and has not yet been developed as a standalone facility, therefore PLN has not allocated a separate CAPEX for biomass power generation.

Waste (non-biomass)

(5.7.1) CAPEX in the reporting year for power generation from this source (unit currency as selected in 1.2)

0

(5.7.2) CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

(5.7.3) CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

(5.7.5) Explain your CAPEX calculations, including any assumptions

PLN does not operate and will develop this type of power plant.

Nuclear

(5.7.1) CAPEX in the reporting year for power generation from this source (unit currency as selected in 1.2)

0

(5.7.2) CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

(5.7.3) CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

(5.7.5) Explain your CAPEX calculations, including any assumptions

PLN does not operate and will develop this type of power plant.

Geothermal

(5.7.1) CAPEX in the reporting year for power generation from this source (unit currency as selected in 1.2)

398996399142

(5.7.2) CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

2.06

(5.7.3) CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

2.97

(5.7.4) Most recent year in which a new power plant using this source was approved for development

2014

(5.7.5) Explain your CAPEX calculations, including any assumptions

Comparison of power generation CAPEX against the total overall CAPEX, including investments in pump storage and Battery Energy Storage System (BESS).

Hydropower

(5.7.1) CAPEX in the reporting year for power generation from this source (unit currency as selected in 1.2)

2975842955351

(5.7.2) CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

15.33

(5.7.3) CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

7.62

(5.7.4) Most recent year in which a new power plant using this source was approved for development

2024

(5.7.5) Explain your CAPEX calculations, including any assumptions

Comparison of power generation CAPEX against the total overall CAPEX, including investments in pump storage and Battery Energy Storage System (BESS).

Wind

(5.7.1) CAPEX in the reporting year for power generation from this source (unit currency as selected in 1.2)

3216764366

(5.7.2) CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0.02

(5.7.3) CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

7.13

(5.7.4) Most recent year in which a new power plant using this source was approved for development

2007

(5.7.5) Explain your CAPEX calculations, including any assumptions

Comparison of power generation CAPEX against the total overall CAPEX, including investments in pump storage and Battery Energy Storage System (BESS).

Solar

(5.7.1) CAPEX in the reporting year for power generation from this source (unit currency as selected in 1.2)

366318015991

(5.7.2) CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

1.89

(5.7.3) CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

12.39

(5.7.4) Most recent year in which a new power plant using this source was approved for development

2024

(5.7.5) Explain your CAPEX calculations, including any assumptions

Comparison of power generation CAPEX against the total overall CAPEX, including investments in pump storage and Battery Energy Storage System (BESS).

Marine

(5.7.1) CAPEX in the reporting year for power generation from this source (unit currency as selected in 1.2)

0

(5.7.2) CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

(5.7.3) CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

(5.7.5) Explain your CAPEX calculations, including any assumptions

PLN does not operate and will develop this type of power plant.

Fossil-fuel plants fitted with CCS

(5.7.1) CAPEX in the reporting year for power generation from this source (unit currency as selected in 1.2)

0

(5.7.2) CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

(5.7.3) CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

(5.7.5) Explain your CAPEX calculations, including any assumptions

PLN does not operate and will develop this type of power plant.

Other renewable (e.g. renewable hydrogen)

(5.7.1) CAPEX in the reporting year for power generation from this source (unit currency as selected in 1.2)

0

(5.7.2) CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

(5.7.3) CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

0

(5.7.5) Explain your CAPEX calculations, including any assumptions

PLN does not operate and will develop this type of power plant.

Other non-renewable (e.g. non-renewable hydrogen)

(5.7.1) CAPEX in the reporting year for power generation from this source (unit currency as selected in 1.2)

0

(5.7.2) CAPEX in the reporting year for power generation from this source as % of total CAPEX for power generation in the reporting year

0

(5.7.3) CAPEX planned over the next 5 years for power generation from this source as % of total CAPEX planned for power generation over the next 5 years

(5.7.5) Explain your CAPEX calculations, including any assumptions

PLN does not operate and will develop this type of power plant.

[Fixed row]

(5.7.1) Break down your total planned CAPEX in your current CAPEX plan for products and services (e.g. smart grids, digitalization, etc.).

Row 1

(5.7.1.1) Products and services

Select from:

☒ Charging networks

(5.7.1.2) Description of product/service

In line with the Ministry of Energy and Mineral Resources' Roadmap for EV Charging Stations (SPKLU) 2025–2030, the government set a target of 9,636 cumulative SPKLU units by 2026, with a ratio of 1:17 between SPKLU and electric vehicles (EVs), and EV adoption projected to reach 163,764 units. PLN has outlined a large-scale investment plan for SPKLU development in collaboration with private partners and other stakeholders. In 2025, PLN is expected to cover about 65 percent of the infrastructure gap, while in 2026 the contribution is targeted at 50 percent, with a gradual decline thereafter as private sector involvement expands toward 2030. Private partnerships are projected to grow by 5–10 percent annually, ultimately contributing around 70 percent of the total roadmap implementation by 2030. Based on current projections, SPKLU deployment will grow linearly between 2025 and 2027, maintaining a ratio of 1:17, before accelerating exponentially from 2028 to 2030, supported by more competitive domestic EV production and stronger consumer adoption. The percentage of total CAPEX planned for products and services is calculated by dividing the CAPEX allocated for SPKLU development by the follow-up CAPEX in 2026, which is derived from the 2025 investment budget.

(5.7.1.3) CAPEX planned for product/service

590288001586

(5.7.1.4) Percentage of total CAPEX planned for products and services

0.21

(5.7.1.5) End year of CAPEX plan

2026

Row 2

(5.7.1.1) Products and services

Select from:

☒ Large-scale storage

(5.7.1.2) Description of product/service

In its 2025–2034 Business Plan (RUPTL), PLN targets 69.5 GW of additional generation capacity, of which 42.6 GW will come from renewable sources and 10.3 GW from energy storage technologies, consisting of 4.3 GW from pumped storage hydropower (PSHP) and 6 GW from battery energy storage systems (BESS). The most significant PSHP initiative is the Upper Cisokan project in West Java, with an installed capacity of 1,040 MW. As Indonesia's first large-scale pumped storage facility, it is supported by financing from the World Bank and AIIB amounting to approximately USD 610 million. Beyond providing peak load supply, UCPS will strengthen grid stability through frequency regulation, spinning reserves, and improved load factor, particularly for the Java–Bali system. In parallel, PLN is accelerating BESS deployment to complement intermittent renewable energy. Pilot projects have been launched in collaboration with the Indonesia Battery Corporation, including a 5 MW BESS to support solar and wind power integration. Other notable projects include the 70 MW Tanah Laut wind farm combined with a 10 MWh BESS in South Kalimantan, and a solar PV plus BESS facility of around 18 MW in Nusa Penida, Bali. These projects are designed to enhance supply reliability, especially in remote or island grids, while demonstrating the scalability of storage solutions.

(5.7.1.3) CAPEX planned for product/service

55655309

(5.7.1.4) Percentage of total CAPEX planned for products and services

7.53

(5.7.1.5) End year of CAPEX plan

2029

Row 4

(5.7.1.1) Products and services

Select from:

☒ Smart grid

(5.7.1.2) Description of product/service

PLN's estimated investment of approximately USD 5 billion to develop a Smart Grid system, distributed across four main components: Smart Power Plant, Smart Distribution, Smart Control System, and Smart Transmission. The largest allocation is directed to Smart Power Plant, requiring USD 2.2 billion or 44 percent of the total, covering flexible generation, automatic generation control, free governor, power system stabilizer, digital twin implementation, and IoT-based isolated power plants. Smart Distribution follows closely with USD 2 billion or 40 percent, focusing on green energy integration, data analytics, distributed energy resources (DER) management, monitoring and control, supply reliability, customer empowerment and satisfaction, as well as system security. The Smart Control System is allocated USD 0.5 billion or 10 percent for the development of a Smart Control Center, smart defense schemes, and integration costs, while Smart Transmission accounts for USD 0.3 billion or 6 percent through the application of Flexible Alternating Current Transmission Systems (FACTS) to improve grid flexibility and reliability.

(5.7.1.3) CAPEX planned for product/service

80500000000000

(5.7.1.4) Percentage of total CAPEX planned for products and services

78.92

(5.7.1.5) End year of CAPEX plan

2034

[Add row]

(5.9) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

(5.9.1) Water-related CAPEX (+/- % change)

(5.9.2) Anticipated forward trend for CAPEX (+/- % change)

(5.9.3) Water-related OPEX (+/- % change)

(5.9.4) Anticipated forward trend for OPEX (+/- % change)

(5.9.5) Please explain

CAPEX is budgeted periodically in line with major overhauls, approximately every three years, with an assumed increase of 10%. No capital expenditures are planned for 2024. OPEX is expected to rise following operational hours/production levels and inflation, with an assumed increase of 5–7%. The anticipated forward trend figures reflect changes in the previous year’s water-related CAPEX and OPEX, indicating adjustments in budget planning based on evolving operational and environmental conditions.

[Fixed row]

(5.10) Does your organization use an internal price on environmental externalities?

	Use of internal pricing of environmental externalities	Environmental externality priced
	Select from: ☒ Yes	Select all that apply ☒ Carbon

[Fixed row]

(5.10.1) Provide details of your organization’s internal price on carbon.

Row 1

(5.10.1.1) Type of pricing scheme

Select from:

- ☒ Internal trading

(5.10.1.2) Objectives for implementing internal price

Select all that apply

- ☒ Navigate regulations
- ☒ Drive energy efficiency
- ☒ Set a carbon offset budget
- ☒ Drive low-carbon investment
- ☒ Influence strategy and/or financial planning
- ☒ Setting and/or achieving of climate-related policies and targets

(5.10.1.3) Factors considered when determining the price

Select all that apply

- ☒ Alignment to international standards
- ☒ Alignment with the price of a carbon tax
- ☒ Alignment with the price of allowances under an Emissions Trading Scheme
- ☒ Benchmarking against peers
- ☒ Price/cost of voluntary carbon offset credits

(5.10.1.4) Calculation methodology and assumptions made in determining the price

We conducted benchmarking to peers with similar schemes in 2021.

(5.10.1.5) Scopes covered

Select all that apply

- ☒ Scope 1

(5.10.1.6) Pricing approach used – spatial variance

Select from:

☒ Differentiated

(5.10.1.7) Indicate how and why the price is differentiated

Based on the type of power plant (renewable energy vs. non-renewable energy)

(5.10.1.8) Pricing approach used – temporal variance

Select from:

☒ Evolutionary

(5.10.1.9) Indicate how you expect the price to change over time

The price changed over time influenced by electricity supply-demand.

(5.10.1.10) Minimum actual price used (currency per metric ton CO2e)

32310

(5.10.1.11) Maximum actual price used (currency per metric ton CO2e)

145395

(5.10.1.12) Business decision-making processes the internal price is applied to

Select all that apply

☒ Public policy engagement

(5.10.1.13) Internal price is mandatory within business decision-making processes

Select from:

☒ No

(5.10.1.14) % total emissions in the reporting year in selected scopes this internal price covers

74.75

(5.10.1.15) Pricing approach is monitored and evaluated to achieve objectives

Select from:

☒ Yes

(5.10.1.16) Details of how the pricing approach is monitored and evaluated to achieve your objectives

The pricing approach is monitored and evaluated through monthly monitoring using working papers to each plant.

[Add row]

(5.11) Do you engage with your value chain on environmental issues?

	Engaging with this stakeholder on environmental issues	Environmental issues covered
Suppliers	Select from: ☒ Yes	Select all that apply ☒ Climate change ☒ Water
Customers	Select from: ☒ Yes	Select all that apply ☒ Climate change
Investors and shareholders	Select from: ☒ Yes	Select all that apply ☒ Climate change
Other value chain stakeholders	Select from: ☒ Yes	Select all that apply ☒ Climate change

[Fixed row]

(5.11.1) Does your organization assess and classify suppliers according to their dependencies and/or impacts on the environment?

Climate change

(5.11.1.1) Assessment of supplier dependencies and/or impacts on the environment

Select from:

☒ Yes, we assess the dependencies and/or impacts of our suppliers

(5.11.1.2) Criteria for assessing supplier dependencies and/or impacts on the environment

Select all that apply

☒ Dependence on ecosystem services/environmental assets

☒ Impact on pollution levels

(5.11.1.3) % Tier 1 suppliers assessed

Select from:

☒ 26-50%

(5.11.1.4) Define a threshold for classifying suppliers as having substantive dependencies and/or impacts on the environment

The threshold is determined based on mandatory UKL/UPL or AMDAL requirements, according to the installed capacity in MW, as also specified in the contract with the IPP.

(5.11.1.5) % Tier 1 suppliers meeting the threshold for substantive dependencies and/or impacts on the environment

Select from:

☒ 1-25%

(5.11.1.6) Number of Tier 1 suppliers meeting the thresholds for substantive dependencies and/or impacts on the environment

Water

(5.11.1.1) Assessment of supplier dependencies and/or impacts on the environment

Select from:

- ☒ Yes, we assess the dependencies and/or impacts of our suppliers

(5.11.1.2) Criteria for assessing supplier dependencies and/or impacts on the environment

Select all that apply

- ☒ Dependence on ecosystem services/environmental assets
- ☒ Impact on water availability
- ☒ Impact on pollution levels

(5.11.1.3) % Tier 1 suppliers assessed

Select from:

- ☒ 26-50%

(5.11.1.4) Define a threshold for classifying suppliers as having substantive dependencies and/or impacts on the environment

The threshold is determined based on mandatory UKL/UPL or AMDAL requirements, according to the installed capacity in MW, as also specified in the contract with the IPP.

(5.11.1.5) % Tier 1 suppliers meeting the threshold for substantive dependencies and/or impacts on the environment

Select from:

- ☒ 1-25%

(5.11.1.6) Number of Tier 1 suppliers meeting the thresholds for substantive dependencies and/or impacts on the environment

(5.11.2) Does your organization prioritize which suppliers to engage with on environmental issues?

Climate change

(5.11.2.1) Supplier engagement prioritization on this environmental issue

Select from:

☒ Yes, we prioritize which suppliers to engage with on this environmental issue

(5.11.2.2) Criteria informing which suppliers are prioritized for engagement on this environmental issue

Select all that apply

☒ Business risk mitigation

☒ Regulatory compliance

(5.11.2.4) Please explain

Supplier assessment during the operations according to applicable regulations and standards (UKL/UPL)

Water

(5.11.2.1) Supplier engagement prioritization on this environmental issue

Select from:

☒ Yes, we prioritize which suppliers to engage with on this environmental issue

(5.11.2.2) Criteria informing which suppliers are prioritized for engagement on this environmental issue

Select all that apply

☒ In line with the criteria used to classify suppliers as having substantive dependencies and/or impacts relating to water

☒ Business risk mitigation

- ☒ Regulatory compliance

(5.11.2.4) Please explain

Supplier assessment during the operations according to applicable regulations and standards (UKL/UPL)

[Fixed row]

(5.11.5) Do your suppliers have to meet environmental requirements as part of your organization's purchasing process?

Climate change

(5.11.5.1) Suppliers have to meet specific environmental requirements related to this environmental issue as part of the purchasing process

Select from:

- ☒ Yes, suppliers have to meet environmental requirements related to this environmental issue, but they are not included in our supplier contracts

(5.11.5.2) Policy in place for addressing supplier non-compliance

Select from:

- ☒ No, we do not have a policy in place for addressing non-compliance

(5.11.5.3) Comment

PLN applies a non-compliance policy in its Power Purchase Agreement (PPA) with Independent Power Producers (IPPs). This is outlined in a procurement checklist that must be fully met; otherwise, IPPs are automatically disqualified from contracting with PLN. Key requirements include compliance with Indonesian environmental regulations, adherence to maximum emission standards, water quality standards in line with Ministry of Environment Regulation No. 51/1995, and fulfillment of Environmental Impact Assessment (AMDAL) procedures and related government rules. Contracts may be terminated if suppliers fail to achieve the Commercial Operation Date (COD) or exceed the procurement planning timeline up to the operational phase. Suppliers must secure all required permits, and failure to do so may trigger termination. Sanctions include contract termination for non-compliance with environmental obligations and blacklisting in cases of default, either prior to or during the contract term. These provisions are part of PLN's general procurement policy, as regulated under the Board of Directors Regulation (PERDIR) No. 022 of 2020 on Guidelines for the Procurement of Goods and Services at PT PLN (Persero).

Water

(5.11.5.1) Suppliers have to meet specific environmental requirements related to this environmental issue as part of the purchasing process

Select from:

☒ Yes, environmental requirements related to this environmental issue are included in our supplier contracts

(5.11.5.2) Policy in place for addressing supplier non-compliance

Select from:

☒ Yes, we have a policy in place for addressing non-compliance

(5.11.5.3) Comment

PLN applies a non-compliance policy in its Power Purchase Agreement (PPA) with Independent Power Producers (IPPs). This is outlined in a procurement checklist that must be fully met; otherwise, IPPs are automatically disqualified from contracting with PLN. Key requirements include compliance with Indonesian environmental regulations, adherence to maximum emission standards, water quality standards in line with Ministry of Environment Regulation No. 51/1995, and fulfillment of Environmental Impact Assessment (AMDAL) procedures and related government rules. Contracts may be terminated if suppliers fail to achieve the Commercial Operation Date (COD) or exceed the procurement planning timeline up to the operational phase. Suppliers must secure all required permits, and failure to do so may trigger termination. Sanctions include contract termination for non-compliance with environmental obligations and blacklisting in cases of default, either prior to or during the contract term. These provisions are part of PLN's general procurement policy, as regulated under the Board of Directors Regulation (PERDIR) No. 022 of 2020 on Guidelines for the Procurement of Goods and Services at PT PLN (Persero).

[Fixed row]

(5.11.6) Provide details of the environmental requirements that suppliers have to meet as part of your organization's purchasing process, and the compliance measures in place.

Climate change

(5.11.6.1) Environmental requirement

Select from:

☒ Regular environmental risk assessments (at least once annually)

(5.11.6.2) Mechanisms for monitoring compliance with this environmental requirement

Select all that apply

☒ Other, please specify :Indonesian environmental regulation compliance (SIMPEL)

(5.11.6.3) % tier 1 suppliers by procurement spend required to comply with this environmental requirement

Select from:

☒ 100%

(5.11.6.4) % tier 1 suppliers by procurement spend in compliance with this environmental requirement

Select from:

☒ 100%

(5.11.6.7) % tier 1 supplier-related scope 3 emissions attributable to the suppliers required to comply with this environmental requirement

Select from:

☒ 100%

(5.11.6.8) % tier 1 supplier-related scope 3 emissions attributable to the suppliers in compliance with this environmental requirement

Select from:

☒ 100%

(5.11.6.12) Comment

This figure represents the number of IPPs. IPPs are automatically monitored through the government compliance system, and non-compliance may result in license revocation. During both construction and operational phases, IPPs are required to submit SLA reports every six months. Menghitung GHG emission dari IPP untuk kebutuhan SR

Water

(5.11.6.1) Environmental requirement

Select from:

- ☒ Regular environmental risk assessments (at least once annually)

(5.11.6.2) Mechanisms for monitoring compliance with this environmental requirement

Select all that apply

- ☒ Other, please specify :Indonesian environmental regulation compliance (SIMPEL)

(5.11.6.3) % tier 1 suppliers by procurement spend required to comply with this environmental requirement

Select from:

- ☒ 26-50%

(5.11.6.4) % tier 1 suppliers by procurement spend in compliance with this environmental requirement

Select from:

- ☒ 100%

(5.11.6.5) % tier 1 suppliers with substantive environmental dependencies and/or impacts related to this environmental issue required to comply with this environmental requirement

Select from:

- ☒ 100%

(5.11.6.6) % tier 1 suppliers with substantive environmental dependencies and/or impacts related to this environmental issue that are in compliance with this environmental requirement

Select from:

- ☒ 100%

(5.11.6.12) Comment

This figure represents the number of IPPs. IPPs are automatically monitored through the government compliance system, and non-compliance may result in license revocation. During both construction and operational phases, IPPs are required to submit SLA reports every six months.

[Add row]

(5.11.7) Provide further details of your organization's supplier engagement on environmental issues.

Climate change

(5.11.7.2) Action driven by supplier engagement

Select from:

- ☒ Adaptation to climate change

(5.11.7.3) Type and details of engagement

Capacity building

- ☒ Provide training, support and best practices on how to mitigate environmental impact

Information collection

- ☒ Collect GHG emissions data at least annually from suppliers

(5.11.7.4) Upstream value chain coverage

Select all that apply

- ☒ Tier 1 suppliers

(5.11.7.5) % of tier 1 suppliers by procurement spend covered by engagement

Select from:

- ☒ 100%

(5.11.7.6) % of tier 1 supplier-related scope 3 emissions covered by engagement

Select from:

- ☒ 26-50%

(5.11.7.9) Describe the engagement and explain the effect of your engagement on the selected environmental action

One of PLN's suppliers is Independent Power Plant (IPP, outside PLN's power plant) which supplies electricity directly to PLN. Engagement carried out in the form of IPPs commit to following PLN's guidance regarding climate change and water-related issues.

(5.11.7.10) Engagement is helping your tier 1 suppliers meet an environmental requirement related to this environmental issue

Select from:

☒ Yes, please specify the environmental requirement :Facilitates IPPs in gaining access to information on optional international funding.

(5.11.7.11) Engagement is helping your tier 1 suppliers engage with their own suppliers on the selected action

Select from:

☒ No

Water

(5.11.7.2) Action driven by supplier engagement

Select from:

☒ Substitution of hazardous substances with less harmful substances

(5.11.7.3) Type and details of engagement

Capacity building

☒ Provide training, support and best practices on how to mitigate environmental impact

(5.11.7.4) Upstream value chain coverage

Select all that apply

☒ Tier 1 suppliers

(5.11.7.5) % of tier 1 suppliers by procurement spend covered by engagement

Select from:

☒ 100%

(5.11.7.7) % tier 1 suppliers with substantive impacts and/or dependencies related to this environmental issue covered by engagement

Select from:

☒ 26-50%

(5.11.7.9) Describe the engagement and explain the effect of your engagement on the selected environmental action

One of PLN's suppliers is Independent Power Plant (IPP, outside PLN's power plant) which supplies electricity directly to PLN. Engagement carried out in the form of IPPs commit to following PLN's guidance regarding climate change and water-related issues.

(5.11.7.10) Engagement is helping your tier 1 suppliers meet an environmental requirement related to this environmental issue

Select from:

☒ Yes, please specify the environmental requirement :Facilitates IPPs in gaining access to information on optional international funding.

(5.11.7.11) Engagement is helping your tier 1 suppliers engage with their own suppliers on the selected action

Select from:

☒ No

[Add row]

(5.11.9) Provide details of any environmental engagement activity with other stakeholders in the value chain.

Climate change

(5.11.9.1) Type of stakeholder

Select from:

☒ Customers

(5.11.9.2) Type and details of engagement

Education/Information sharing

☒ Run an engagement campaign to educate stakeholders about the environmental impacts about your products, goods and/or services

(5.11.9.3) % of stakeholder type engaged

Select from:

☒ Less than 1%

(5.11.9.4) % stakeholder-associated scope 3 emissions

Select from:

☒ Less than 1%

(5.11.9.5) Rationale for engaging these stakeholders and scope of engagement

Engagement with corporate customers to contribute to the development of renewable energy through the purchase of RECs.

(5.11.9.6) Effect of engagement and measures of success

By promoting these engagements, PLN is committed to continuously improving in the context of the climate transition plan to support Indonesia NDC's target. This is carried out by aligning the National plan with PLN's activities and strategies.

[Add row]

(5.13) Has your organization already implemented any mutually beneficial environmental initiatives due to CDP Supply Chain member engagement?

	Environmental initiatives implemented due to CDP Supply Chain member engagement	Primary reason for not implementing environmental initiatives	Explain why your organization has not implemented any environmental initiatives
	<i>Select from:</i> ☒ No, and we do not plan to within the next two years	<i>Select from:</i> ☒ Other, please specify :not include in domestic customer	<i>PLN still prioritize domestic customers while SD Guthrie is not PLN domestic customers for environmental engagement</i>

[Fixed row]

C6. Environmental Performance - Consolidation Approach

(6.1) Provide details on your chosen consolidation approach for the calculation of environmental performance data.

Climate change

(6.1.1) Consolidation approach used

Select from:

☒ Operational control

(6.1.2) Provide the rationale for the choice of consolidation approach

Environmental data regarding climate change (GHG inventory) is provided by PLN as a consolidated group, which consists of the holding company, subholdings, and subsidiaries.

Water

(6.1.1) Consolidation approach used

Select from:

☒ Operational control

(6.1.2) Provide the rationale for the choice of consolidation approach

Environmental data regarding water is provided by PLN as a consolidated group, which consists of the holding company, subholdings, and subsidiaries.

Plastics

(6.1.1) Consolidation approach used

Select from:

☒ Other, please specify :Not relevant

(6.1.2) Provide the rationale for the choice of consolidation approach

PLN does not consider plastics as a relevant environmental aspect.

Biodiversity

(6.1.1) Consolidation approach used

Select from:

☒ Operational control

(6.1.2) Provide the rationale for the choice of consolidation approach

Environmental data regarding biodiversity is provided by PLN as a consolidated group, which consists of the holding company, subholdings, and subsidiaries.
[Fixed row]

C7. Environmental performance - Climate Change

(7.1) Is this your first year of reporting emissions data to CDP?

Select from:

☒ No

(7.1.1) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

	Has there been a structural change?
	Select all that apply ☒ No

[Fixed row]

(7.1.2) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

(7.1.2.1) Change(s) in methodology, boundary, and/or reporting year definition?

Select all that apply

☒ Yes, a change in boundary

(7.1.2.2) Details of methodology, boundary, and/or reporting year definition change(s)

In the 2024 reporting year, the GHG emissions calculation methodology remained the same as the previous year; however, the 2024 Sustainability Report includes revised emission figures resulting from data adjustments to improve reporting accuracy. A significant change occurred in the reporting boundaries, where one emissions category previously reported under Scope 3 was moved to Scope 1, as it is now directly operated by the subholding and its subsidiaries. Consequently, Scope 3 now only covers emissions from the purchase of electricity from Independent Power Producers (IPPs). In addition, PLN continues to refer to the latest ISO 14064-1:2018 guidelines and updates to the GHG Protocol, adds new business units previously excluded from the reporting scope, and changes the definition of the reporting year from the calendar year to the fiscal year, thereby affecting adjustments to the base year emissions data. These changes ensure methodological consistency, year-to-year data relevance, and transparency to stakeholders.

[Fixed row]

(7.1.3) Have your organization's base year emissions and past years' emissions been recalculated as a result of any changes or errors reported in 7.1.1 and/or 7.1.2?

(7.1.3.1) Base year recalculation

Select from:

☒ No, because the impact does not meet our significance threshold

(7.1.3.3) Base year emissions recalculation policy, including significance threshold

The organization follows the recalculation approach outlined in the US EPA's GHG Inventory Guidance. With the establishment of 2023 as the new base year, a significance threshold cannot yet be set, as no prior-year baseline exists for comparison under the updated reporting framework.

(7.1.3.4) Past years' recalculation

Select from:

☒ Yes

[Fixed row]

(7.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

Select all that apply

- ☒ ISO 14064-1
- ☒ The Greenhouse Gas Protocol: Scope 2 Guidance
- ☒ US EPA Mandatory Greenhouse Gas Reporting Rule
- ☒ US EPA Emissions & Generation Resource Integrated Database (eGRID)
- ☒ The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Standard
- ☒ 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories
- ☒ The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
- ☒ US EPA Center for Corporate Climate Leadership: Direct Emissions from Mobile Combustion Sources
- ☒ Other, please specify :2019 Greenhouse Gas Inventory Guideline from the Ministry of Energy and Mineral Resources (Pedoman Inventarisasi Gas Rumah Kaca ESDM 2019)

(7.3) Describe your organization's approach to reporting Scope 2 emissions.

(7.3.1) Scope 2, location-based

Select from:

- ☒ We are reporting a Scope 2, location-based figure

(7.3.2) Scope 2, market-based

Select from:

- ☒ We are reporting a Scope 2, market-based figure

(7.3.3) Comment

PLN uses the location-based approach for reporting Scope 2 emissions. Scope 2 GHG emissions are the result of energy losses or energy loss from electricity purchased from independent power producers (IPPs). The calculation is conducted by multiplying the energy losses by the emission intensity. Additionally, Scope 2 GHG emissions also come from the electricity consumption of PLN units and offices from the distribution network.

[Fixed row]

(7.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?

Select from:

☒ No

(7.5) Provide your base year and base year emissions.

Scope 1

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO2e)

160552000

(7.5.3) Methodological details

The base year for Scope 1 emissions has been established as 2024, reflecting a methodological update from the use of aggregated grid emission factors to plant-specific average emission intensity data for Independent Power Producer (IPP) facilities. Scope 1 emissions reported include fuel combustion from power plants and generators, company-operated vehicles, and SF6 releases. Emission factors applied are sourced from the US EPA. For SF6, emissions are calculated by multiplying the quantity of gas added with the Global Warming Potential (GWP) values from the IPCC Sixth Assessment Report (AR6) 2021.

Scope 2 (location-based)

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO2e)

8826000

(7.5.3) Methodological details

The base year for location-based Scope 2 emissions is set as 2023, following a methodological shift from aggregated grid emission factors to average emission intensity data by IPP plant type. Scope 2 emissions include purchased electricity, heating, and cooling, and are calculated based on energy losses multiplied by the most recent Electricity System Emission Factor published by DJKN (2019). Emission data is sourced from IPP-reported emission intensity through the Electricity Emission Calculation and Reporting Application (APPLE-Gatrik).

Scope 2 (market-based)

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO₂e)

7185.57

(7.5.3) Methodological details

Scope 2 market-based emissions are calculated using supplier-specific emission factors reflecting PLN's generation mix, with activity data sourced from electricity invoices. Renewable Energy Certificates (RECs) and green tariff arrangements are applied where relevant, in line with the GHG Protocol Scope 2 Guidance.

Scope 3 category 1: Purchased goods and services

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO₂e)

3860000

(7.5.3) Methodological details

Scope 3 emissions use 2023 as the base year, aligned with the GHG Protocol Value Chain Standard, with purchased goods and services estimated by applying US EPA (2017) emission factors to annual procurement data.

Scope 3 category 2: Capital goods

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO2e)

3813000

(7.5.3) Methodological details

Scope 3 emissions are based on 2023 as the base year, with categorization aligned to the GHG Protocol Value Chain Standard. Capital goods emissions are estimated by applying US EPA (2017) emission factors to annual consolidated capital goods data.

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO2e)

1090000

(7.5.3) Methodological details

Scope 3 emissions use 2023 as the base year, categorized under the GHG Protocol Value Chain Standard. Fuel- and energy-related emissions are calculated by applying US EPA (2017) emission factors to annual consolidated fuel and electricity purchases from IPPs.

Scope 3 category 4: Upstream transportation and distribution

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO2e)

0

(7.5.3) Methodological details

PLN has assessed emissions arising from this source and determined that their contribution is relatively minor. When compared to other emission sources that are already included in the company's reporting boundary, the impact is considered insignificant. Therefore, while acknowledged, these emissions are not prioritized in PLN's disclosure as they do not materially affect the overall GHG inventory.

Scope 3 category 5: Waste generated in operations

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO2e)

0

(7.5.3) Methodological details

PLN considers the emissions from this source to be not significant compared to emissions from other sources that have already been reported.

Scope 3 category 6: Business travel

(7.5.1) Base year end

12/29/2024

(7.5.2) Base year emissions (metric tons CO2e)

10000

(7.5.3) Methodological details

Scope 3 emissions from business travel are calculated using the latest 2022 US EPA emission factors and Global Warming Potential (GWP) values from the IPCC AR6 (2023). Calculations are based on business travel activity data (e.g., air, land, and sea transportation) multiplied by the corresponding emission factors, with results converted to CO₂e using AR6 GWP values.

Scope 3 category 7: Employee commuting

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO₂e)

0

(7.5.3) Methodological details

The company's emission calculation system is still under development and being refined to improve accuracy and alignment with international standards.

Scope 3 category 8: Upstream leased assets

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO₂e)

0

(7.5.3) Methodological details

PLN does not have upstream leased assets within its operational or reporting boundary.

Scope 3 category 9: Downstream transportation and distribution

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO2e)

0

(7.5.3) Methodological details

PLN delivers electricity directly to end-users through its transmission and distribution infrastructure, which operates across both high-voltage and low-voltage networks. This system ensures reliable power supply from generation sources to customers while accounting for grid efficiency and losses.

Scope 3 category 10: Processing of sold products

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO2e)

0

(7.5.3) Methodological details

Electricity supplied by PLN is delivered directly to end customers without requiring any additional processing or transformation of the product. Therefore, this category is not considered relevant to PLN's business operations (not relevant).

Scope 3 category 11: Use of sold products

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO2e)

101360000

(7.5.3) Methodological details

Emissions are calculated from electricity generated by Independent Power Producers (IPP) and delivered to customers, based on electricity sold and relevant emission factors.

Scope 3 category 12: End of life treatment of sold products

(7.5.1) Base year end

12/29/2024

(7.5.2) Base year emissions (metric tons CO2e)

450000

(7.5.3) Methodological details

Emissions are calculated from the volume of sold products reaching end-of-life, multiplied by waste treatment emission factors by material type, using US EPA (2017) and IPCC AR6 (2023) GWP values.

Scope 3 category 13: Downstream leased assets

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO2e)

0

(7.5.3) Methodological details

PLN does not have downstream leased assets within its operational or value chain activities. There are no facilities, infrastructures, or other assets owned by third parties and leased out by PLN that continue to generate emissions beyond the point of sale. Therefore, this category is considered not relevant for PLN's Scope 3 reporting.

Scope 3 category 14: Franchises

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO2e)

0

(7.5.3) Methodological details

PLN does not operate any franchise arrangements within its business operations. As such, there are no emissions associated with franchise activities, and this category is considered not relevant for inclusion in the company's Scope 3 reporting.

Scope 3 category 15: Investments

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO2e)

0

(7.5.3) Methodological details

PLN does not hold investments within its operational or reporting boundary. Consequently, there are no associated emissions from investment activities, and this category is considered not relevant for Scope 3 reporting.

Scope 3: Other (upstream)

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO2e)

0

(7.5.3) Methodological details

Not relevant.

Scope 3: Other (downstream)

(7.5.1) Base year end

12/30/2023

(7.5.2) Base year emissions (metric tons CO2e)

0

(7.5.3) Methodological details

Not relevant.

[Fixed row]

(7.6) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

(7.6.1) Gross global Scope 1 emissions (metric tons CO2e)

158025226.02

(7.6.3) Methodological details

Scope 1 GHG emissions are generated from fuel combustion in power plants, operational vehicles, and generators. The calculation of these emissions follows the 2006 IPCC guidelines for the electricity sector, using emission factors sourced from the U.S. EPA and updated based on the values in the IPCC AR6, ensuring the results reflect a consistent methodology aligned with international standards.

Past year 1

(7.6.1) Gross global Scope 1 emissions (metric tons CO2e)

160552000

(7.6.2) End date

12/30/2023

(7.6.3) Methodological details

Fuel combustion in power plants, operational vehicles, and generators is the main source of Scope 1 GHG emissions. Calculations use emission factors from the U.S. EPA, supplemented with IPCC AR5 data, in accordance with the 2006 IPCC guidelines for the electricity sector.

Past year 2

(7.6.1) Gross global Scope 1 emissions (metric tons CO2e)

159720000

(7.6.2) End date

12/29/2022

(7.6.3) Methodological details

Scope 1 direct GHG emissions include fuel combustion for electricity generation, fuel use in operational vehicles, and SF6 releases. Calculations are based on the IPCC 2006 guidelines, US EPA emission factors, and the SF6 global warming potential values from the IPCC AR5 (2014).

[Fixed row]

(7.7) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

(7.7.1) Gross global Scope 2, location-based emissions (metric tons CO2e)

388597.6

(7.7.2) Gross global Scope 2, market-based emissions (metric tons CO2e)

7185.57

(7.7.4) Methodological details

Scope 2 emissions are calculated using two approaches: the location-based method, which estimates emissions based on the average grid emission factors for the areas where electricity is consumed, and the market-based method, which accounts for emissions associated with specific electricity purchases or contractual instruments, such as renewable energy certificates, reflecting the company's actual energy sourcing choices. This methodology ensures a comprehensive and transparent assessment of the indirect emissions from purchased electricity.

Past year 1

(7.7.1) Gross global Scope 2, location-based emissions (metric tons CO2e)

8826000

(7.7.2) Gross global Scope 2, market-based emissions (metric tons CO2e)

0

(7.7.3) End date

12/30/2023

(7.7.4) Methodological details

PLN calculates Scope 2 GHG emissions from electricity consumed by its operational units and offices through the distribution grid, as well as from losses in electricity purchased from Independent Power Producers (IPPs). Emissions from IPP-sourced electricity losses are determined by applying the relevant emission intensity to the measured energy losses. A zero value for market-based emissions indicates that PLN has fully offset these emissions through renewable energy claims.

Past year 2

(7.7.1) Gross global Scope 2, location-based emissions (metric tons CO2e)

8826000

(7.7.2) Gross global Scope 2, market-based emissions (metric tons CO2e)

0

(7.7.3) End date

12/29/2022

(7.7.4) Methodological details

Emissions categorized under Scope 2 are calculated by PLN to include electricity consumed in its offices and operational units supplied via the distribution grid, as well as losses from electricity purchased from Independent Power Producers (IPPs). The losses from IPP-sourced electricity are quantified by applying the most recent Electricity System Emission Factors published by DJK (2019) to the measured amount of energy lost. For the market-based approach, a zero value indicates that PLN has fully offset these emissions through renewable energy claims, such as Renewable Energy Certificates (RECs) or green tariff arrangements, in line with the GHG Protocol Scope 2 Guidance.

[Fixed row]

(7.8) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

(7.8.1) Evaluation status

Select from:

☒ Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

2980000

(7.8.3) Emissions calculation methodology

Select all that apply

- ☒ Average data method
- ☒ Spend-based method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

The methodology used to calculate Scope 1 emissions from power generation activities involves multiplying the fuel consumption data of PLN Group-owned generation units (including oil, gas, and coal) by the corresponding emission factors specific to each fuel type. In 2024, PLN updated its approach by applying fuel consumption data and plant-specific emission factors for each generation unit, whereas previous reports relied on default national emission factors.

Capital goods

(7.8.1) Evaluation status

Select from:

- ☒ Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

420000

(7.8.3) Emissions calculation methodology

Select all that apply

- ☒ Spend-based method

☒ Average product method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

The methodology used to calculate Scope 3 emissions from capital goods involves multiplying the consolidated annual data of capital goods purchases by the relevant emission factors. Emission factors for Scope 3 have been updated according to the latest US EPA 2022 guidelines for purchased goods and capital assets, and all Scope 3 factors are aligned with the Global Warming Potential (GWP) values from the IPCC AR6 (2024), ensuring more accurate and current emission estimates.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

(7.8.1) Evaluation status

Select from:

☒ Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

1450000

(7.8.3) Emissions calculation methodology

Select all that apply

☒ Supplier-specific method

☒ Hybrid method

☒ Fuel-based method

☒ Distance-based method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

The methodology for calculating Scope 3 emissions from fuel- and energy-related activities (not included in Scope 1 or 2) involves multiplying the consolidated fuel and electricity purchase data from IPPs for one year by the most recent emission factors provided by the US EPA (2022). All emission factors across the Scope 3 categories are updated in line with the 2024 Global Warming Potential (GWP) values from the IPCC Assessment Report 6 (AR6).

Upstream transportation and distribution

(7.8.1) Evaluation status

Select from:

☒ Not relevant, explanation provided

(7.8.5) Please explain

This emission category contributes a minimal amount (insignificant).

Waste generated in operations

(7.8.1) Evaluation status

Select from:

☒ Not relevant, explanation provided

(7.8.5) Please explain

This emission category contributes a minimal amount (insignificant).

Business travel

(7.8.1) Evaluation status

Select from:

☒ Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

10000

(7.8.3) Emissions calculation methodology

Select all that apply

- ☒ Fuel-based method
- ☒ Distance-based method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

The methodology used to calculate Scope 3 emissions from business travel is based on trip distance, number of passengers, and travel frequency. Emissions are estimated by multiplying these activity data by the relevant emission factors. Updated emission factors for Scope 3 calculations follow the latest US EPA 2022 guidelines for purchased goods and services and capital goods, while all Scope 3 emission factors are aligned with the Global Warming Potential (GWP) values from the IPCC AR6 (2024), ensuring more accurate and up-to-date estimates.

Employee commuting

(7.8.1) Evaluation status

Select from:

- ☒ Not relevant, explanation provided

(7.8.5) Please explain

This emission category contributes a minimal amount (insignificant).

Upstream leased assets

(7.8.1) Evaluation status

Select from:

☒ Not relevant, explanation provided

(7.8.5) Please explain

This emission category contributes a minimal amount (insignificant).

Downstream transportation and distribution

(7.8.1) Evaluation status

Select from:

☒ Not relevant, explanation provided

(7.8.5) Please explain

This emission category contributes a minimal amount (insignificant).

Processing of sold products

(7.8.1) Evaluation status

Select from:

☒ Not relevant, explanation provided

(7.8.5) Please explain

This emission category contributes a minimal amount (insignificant).

Use of sold products

(7.8.1) Evaluation status

Select from:

☒ Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

101360000

(7.8.3) Emissions calculation methodology

Select all that apply

☒ Average data method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

The methodology used to calculate Scope 1 emissions from power generation activities involves multiplying the fuel consumption data of PLN Group-owned generation units (including oil, gas, and coal) by the corresponding emission factors specific to each fuel type. In 2024, PLN updated its approach by applying fuel consumption data and plant-specific emission factors for each generation unit, whereas previous reports relied on default national emission factors.

End of life treatment of sold products

(7.8.1) Evaluation status

Select from:

☒ Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

450000

(7.8.3) Emissions calculation methodology

Select all that apply

☒ Waste-type-specific method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

The methodology for calculating Scope 3 emissions from the end-of-life treatment of sold products involves estimating the emissions generated when products are disposed of or treated after use. This is done by multiplying the quantity of products reaching the end of their life by appropriate emission factors, considering treatment methods such as recycling, incineration, or landfill.

Downstream leased assets

(7.8.1) Evaluation status

Select from:

☒ Not relevant, explanation provided

(7.8.5) Please explain

This emission category contributes a minimal amount (insignificant).

Franchises

(7.8.1) Evaluation status

Select from:

☒ Not relevant, explanation provided

(7.8.5) Please explain

This emission category contributes a minimal amount (insignificant).

Investments

(7.8.1) Evaluation status

Select from:

☒ Not relevant, explanation provided

(7.8.5) Please explain

This emission category contributes a minimal amount (insignificant).

Other (upstream)

(7.8.1) Evaluation status

Select from:

☒ Not relevant, explanation provided

(7.8.5) Please explain

This emission category contributes a minimal amount (insignificant).

Other (downstream)

(7.8.1) Evaluation status

Select from:

☒ Not relevant, explanation provided

(7.8.5) Please explain

This emission category contributes a minimal amount (insignificant).

[Fixed row]

(7.8.1) Disclose or restate your Scope 3 emissions data for previous years.

Past year 1

(7.8.1.1) End date

12/30/2023

(7.8.1.2) Scope 3: Purchased goods and services (metric tons CO2e)

4690000

(7.8.1.3) Scope 3: Capital goods (metric tons CO2e)

930000

(7.8.1.4) Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

1090000

(7.8.1.5) Scope 3: Upstream transportation and distribution (metric tons CO2e)

0

(7.8.1.6) Scope 3: Waste generated in operations (metric tons CO2e)

0

(7.8.1.7) Scope 3: Business travel (metric tons CO2e)

10000

(7.8.1.8) Scope 3: Employee commuting (metric tons CO2e)

0

(7.8.1.9) Scope 3: Upstream leased assets (metric tons CO2e)

0

(7.8.1.10) Scope 3: Downstream transportation and distribution (metric tons CO2e)

0

(7.8.1.11) Scope 3: Processing of sold products (metric tons CO2e)

0

(7.8.1.12) Scope 3: Use of sold products (metric tons CO2e)

91860000

(7.8.1.13) Scope 3: End of life treatment of sold products (metric tons CO2e)

0

(7.8.1.14) Scope 3: Downstream leased assets (metric tons CO2e)

0

(7.8.1.15) Scope 3: Franchises (metric tons CO2e)

0

(7.8.1.16) Scope 3: Investments (metric tons CO2e)

0

(7.8.1.17) Scope 3: Other (upstream) (metric tons CO2e)

0

(7.8.1.18) Scope 3: Other (downstream) (metric tons CO2e)

0

(7.8.1.19) Comment

The Scope 3 emissions category related to fuel and energy encompasses both the purchase of fuels and the electricity supplied by Independent Power Producers (IPPs) that is distributed to customers. This category reflects indirect upstream emissions associated with the procurement and use of energy, rather than emissions from the company's own operations.

Past year 2

(7.8.1.1) End date

12/30/2022

(7.8.1.2) Scope 3: Purchased goods and services (metric tons CO2e)

2335000

(7.8.1.3) Scope 3: Capital goods (metric tons CO2e)

1077000

(7.8.1.4) Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

81227000

(7.8.1.5) Scope 3: Upstream transportation and distribution (metric tons CO2e)

0

(7.8.1.6) Scope 3: Waste generated in operations (metric tons CO2e)

0

(7.8.1.7) Scope 3: Business travel (metric tons CO2e)

0

(7.8.1.8) Scope 3: Employee commuting (metric tons CO2e)

0

(7.8.1.9) Scope 3: Upstream leased assets (metric tons CO2e)

0

(7.8.1.10) Scope 3: Downstream transportation and distribution (metric tons CO2e)

0

(7.8.1.11) Scope 3: Processing of sold products (metric tons CO2e)

0

(7.8.1.12) Scope 3: Use of sold products (metric tons CO2e)

79250000

(7.8.1.13) Scope 3: End of life treatment of sold products (metric tons CO2e)

0

(7.8.1.14) Scope 3: Downstream leased assets (metric tons CO2e)

0

(7.8.1.15) Scope 3: Franchises (metric tons CO2e)

0

(7.8.1.16) Scope 3: Investments (metric tons CO2e)

0

(7.8.1.17) Scope 3: Other (upstream) (metric tons CO2e)

0

(7.8.1.18) Scope 3: Other (downstream) (metric tons CO2e)

0

(7.8.1.19) Comment

The Scope 3 emissions category related to fuel and energy encompasses both the purchase of fuels and the electricity supplied by Independent Power Producers (IPPs) that is distributed to customers. This category reflects indirect upstream emissions associated with the procurement and use of energy, rather than emissions from the company's own operations.

[Fixed row]

(7.9) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Select from: ☒ Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Select from: ☒ Third-party verification or assurance process in place
Scope 3	Select from: ☒ Third-party verification or assurance process in place

[Fixed row]

(7.9.1) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Row 1

(7.9.1.1) Verification or assurance cycle in place

Select from:
☒ Annual process

(7.9.1.2) Status in the current reporting year

Select from:
☒ Complete

(7.9.1.3) Type of verification or assurance

Select from:
☒ Moderate assurance

(7.9.1.4) Attach the statement

Assurance Statement_2024.pdf

(7.9.1.5) Page/section reference

Page 1-18

(7.9.1.6) Relevant standard

Select from:
☒ AA1000AS

(7.9.1.7) Proportion of reported emissions verified (%)

100
[Add row]

(7.9.2) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Row 1

(7.9.2.1) Scope 2 approach

Select from:
☒ Scope 2 location-based

(7.9.2.2) Verification or assurance cycle in place

Select from:
☒ Annual process

(7.9.2.3) Status in the current reporting year

Select from:
☒ Complete

(7.9.2.4) Type of verification or assurance

Select from:
☒ Moderate assurance

(7.9.2.5) Attach the statement

Assurance Statement_2024.pdf

(7.9.2.6) Page/ section reference

Page 1-18

(7.9.2.7) Relevant standard

Select from:

☒ AA1000AS

(7.9.2.8) Proportion of reported emissions verified (%)

100

[Add row]

(7.9.3) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Row 1

(7.9.3.1) Scope 3 category

Select all that apply

☒ Scope 3: Capital goods

☒ Scope 3: Business travel

☒ Scope 3: Use of sold products

☒ Scope 3: Purchased goods and services

☒ Scope 3: End-of-life treatment of sold products

☒ Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)

(7.9.3.2) Verification or assurance cycle in place

Select from:

☒ Annual process

(7.9.3.3) Status in the current reporting year

Select from:

☒ Complete

(7.9.3.4) Type of verification or assurance

Select from:

☒ Moderate assurance

(7.9.3.5) Attach the statement

Assurance Statement_2024.pdf

(7.9.3.6) Page/section reference

Page 1-18

(7.9.3.7) Relevant standard

Select from:

☒ AA1000AS

(7.9.3.8) Proportion of reported emissions verified (%)

100
[Add row]

(7.10) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Select from:

☒ Increased

(7.10.1) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

Change in renewable energy consumption

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

☒ No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

Not relevant

Other emissions reduction activities

(7.10.1.1) Change in emissions (metric tons CO₂e)

0

(7.10.1.2) Direction of change in emissions

Select from:

☒ No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

Not relevant

Divestment

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

☒ No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

Not relevant

Acquisitions

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

☒ No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

Not relevant

Mergers

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

☒ No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

Not relevant

Change in output

(7.10.1.1) Change in emissions (metric tons CO2e)

10430000

(7.10.1.2) Direction of change in emissions

Select from:

☒ Increased

(7.10.1.3) Emissions value (percentage)

6.14

(7.10.1.4) Please explain calculation

The increase in gross global emissions (Scope 1 and 2 combined) compared to the previous year was mainly influenced by higher coal consumption for power generation, which rose by approximately 4%. In addition, emissions from Scope 2 increased due to new sources from imported energy amounting to 3.8 TWh, and higher grid electricity consumption in non-power operations, which rose by 0.9 TWh compared to the previous year. These factors collectively contributed to the overall upward trend in emissions.

Change in methodology

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

☒ No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

Not relevant

Change in boundary

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

☒ No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

Not relevant

Change in physical operating conditions

(7.10.1.1) Change in emissions (metric tons CO2e)

10430000

(7.10.1.2) Direction of change in emissions

Select from:

☒ Increased

(7.10.1.3) Emissions value (percentage)

6.14

(7.10.1.4) Please explain calculation

The increase in gross global emissions (Scope 1 and 2 combined) compared to the previous year was mainly influenced by higher coal consumption for power generation, which rose by approximately 4%. In addition, emissions from Scope 2 increased due to new sources from imported energy amounting to 3.8 TWh, and higher grid electricity consumption in non-power operations, which rose by 0.9 TWh compared to the previous year. These factors collectively contributed to the overall upward trend in emissions.

Unidentified

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

☒ No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

Not relevant

Other

(7.10.1.1) Change in emissions (metric tons CO₂e)

0

(7.10.1.2) Direction of change in emissions

Select from:

☒ No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

Not relevant

[Fixed row]

(7.10.2) Are your emissions performance calculations in 7.10 and 7.10.1 based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Select from:

☒ Location-based

(7.12) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

Select from:

☒ Yes

(7.12.1) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO2.

	CO2 emissions from biogenic carbon (metric tons CO2)	Comment
	3551961.51	Biogenic carbon is calculated from the use of solid biomass in the combustion process of power plant operations.

[Fixed row]

(7.15) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Select from:

☒ Yes

(7.15.1) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used global warming potential (GWP).

Row 1

(7.15.1.1) Greenhouse gas

Select from:

☒ CO2

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

157935769.48

(7.15.1.3) GWP Reference

Select from:

☒ IPCC Sixth Assessment Report (AR6 - 100 year)

Row 2

(7.15.1.1) Greenhouse gas

Select from:

☒ CH4

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

56269.6

(7.15.1.3) GWP Reference

Select from:

☒ IPCC Sixth Assessment Report (AR6 - 100 year)

Row 3

(7.15.1.1) Greenhouse gas

Select from:

☒ SF6

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

607476.3

(7.15.1.3) GWP Reference

Select from:

☒ IPCC Sixth Assessment Report (AR6 - 100 year)

Row 4

(7.15.1.1) Greenhouse gas

Select from:

☒ N2O

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

646093.5

(7.15.1.3) GWP Reference

Select from:

☒ IPCC Sixth Assessment Report (AR6 - 100 year)

[Add row]

(7.15.3) Break down your total gross global Scope 1 emissions from electric utilities value chain activities by greenhouse gas type.

Fugitives

(7.15.3.1) Gross Scope 1 CO2 emissions (metric tons CO2)

0.046

(7.15.3.2) Gross Scope 1 methane emissions (metric tons CH4)

0

(7.15.3.3) Gross Scope 1 SF6 emissions (metric tons SF6)

24.99

(7.15.3.4) Total gross Scope 1 emissions (metric tons CO2e)

607476.37

(7.15.3.5) Comment

In 2024, fugitive emissions are primarily from SF6 gas, while CO2 and CH4 emissions are negligible.

Combustion (Electric utilities)

(7.15.3.1) Gross Scope 1 CO2 emissions (metric tons CO2)

156465504.53

(7.15.3.2) Gross Scope 1 methane emissions (metric tons CH4)

2665.78

(7.15.3.3) Gross Scope 1 SF6 emissions (metric tons SF6)

0

(7.15.3.4) Total gross Scope 1 emissions (metric tons CO2e)

157167015.47

(7.15.3.5) Comment

In 2024, Scope 1 emissions from combustion in electric utilities are dominated by CO2, with CH4 contributing marginally and no SF6 emissions recorded.

Combustion (Gas utilities)

(7.15.3.1) Gross Scope 1 CO2 emissions (metric tons CO2)

0

(7.15.3.2) Gross Scope 1 methane emissions (metric tons CH4)

0

(7.15.3.3) Gross Scope 1 SF6 emissions (metric tons SF6)

0

(7.15.3.4) Total gross Scope 1 emissions (metric tons CO2e)

0

(7.15.3.5) Comment

In 2024, there were no calculated Scope 1 emissions from combustion in gas utilities.

Combustion (Other)

(7.15.3.1) Gross Scope 1 CO2 emissions (metric tons CO2)

249881.92

(7.15.3.2) Gross Scope 1 methane emissions (metric tons CH4)

10.33

(7.15.3.3) Gross Scope 1 SF6 emissions (metric tons SF6)

2.06

(7.15.3.4) Total gross Scope 1 emissions (metric tons CO2e)

(7.15.3.5) Comment

In 2024, Scope 1 emissions from other combustion sources are mainly from CO2, with minor contributions from CH4 and SF6.

Emissions not elsewhere classified

(7.15.3.1) Gross Scope 1 CO2 emissions (metric tons CO2)

0

(7.15.3.2) Gross Scope 1 methane emissions (metric tons CH4)

0

(7.15.3.3) Gross Scope 1 SF6 emissions (metric tons SF6)

0

(7.15.3.4) Total gross Scope 1 emissions (metric tons CO2e)

0

(7.15.3.5) Comment

In 2024, there were no calculated Scope 1 emissions from sources not elsewhere.
[Fixed row]

(7.16) Break down your total gross global Scope 1 and 2 emissions by country/area.

	Scope 1 emissions (metric tons CO2e)
Indonesia	158025226.02

[Fixed row]

(7.17) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

Select all that apply

☒ By business division

(7.17.1) Break down your total gross global Scope 1 emissions by business division.

Row 1

(7.17.1.1) Business division

The business division covers power generation centers, Independent Power Producers (IPPs), regional subsidiaries, and supporting entities such as Icon Plus, EPI, PLN Batam, PT PLN Nusa Daya, PT Haleyora Power, PT PLN Enjiniring, and PT Energy Management Indonesia, all of which are included in the Scope 1 emissions reporting boundary.

(7.17.1.2) Scope 1 emissions (metric ton CO2e)

158025226.02

[Add row]

(7.19) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

Electric utility activities

(7.19.1) Gross Scope 1 emissions, metric tons CO2e

155370000

(7.19.3) Comment

*Scope 1 emissions originate from power generation activities using oil, gas, and coal, as well as other combustion sources such as generators and company vehicles.
[Fixed row]*

(7.22) Break down your gross Scope 1 and Scope 2 emissions between your consolidated accounting group and other entities included in your response.

Consolidated accounting group

(7.22.1) Scope 1 emissions (metric tons CO2e)

155370000

(7.22.2) Scope 2, location-based emissions (metric tons CO2e)

395783.17

(7.22.3) Scope 2, market-based emissions (metric tons CO2e)

7185.57

(7.22.4) Please explain

In the Sustainability Report, the total emissions figure is compiled and consolidated from all sub-holdings and subsidiaries to present a complete overview of the organization's greenhouse gas emissions.

All other entities

(7.22.1) Scope 1 emissions (metric tons CO2e)

0

(7.22.2) Scope 2, location-based emissions (metric tons CO2e)

0

(7.22.3) Scope 2, market-based emissions (metric tons CO2e)

0

(7.22.4) Please explain

All reported emissions are fully covered within the consolidated boundary, with no additional entities or activities accounted for outside this scope.
[Fixed row]

(7.23) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

Select from:

☒ Yes

(7.23.1) Break down your gross Scope 1 and Scope 2 emissions by subsidiary.

Row 1

(7.23.1.1) Subsidiary name

PT PLN Indonesia Power

(7.23.1.2) Primary activity

Select from:

☒ Electricity networks

(7.23.1.3) Select the unique identifier you are able to provide for this subsidiary

Select all that apply

☒ No unique identifier

(7.23.1.12) Scope 1 emissions (metric tons CO2e)

74766149.157

(7.23.1.13) Scope 2, location-based emissions (metric tons CO2e)

1075.087

(7.23.1.14) Scope 2, market-based emissions (metric tons CO2e)

0

(7.23.1.15) Comment

In 2024, the subsidiary's emissions profile is largely driven by Scope 1 from electricity networks operations, while Scope 2 emissions remain relatively small under both location-based and market-based calculations.

Row 2

(7.23.1.1) Subsidiary name

PT PLN Nusantara Power

(7.23.1.2) Primary activity

Select from:

☒ Electricity networks

(7.23.1.3) Select the unique identifier you are able to provide for this subsidiary

Select all that apply

☒ No unique identifier

(7.23.1.12) Scope 1 emissions (metric tons CO2e)

52876948.72

(7.23.1.13) Scope 2, location-based emissions (metric tons CO2e)

663.19

(7.23.1.14) Scope 2, market-based emissions (metric tons CO2e)

0

(7.23.1.15) Comment

In 2024, the subsidiary's emissions profile is largely driven by Scope 1 from electricity networks operations, while Scope 2 emissions remain relatively small under both location-based and market-based calculations.

Row 3

(7.23.1.1) Subsidiary name

PT PLN Icon Plus

(7.23.1.2) Primary activity

Select from:

☒ Telecommunications services

(7.23.1.3) Select the unique identifier you are able to provide for this subsidiary

Select all that apply

☒ No unique identifier

(7.23.1.12) Scope 1 emissions (metric tons CO2e)

1528.26

(7.23.1.13) Scope 2, location-based emissions (metric tons CO2e)

10904.27

(7.23.1.14) Scope 2, market-based emissions (metric tons CO2e)

0

(7.23.1.15) Comment

In 2024, the subsidiary's emissions profile is largely driven by Scope 2 from electricity networks operations, which exceed Scope 1 emissions under both location-based and market-based calculations.

Row 4

(7.23.1.1) Subsidiary name

PT PLN Energi Primer Indonesia

(7.23.1.2) Primary activity

Select from:

☒ Electricity networks

(7.23.1.3) Select the unique identifier you are able to provide for this subsidiary

Select all that apply

☒ No unique identifier

(7.23.1.12) Scope 1 emissions (metric tons CO2e)

301.27

(7.23.1.13) Scope 2, location-based emissions (metric tons CO2e)

0

(7.23.1.14) Scope 2, market-based emissions (metric tons CO2e)

0

(7.23.1.15) Comment

In 2024, the subsidiary's emissions profile is largely driven by Scope 1 from electricity networks operations, while Scope 2 emissions remain relatively small under both location-based and market-based calculations.

Row 5

(7.23.1.1) Subsidiary name

PT PLN Batam

(7.23.1.2) Primary activity

Select from:

☒ Electricity networks

(7.23.1.3) Select the unique identifier you are able to provide for this subsidiary

Select all that apply

☒ No unique identifier

(7.23.1.12) Scope 1 emissions (metric tons CO2e)

1793117.36

(7.23.1.13) Scope 2, location-based emissions (metric tons CO2e)

347.043

(7.23.1.14) Scope 2, market-based emissions (metric tons CO2e)

0

(7.23.1.15) Comment

In 2024, the subsidiary's emissions profile is largely driven by Scope 1 from electricity networks operations, while Scope 2 emissions remain relatively small under both location-based and market-based calculations.

Row 6

(7.23.1.1) Subsidiary name

PT PLN Nusa Daya

(7.23.1.2) Primary activity

Select from:

☒ Electricity networks

(7.23.1.3) Select the unique identifier you are able to provide for this subsidiary

Select all that apply

☒ No unique identifier

(7.23.1.12) Scope 1 emissions (metric tons CO2e)

0

(7.23.1.13) Scope 2, location-based emissions (metric tons CO2e)

0

(7.23.1.14) Scope 2, market-based emissions (metric tons CO2e)

0

(7.23.1.15) Comment

No Scope 1 and 2 data were recorded in 2024 due to insignificance of emissions.

Row 7

(7.23.1.1) Subsidiary name

PT PLN Haleyora Power

(7.23.1.2) Primary activity

Select from:

☒ Electricity networks

(7.23.1.3) Select the unique identifier you are able to provide for this subsidiary

Select all that apply

☒ No unique identifier

(7.23.1.12) Scope 1 emissions (metric tons CO2e)

17919.09

(7.23.1.13) Scope 2, location-based emissions (metric tons CO2e)

0

(7.23.1.14) Scope 2, market-based emissions (metric tons CO2e)

0

(7.23.1.15) Comment

In 2024, the subsidiary's emissions profile is largely driven by Scope 1 from electricity networks operations, while Scope 2 emissions remain relatively small under both location-based and market-based calculations.

Row 8

(7.23.1.1) Subsidiary name

PT PLN Prima Layanan Nasional Enjiniring

(7.23.1.2) Primary activity

Select from:

☒ Electricity networks

(7.23.1.3) Select the unique identifier you are able to provide for this subsidiary

Select all that apply

☒ No unique identifier

(7.23.1.12) Scope 1 emissions (metric tons CO2e)

70.46

(7.23.1.13) Scope 2, location-based emissions (metric tons CO2e)

21873.474

(7.23.1.14) Scope 2, market-based emissions (metric tons CO2e)

0

(7.23.1.15) Comment

In 2024, the subsidiary's emissions profile is largely driven by Scope 2 from electricity networks operations, which exceed Scope 1 emissions under both location-based and market-based calculations.

Row 9

(7.23.1.1) Subsidiary name

PT PLN Energy Management Indonesia

(7.23.1.2) Primary activity

Select from:

☒ Electricity networks

(7.23.1.3) Select the unique identifier you are able to provide for this subsidiary

Select all that apply

☒ No unique identifier

(7.23.1.12) Scope 1 emissions (metric tons CO2e)

12.62

(7.23.1.13) Scope 2, location-based emissions (metric tons CO2e)

0

(7.23.1.14) Scope 2, market-based emissions (metric tons CO2e)

0

(7.23.1.15) Comment

In 2024, the subsidiary's emissions profile is largely driven by Scope 1 from electricity networks operations, while Scope 2 emissions remain relatively small under both location-based and market-based calculations.

Row 10

(7.23.1.1) Subsidiary name

PT PLN Mandau Cipta Tenaga Nusantara

(7.23.1.2) Primary activity

Select from:

☒ Electricity networks

(7.23.1.3) Select the unique identifier you are able to provide for this subsidiary

Select all that apply

☒ No unique identifier

(7.23.1.12) Scope 1 emissions (metric tons CO2e)

378.71

(7.23.1.13) Scope 2, location-based emissions (metric tons CO2e)

0

(7.23.1.14) Scope 2, market-based emissions (metric tons CO2e)

0

(7.23.1.15) Comment

In 2024, the subsidiary's emissions profile is largely driven by Scope 1 from electricity networks operations, while Scope 2 emissions remain relatively small under both location-based and market-based calculations.

[Add row]

(7.27) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Row 1

(7.27.1) Allocation challenges

Select from:

☒ Customer base is too large and diverse to accurately track emissions to the customer level

(7.27.2) Please explain what would help you overcome these challenges

Integrated and digitized system development to clustering customer data

[Add row]

(7.28) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

	Do you plan to develop your capabilities to allocate emissions to your customers in the future?	Describe how you plan to develop your capabilities
	<p>Select from:</p> <p>☒ Yes</p>	<p><i>Establishing a unified and digital platform to categorize customer data, enabling more accurate allocation of emissions from electricity consumption.</i></p>

[Fixed row]

(7.29) What percentage of your total operational spend in the reporting year was on energy?

Select from:

☒ More than 35% but less than or equal to 40%

(7.30) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Select from: ☒ Yes
Consumption of purchased or acquired electricity	Select from: ☒ Yes
Consumption of purchased or acquired heat	Select from: ☒ No
Consumption of purchased or acquired steam	Select from: ☒ Yes
Consumption of purchased or acquired cooling	Select from: ☒ No
Generation of electricity, heat, steam, or cooling	Select from: ☒ Yes

[Fixed row]

(7.30.1) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

Consumption of fuel (excluding feedstock)

(7.30.1.1) Heating value

Select from:

☒ LHV (lower heating value)

(7.30.1.2) MWh from renewable sources

0

(7.30.1.3) MWh from non-renewable sources

179631650.72

(7.30.1.4) Total (renewable + non-renewable) MWh

179631650.72

Consumption of purchased or acquired electricity

(7.30.1.1) Heating value

Select from:

☒ LHV (lower heating value)

(7.30.1.2) MWh from renewable sources

23654677.97

(7.30.1.3) MWh from non-renewable sources

124693652.09

(7.30.1.4) Total (renewable + non-renewable) MWh

148348330.06

Consumption of purchased or acquired steam

(7.30.1.1) Heating value

Select from:

☒ LHV (lower heating value)

(7.30.1.2) MWh from renewable sources

4230968.93

(7.30.1.3) MWh from non-renewable sources

0

(7.30.1.4) Total (renewable + non-renewable) MWh

4230968.93

Consumption of self-generated non-fuel renewable energy

(7.30.1.1) Heating value

Select from:

☒ LHV (lower heating value)

(7.30.1.2) MWh from renewable sources

11680798.01

(7.30.1.4) Total (renewable + non-renewable) MWh

11680798.01

Total energy consumption

(7.30.1.1) Heating value

Select from:

☒ LHV (lower heating value)

(7.30.1.2) MWh from renewable sources

39566444.93

(7.30.1.3) MWh from non-renewable sources

304325302.81

(7.30.1.4) Total (renewable + non-renewable) MWh

343891747.74

[Fixed row]

(7.30.6) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Select from: ☒ Yes
Consumption of fuel for the generation of heat	Select from: ☒ No
Consumption of fuel for the generation of steam	Select from: ☒ No
Consumption of fuel for the generation of cooling	Select from: ☒ No
Consumption of fuel for co-generation or tri-generation	Select from: ☒ No

[Fixed row]

(7.30.7) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

(7.30.7.1) Heating value

Select from:

☒ Unable to confirm heating value

(7.30.7.2) Total fuel MWh consumed by the organization

0

(7.30.7.3) MWh fuel consumed for self-generation of electricity

0

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.8) Comment

In 2024, PLN recorded fuel consumption from sustainable biomass; however, this consumption has not yet been certified under a recognized sustainability scheme. Certification processes are under consideration to ensure future alignment with international standards and reporting requirements.

Other biomass

(7.30.7.1) Heating value

Select from:

☒ LHV

(7.30.7.2) Total fuel MWh consumed by the organization

7537907.97

(7.30.7.3) MWh fuel consumed for self-generation of electricity

1672694.31

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.8) Comment

Fuel consumption from other biomass in 2024 was primarily used for electricity generation.

Other renewable fuels (e.g. renewable hydrogen)

(7.30.7.1) Heating value

Select from:

☒ LHV

(7.30.7.2) Total fuel MWh consumed by the organization

10460352.81

(7.30.7.3) MWh fuel consumed for self-generation of electricity

3477822.35

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.8) Comment

Other renewable fuels, such as renewable hydrogen, contributed significantly to self-generation of electricity

Coal

(7.30.7.1) Heating value

Select from:

☒ LHV

(7.30.7.2) Total fuel MWh consumed by the organization

332701208.66

(7.30.7.3) MWh fuel consumed for self-generation of electricity

114157864.86

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.8) Comment

Coal remained the largest fuel source in 2024, with the majority allocated for electricity generation.

Oil

(7.30.7.1) Heating value

Select from:

☒ LHV

(7.30.7.2) Total fuel MWh consumed by the organization

30724553.74

(7.30.7.3) MWh fuel consumed for self-generation of electricity

10054410.06

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.8) Comment

Oil consumption in 2024 was primarily directed to electricity generation activities.

Gas

(7.30.7.1) Heating value

Select from:

☒ LHV

(7.30.7.2) Total fuel MWh consumed by the organization

131789803.21

(7.30.7.3) MWh fuel consumed for self-generation of electricity

50268869.55

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.8) Comment

Natural gas was a key contributor to electricity generation in 2024.

Other non-renewable fuels (e.g. non-renewable hydrogen)

(7.30.7.1) Heating value

Select from:

☒ Unable to confirm heating value

(7.30.7.2) Total fuel MWh consumed by the organization

0

(7.30.7.3) MWh fuel consumed for self-generation of electricity

0

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.8) Comment

In 2024, there was no recorded consumption of other non-renewable fuels.

Total fuel

(7.30.7.1) Heating value

Select from:

☒ LHV

(7.30.7.2) Total fuel MWh consumed by the organization

513213826.4

(7.30.7.3) MWh fuel consumed for self-generation of electricity

179631661.13

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.8) Comment

Total fuel consumption in 2024 shows coal and gas as the dominant contributors, with renewables starting to play a growing role.
[Fixed row]

(7.30.16) Provide a breakdown by country/area of your electricity/heat/steam/cooling consumption in the reporting year.

Indonesia

(7.30.16.1) Consumption of purchased electricity (MWh)

148348330.07

(7.30.16.2) Consumption of self-generated electricity (MWh)

11954050.75

(7.30.16.4) Consumption of purchased heat, steam, and cooling (MWh)

4230968.93

(7.30.16.5) Consumption of self-generated heat, steam, and cooling (MWh)

9629449.35

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

174162799.10
[Fixed row]

(7.33) Does your electric utility organization have a transmission and distribution business?

Select from:

☒ Yes

(7.33.1) Disclose the following information about your transmission and distribution business.

Row 1

(7.33.1.1) Country/area/region

Select from:

☒ Indonesia

(7.33.1.2) Voltage level

Select from:

☒ Transmission (high voltage)

(7.33.1.3) Annual load (GWh)

313322.61

(7.33.1.4) Annual energy losses (% of annual load)

2.01

(7.33.1.5) Scope where emissions from energy losses are accounted for

Select from:

☒ Scope 2 (location-based)

(7.33.1.6) Emissions from energy losses (metric tons CO2e)

2218767.61

(7.33.1.7) Length of network (km)

87691.48

(7.33.1.8) Number of connections

85600000

(7.33.1.9) Area covered (km2)

1918532.6

(7.33.1.10) Comment

PLN operates a vast transmission network spanning across Indonesia, ensuring electricity access from urban centers to remote and isolated regions. This extensive coverage demonstrates PLN's critical role in supporting equitable electrification nationwide. In the reporting year, energy losses in the transmission business accounted for 2.03% of the total annual load, equivalent to 2,218,767.61 metric tons of CO₂e emissions under Scope 2 reporting (both location-based and market-based approaches).

Row 2

(7.33.1.1) Country/area/region

Select from:

☒ Indonesia

(7.33.1.2) Voltage level

Select from:

☒ Distribution (low voltage)

(7.33.1.3) Annual load (GWh)

306735.24

(7.33.1.4) Annual energy losses (% of annual load)

6.71

(7.33.1.5) Scope where emissions from energy losses are accounted for

Select from:
☒ Scope 2 (location-based)

(7.33.1.6) Emissions from energy losses (metric tons CO2e)

7168947.72

(7.33.1.7) Length of network (km)

1048183.16

(7.33.1.8) Number of connections

85600000

(7.33.1.9) Area covered (km2)

1918532.6

(7.33.1.10) Comment

PLN operates one of the largest electricity distribution networks in Indonesia, covering an area of over 1.9 million km² with more than 92.8 million customer connections. This demonstrates PLN's crucial role in ensuring access to electricity across the country, including rural and remote regions. In 2024, total energy losses at the distribution level reached 6.52% of annual load, equivalent to 7,168,947.72 tons CO₂e, which were reported under Scope 2 (both location-based and market-based). These losses represent the portion of electricity dissipated during transmission and distribution before reaching end users.
[Add row]

(7.45) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Row 1

(7.45.1) Intensity figure

3.12e-7

(7.45.2) Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

169900000

(7.45.3) Metric denominator

Select from:

☒ unit total revenue

(7.45.4) Metric denominator: Unit total

545380992990000

(7.45.5) Scope 2 figure used

Select from:

☒ Location-based

(7.45.6) % change from previous year

6.14

(7.45.7) Direction of change

Select from:

☒ Increased

(7.45.8) Reasons for change

Select all that apply

☒ Change in output

☒ Change in physical operating conditions

(7.45.9) Please explain

PLN remains committed to implementing a range of emission reduction initiatives aimed at lowering the company's emissions intensity, while simultaneously expanding its power generation capacity. These efforts include optimizing operational efficiency, increasing the share of renewable energy, and adopting best practices in environmental management to ensure sustainable growth without compromising climate goals.

Row 2

(7.45.1) Intensity figure

0.8157

(7.45.2) Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

169900000

(7.45.3) Metric denominator

Select from:

☒ megawatt hour generated (MWh)

(7.45.4) Metric denominator: Unit total

208285100.61

(7.45.5) Scope 2 figure used

Select from:

☒ Location-based

(7.45.6) % change from previous year

3.88

(7.45.7) Direction of change

Select from:

☒ Decreased

(7.45.8) Reasons for change

Select all that apply

- ☒ Change in output
- ☒ Change in physical operating conditions

(7.45.9) Please explain

PLN remains committed to improving the efficiency of its generation fleet, resulting in a decrease in emissions intensity per unit of electricity generated. This progress reflects the company's efforts to optimize thermal plant performance, expand the share of renewable energy in the generation mix, and implement best practices in operational management, ensuring that growth in generation capacity supports the transition toward a lower-carbon power system.

Row 3

(7.45.1) Intensity figure

0.7524

(7.45.2) Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

169900000

(7.45.3) Metric denominator

Select from:

- ☒ megawatt hour transmitted (MWh)

(7.45.4) Metric denominator: Unit total

12476101.44

(7.45.5) Scope 2 figure used

Select from:

- ☒ Location-based

(7.45.6) % change from previous year

0.74

(7.45.7) Direction of change

Select from:

☒ Increased

(7.45.8) Reasons for change

Select all that apply

☒ Change in output

☒ Change in physical operating conditions

(7.45.9) Please explain

PLN recognizes the increase in emissions intensity per unit of electricity transmitted, which was influenced by changes in output volumes and physical operating conditions, including network expansion. To address this, PLN is strengthening initiatives to reduce transmission losses, modernize grid infrastructure, and deploy advanced technologies, ensuring reliable electricity delivery while working to minimize associated carbon impacts.

Row 4

(7.45.1) Intensity figure

0.7474

(7.45.2) Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

169900000

(7.45.3) Metric denominator

Select from:

☒ megawatt hour purchased (MWh)

(7.45.4) Metric denominator: Unit total

135606647.12

(7.45.5) Scope 2 figure used

Select from:

☒ Location-based

(7.45.6) % change from previous year

0.43

(7.45.7) Direction of change

Select from:

☒ Increased

(7.45.8) Reasons for change

Select all that apply

☒ Change in output

☒ Change in physical operating conditions

(7.45.9) Please explain

The increase in emissions intensity per unit of electricity purchased from Independent Power Producers (IPPs) reflects the fossil-fuel-dominant supply mix of contracted power in 2024. PLN is responding by prioritizing agreements with renewable energy producers, exploring green procurement mechanisms, and aligning future purchases with the company's decarbonization roadmap to reduce reliance on high-carbon electricity sources.

[Add row]

(7.46) For your electric utility activities, provide a breakdown of your Scope 1 emissions and emissions intensity relating to your total power plant capacity and generation during the reporting year by source.

Coal – hard

(7.46.1) Absolute scope 1 emissions (metric tons CO2e)

125100000

(7.46.2) Emissions intensity based on gross or net electricity generation

Select from:

☒ Gross

(7.46.3) Scope 1 emissions intensity (Gross generation)

1060.40

(7.46.4) Scope 1 emissions intensity (Net generation)

1140.00

Oil

(7.46.1) Absolute scope 1 emissions (metric tons CO2e)

3800000

(7.46.2) Emissions intensity based on gross or net electricity generation

Select from:

☒ Gross

(7.46.3) Scope 1 emissions intensity (Gross generation)

540.00

(7.46.4) Scope 1 emissions intensity (Net generation)

545.03

Gas

(7.46.1) Absolute scope 1 emissions (metric tons CO2e)

3300000

(7.46.2) Emissions intensity based on gross or net electricity generation

Select from:

☒ Gross

(7.46.3) Scope 1 emissions intensity (Gross generation)

60.42

(7.46.4) Scope 1 emissions intensity (Net generation)

61.62

Other biomass

(7.46.1) Absolute scope 1 emissions (metric tons CO2e)

0

(7.46.2) Emissions intensity based on gross or net electricity generation

Select from:

☒ Gross

(7.46.3) Scope 1 emissions intensity (Gross generation)

0.00

(7.46.4) Scope 1 emissions intensity (Net generation)

0.00

Geothermal

(7.46.1) Absolute scope 1 emissions (metric tons CO2e)

0

(7.46.2) Emissions intensity based on gross or net electricity generation

Select from:

☒ Gross

(7.46.3) Scope 1 emissions intensity (Gross generation)

0.00

(7.46.4) Scope 1 emissions intensity (Net generation)

0.00

Hydropower

(7.46.1) Absolute scope 1 emissions (metric tons CO2e)

0

(7.46.2) Emissions intensity based on gross or net electricity generation

Select from:

☒ Gross

(7.46.3) Scope 1 emissions intensity (Gross generation)

0.00

(7.46.4) Scope 1 emissions intensity (Net generation)

0.00

Wind

(7.46.1) Absolute scope 1 emissions (metric tons CO2e)

0

(7.46.2) Emissions intensity based on gross or net electricity generation

Select from:

☒ Gross

Solar

(7.46.1) Absolute scope 1 emissions (metric tons CO2e)

0

(7.46.2) Emissions intensity based on gross or net electricity generation

Select from:

☒ Gross

(7.46.3) Scope 1 emissions intensity (Gross generation)

0.00

(7.46.4) Scope 1 emissions intensity (Net generation)

0.00

Total

(7.46.1) Absolute scope 1 emissions (metric tons CO2e)

158628345.33

(7.46.2) Emissions intensity based on gross or net electricity generation

Select from:

☒ Gross

(7.46.3) Scope 1 emissions intensity (Gross generation)

811.22

[Fixed row]

(7.52) Provide any additional climate-related metrics relevant to your business.

Row 1

(7.52.1) Description

Select from:

☒ Energy usage

(7.52.2) Metric value

62730635.94

(7.52.3) Metric numerator

GJ

(7.52.4) Metric denominator (intensity metric only)

Electricity generated (GWh)

(7.52.5) % change from previous year

0.4

(7.52.6) Direction of change

Select from:

☒ Increased

(7.52.7) Please explain

In 2024, PLN advanced its efforts to enhance energy efficiency and support sustainability objectives. Initiatives include streamlining business processes to cut network losses, expanding automation and digital systems in distribution, applying the ISO 50001:2018 Energy Management System, upgrading distribution networks with Smart Grid technologies and Distribution Control Centers, and implementing Automated Metering Infrastructure (AMI) for bidirectional monitoring and control, aiding the shift from a Distribution Network Operator (DNO) to a Distribution System Operator (DSO). These actions collectively help reduce greenhouse gas emissions and promote sustainable energy management nationwide.

[Add row]

(7.53) Did you have an emissions target that was active in the reporting year?

Select all that apply

☒ Absolute target

(7.53.1) Provide details of your absolute emissions targets and progress made against those targets.

Row 1

(7.53.1.1) Target reference number

Select from:

☒ Abs 1

(7.53.1.2) Is this a science-based target?

Select from:

☒ No, and we do not anticipate setting one in the next two years

(7.53.1.5) Date target was set

12/30/2023

(7.53.1.6) Target coverage

Select from:

☒ Organization-wide

(7.53.1.7) Greenhouse gases covered by target

Select all that apply

☒ Carbon dioxide (CO₂)

☒ Methane (CH₄)

☒ Nitrous oxide (N₂O)

(7.53.1.8) Scopes

Select all that apply

☒ Scope 1

☒ Scope 2

☒ Scope 3

(7.53.1.9) Scope 2 accounting method

Select from:

☒ Location-based

(7.53.1.10) Scope 3 categories

Select all that apply

☒ Scope 3, Category 11 – Use of sold products

(7.53.1.11) End date of base year

12/30/2023

(7.53.1.12) Base year Scope 1 emissions covered by target (metric tons CO2e)

148760000

(7.53.1.13) Base year Scope 2 emissions covered by target (metric tons CO2e)

8500000

(7.53.1.24) Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)

91860000

(7.53.1.31) Base year total Scope 3 emissions covered by target (metric tons CO2e)

91860000.000

(7.53.1.32) Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

249120000.000

(7.53.1.33) Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

100

(7.53.1.34) Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

100

(7.53.1.45) Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)

100

(7.53.1.52) Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

100

(7.53.1.53) Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

(7.53.1.54) End date of target

12/30/2030

(7.53.1.55) Targeted reduction from base year (%)

30

(7.53.1.56) Total emissions at end date of target covered by target in all selected Scopes (metric tons CO2e)

174384000.000

(7.53.1.57) Scope 1 emissions in reporting year covered by target (metric tons CO2e)

155370000

(7.53.1.58) Scope 2 emissions in reporting year covered by target (metric tons CO2e)

9390000

(7.53.1.69) Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)

101360000

(7.53.1.76) Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)

101360000.000

(7.53.1.77) Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

266120000.000

(7.53.1.78) Land-related emissions covered by target

Select from:

☒ No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

(7.53.1.79) % of target achieved relative to base year

-22.75

(7.53.1.80) Target status in reporting year

Select from:

☒ Underway

(7.53.1.82) Explain target coverage and identify any exclusions

The emission reduction target covers all categories, including Scope 1, Scope 2, and Scope 3, with no exclusions. The coverage is company-wide, ensuring that all operational activities, supply chain impacts, and use of sold products are included within the company's decarbonization commitment.

(7.53.1.83) Target objective

The target objective is to support Indonesia's Enhanced Nationally Determined Contribution (E-NDC) by advancing the energy transition toward renewable sources, leveraging sustainable financing, carbon pricing mechanisms, and climate change adaptation measures to reduce GHG emissions and address long-term climate risks.

(7.53.1.84) Plan for achieving target, and progress made to the end of the reporting year

PLN is committed to supporting Indonesia's E-NDC by targeting a 127 million tCO₂ reduction in the electricity sector by 2030. The company's strategy focuses on accelerating the energy transition toward renewable energy, leveraging sustainable financing, implementing carbon pricing mechanisms including carbon credits, and advancing climate change adaptation measures. By the end of the reporting year, PLN continued to strengthen the implementation of these decarbonization initiatives with clear and measurable GHG reduction targets, aligned with Indonesia's Net Zero Emissions 2060 vision.

(7.53.1.85) Target derived using a sectoral decarbonization approach

Select from:

☒ Yes

[Add row]

(7.54) Did you have any other climate-related targets that were active in the reporting year?

Select all that apply

☒ Net-zero targets

(7.54.3) Provide details of your net-zero target(s).

Row 1

(7.54.3.1) Target reference number

Select from:

☒ NZ1

(7.54.3.2) Date target was set

12/31/2022

(7.54.3.3) Target Coverage

Select from:

☒ Organization-wide

(7.54.3.4) Targets linked to this net zero target

Select all that apply

☒ Int1

(7.54.3.5) End date of target for achieving net zero

12/30/2060

(7.54.3.6) Is this a science-based target?

Select from:

☒ No, and we do not anticipate setting one in the next two years

(7.54.3.8) Scopes

Select all that apply

☒ Scope 1

☒ Scope 2

☒ Scope 3

(7.54.3.9) Greenhouse gases covered by target

Select all that apply

☒ Carbon dioxide (CO₂)

☒ Methane (CH₄)

☒ Nitrous oxide (N₂O)

☒ Sulphur hexafluoride (SF₆)

(7.54.3.10) Explain target coverage and identify any exclusions

No exclusion

(7.54.3.11) Target objective

PLN is committed to supporting Indonesia's NDC by reducing emission intensity in the short term (2026) through efficiency improvements and renewable integration. By the medium term (2030), PLN will expand the renewable share and reduce coal dependency to align with Indonesia's NDC emission reduction target. In the long term, under the Enhanced NDC and LTS-LCCR, PLN is on track to achieve net zero emissions by 2060 or sooner through renewable expansion, grid modernization, and adoption of low-carbon technologies.

(7.54.3.12) Do you intend to neutralize any residual emissions with permanent carbon removals at the end of the target?

Select from:

☒ Yes

(7.54.3.13) Do you plan to mitigate emissions beyond your value chain?

Select from:

☒ No, but we plan to within the next two years

(7.54.3.14) Do you intend to purchase and cancel carbon credits for neutralization and/or beyond value chain mitigation?

Select all that apply

☒ Yes, we are currently purchasing and cancelling carbon credits for beyond value chain mitigation

(7.54.3.15) Planned milestones and/or near-term investments for neutralization at the end of the target

PLN has actively managed carbon through purchasing, generating, and offsetting emissions, and will expand engagement with international carbon credit buyers in line with Article 6.2, with plans to showcase this at COP 2025. In the short term, PLN targets reducing emission intensity through efficiency improvements and renewable integration. In the medium term, PLN will significantly expand the renewable share, reduce coal dependency, and strengthen participation in global carbon markets to align with Indonesia's NDC. In the long term, under the Enhanced NDC and LTS-LCCR, PLN is committed to achieving net zero emissions by 2060 or sooner through renewable expansion, grid modernization, and adoption of low-carbon technologies.

(7.54.3.17) Target status in reporting year

Select from:

☒ Underway

(7.54.3.19) Process for reviewing target

The company reviews its target achievement annually through carbon trading reporting and the evaluation of initiatives supporting Net Zero, ensuring progress aligns with strategic objectives.

[Add row]

(7.55) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Select from:

☒ Yes

(7.55.1) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e
Under investigation	5	<i>Numeric input</i>
To be implemented	0	0
Implementation commenced	0	0
Implemented	4	568894.68
Not to be implemented	0	<i>Numeric input</i>

[Fixed row]

(7.55.2) Provide details on the initiatives implemented in the reporting year in the table below.

Row 1

(7.55.2.1) Initiative category & Initiative type

Low-carbon energy consumption

☒ Large hydropower (>25 MW)

(7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

250615.68

(7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

☒ Scope 3 category 1: Purchased goods & services

(7.55.2.4) Voluntary/Mandatory

Select from:

☒ Voluntary

(7.55.2.5) Annual monetary savings (unit currency – as specified in 1.2)

197548529920

(7.55.2.6) Investment required (unit currency – as specified in 1.2)

2050000000000

(7.55.2.7) Payback period

Select from:

☒ 11-15 years

(7.55.2.8) Estimated lifetime of the initiative

Select from:

☒ >30 years

(7.55.2.9) Comment

Jatigede Hydropower Plant plays a strategic role as a large-scale supplier of clean and stable hydroelectric energy to the national grid. Profitability is calculated by multiplying total electricity generation with the average tariff to determine revenue, then subtracting operating expenses based on cost per kWh. Emission savings are reported under Scope 3, Category 11: Use of sold products, since hydroelectricity displaces fossil-based electricity consumption at the customer side and can therefore be claimed as a basis for carbon credit certification.

Row 2

(7.55.2.1) Initiative category & Initiative type

Low-carbon energy consumption

☒ Small hydropower (<25 MW)

(7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

48312

(7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

☒ Scope 3 category 11: Use of sold products

(7.55.2.4) Voluntary/Mandatory

Select from:

☒ Voluntary

(7.55.2.5) Annual monetary savings (unit currency – as specified in 1.2)

35624899000

(7.55.2.6) Investment required (unit currency – as specified in 1.2)

304392054000

(7.55.2.7) Payback period

Select from:

☒ 4-10 years

(7.55.2.8) Estimated lifetime of the initiative

Select from:

☒ >30 years

(7.55.2.9) Comment

Ordi Hulu Mini-Hydropower Plant contributes as a renewable energy provider from small-scale hydro supporting regional electrification. Profit is calculated through the same methodology—generation multiplied by the average tariff to derive revenue, less operating expenses per kWh. Emission savings are likewise reported under Scope 3, Category 11: Use of sold products, as mini-hydro electricity replaces fossil-based consumption, creating potential for carbon credit issuance.

Row 3

(7.55.2.1) Initiative category & Initiative type

Energy efficiency in production processes

☒ Fuel switch

(7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

66092

(7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

☒ Scope 1

(7.55.2.4) Voluntary/Mandatory

Select from:

☒ Voluntary

(7.55.2.5) Annual monetary savings (unit currency – as specified in 1.2)

10335724231

(7.55.2.6) Investment required (unit currency – as specified in 1.2)

0

(7.55.2.7) Payback period

Select from:

☒ No payback

(7.55.2.8) Estimated lifetime of the initiative

Select from:

☒ 21-30 years

(7.55.2.9) Comment

The cofiring initiative at Unit 8 of Suralaya utilizes biomass as a partial substitute for coal, thereby reducing direct emissions from the combustion process. Profit is calculated from fuel cost savings and potential additional revenue from clean energy schemes, net of fixed operating costs. Emission savings are recorded under Scope 1, as the reduction occurs directly at the plant through lower coal consumption. This initiative also enhances the potential for carbon certificate recognition and utilization.

Row 4

(7.55.2.1) Initiative category & Initiative type

Low-carbon energy consumption

☒ Geothermal

(7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

203875

(7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

☒ Scope 3 category 11: Use of sold products

(7.55.2.4) Voluntary/Mandatory

Select from:

☒ Voluntary

(7.55.2.5) Annual monetary savings (unit currency – as specified in 1.2)

0

(7.55.2.6) Investment required (unit currency – as specified in 1.2)

0

(7.55.2.7) Payback period

Select from:

☒ No payback

(7.55.2.8) Estimated lifetime of the initiative

Select from:

☒ 21-30 years

(7.55.2.9) Comment

Sorik Marapi Geothermal Power Plant serves as a reliable and sustainable provider of geothermal energy, supporting the diversification of the national energy mix; profitability is calculated by multiplying generation with the average tariff and deducting operating expenses per kWh specific to geothermal operations, while its role in carbon credit certification is recognized through its low-carbon generation profile.

[Add row]

(7.55.3) What methods do you use to drive investment in emissions reduction activities?

Row 1

(7.55.3.1) Method

Select from:

☒ Compliance with regulatory requirements/standards

(7.55.3.2) Comment

Funding from international organizations and banks to support compliance with the 2025 renewable energy mix target under Indonesia's NDC and Government Regulation on National Energy Policy (PP KEN) No. 15/2015, including financial optimization calculations through the substitution of fossil-fuel power plants with renewable energy (e.g., converting diesel power plants to RE) to reduce operational costs.

Row 2

(7.55.3.1) Method

Select from:

☒ Financial optimization calculations

(7.55.3.2) Comment

Funding from international organizations and banks to support compliance with the 2025 renewable energy mix target under Indonesia's NDC and Government Regulation on National Energy Policy (PP KEN) No. 15/2015, including financial optimization calculations through the substitution of fossil-fuel power plants with renewable energy (e.g., converting diesel power plants to RE) to reduce operational costs.

[Add row]

(7.58) Describe your organization's efforts to reduce methane emissions from your activities.

The company has actively reduced methane emissions through efficient management at its Wastewater Treatment Plant (WWTP). A key measure includes improving water-use efficiency with a recycling system, which decreases the volume of wastewater treated and limits methane formation from anaerobic decomposition. In 2023, the WWTP successfully recycled 7.961 million m³ of water, while the target for 2024 is 7.9352 million m³, in line with the ESG framework. This effort is projected to reduce methane emissions to 9,019.515 tCO₂e in 2024, while ensuring compliance with occupational health, safety, and environmental protocols and supporting the company's sustainable environmental management strategy.

(7.73) Are you providing product level data for your organization's goods or services?

Select from:

☒ No, I am not providing data

(7.74) Do you classify any of your existing goods and/or services as low-carbon products?

Select from:

☒ Yes

(7.74.1) Provide details of your products and/or services that you classify as low-carbon products.

Row 1

(7.74.1.1) Level of aggregation

Select from:

☒ Group of products or services

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

☒ Other, please specify :TKBI (Indonesia Green Taxonomy)

(7.74.1.3) Type of product(s) or service(s)

Power

☒ Geothermal electricity

(7.74.1.4) Description of product(s) or service(s)

PLTP Sorik Marapi Unit 4, part of PLN's geothermal portfolio, produces 219221 MWh of electricity annually with low emissions, reinforcing PLN's contribution to national energy decarbonization.

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

☒ Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

☒ Other, please specify :CDM

(7.74.1.7) Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Select from:

☒ Use stage

(7.74.1.8) Functional unit used

1 MWh

(7.74.1.9) Reference product/service or baseline scenario used

We use condition business as usual (BAU), for the baseline scenario.

(7.74.1.10) Life cycle stage(s) covered for the reference product/service or baseline scenario

Select from:

☒ Use stage

(7.74.1.11) Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

203875

(7.74.1.12) Explain your calculation of avoided emissions, including any assumptions

Emission reduction calculation from new power plants (operating since 2011).

(7.74.1.13) Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.046

Row 3

(7.74.1.1) Level of aggregation

Select from:

☒ Group of products or services

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

☒ Other, please specify :TKBI (Indonesia Green Taxonomy)

(7.74.1.3) Type of product(s) or service(s)

Power

☒ Hydropower

(7.74.1.4) Description of product(s) or service(s)

PLTM Ordi Hulu, a PLN mini-hydro plant, delivers 51,948 MWh of electricity per year from hydropower, providing a clean and sustainable energy solution.

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

☒ Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

☒ Other, please specify :CDM

(7.74.1.7) Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Select from:

☒ Use stage

(7.74.1.8) Functional unit used

1 MWh

(7.74.1.9) Reference product/service or baseline scenario used

We use condition business as usual (BAU), for the baseline scenario.

(7.74.1.10) Life cycle stage(s) covered for the reference product/service or baseline scenario

Select from:

☒ Use stage

(7.74.1.11) Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

48312

(7.74.1.12) Explain your calculation of avoided emissions, including any assumptions

(7.74.1.13) Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.015

Row 4

(7.74.1.1) Level of aggregation

Select from:

☒ Group of products or services

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

☒ Other, please specify :TKBI (Indonesia Green Taxonomy)

(7.74.1.3) Type of product(s) or service(s)

Power

☒ Solar PV

(7.74.1.4) Description of product(s) or service(s)

PLTS Cirata, one of PLN's solar power plants, generates 279,367 MWh of clean electricity per year, supporting the transition to low-carbon energy.

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

☒ Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

☒ Other, please specify :CDM

(7.74.1.7) Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Select from:

☒ Use stage

(7.74.1.8) Functional unit used

1 MWh

(7.74.1.9) Reference product/service or baseline scenario used

We use condition business as usual (BAU), for the baseline scenario.

(7.74.1.10) Life cycle stage(s) covered for the reference product/service or baseline scenario

Select from:

☒ Use stage

(7.74.1.11) Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

243049

(7.74.1.12) Explain your calculation of avoided emissions, including any assumptions

PLTS Cirata

(7.74.1.13) Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.081

Row 5

(7.74.1.1) Level of aggregation

Select from:

☒ Group of products or services

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

☒ Other, please specify :TKBI (Indonesia Green Taxonomy)

(7.74.1.3) Type of product(s) or service(s)

Power

☒ Hydropower

(7.74.1.4) Description of product(s) or service(s)

PLTA Asahan Unit 1 and 2, PLN's hydropower plants, generate 124,816 MWh annually, supporting the company's and the nation's low-carbon energy targets.

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

☒ Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

☒ Other, please specify :CDM

(7.74.1.7) Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Select from:

☒ Use stage

(7.74.1.8) Functional unit used

1 MWh

(7.74.1.9) Reference product/service or baseline scenario used

We use condition business as usual (BAU), for the baseline scenario.

(7.74.1.10) Life cycle stage(s) covered for the reference product/service or baseline scenario

Select from:

☒ Use stage

(7.74.1.11) Estimated avoided emissions (metric tons CO₂e per functional unit) compared to reference product/service or baseline scenario

116079

(7.74.1.12) Explain your calculation of avoided emissions, including any assumptions

Asahan

(7.74.1.13) Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.036

[Add row]

(7.79) Has your organization retired any project-based carbon credits within the reporting year?

Select from:

☒ Yes

(7.79.1) Provide details of the project-based carbon credits retired by your organization in the reporting year.

Row 1

(7.79.1.1) Project type

Select from:

☒ Hydro

(7.79.1.2) Type of mitigation activity

Select from:

☒ Carbon removal

(7.79.1.3) Project description

The Gunung Wugul Mini-Hydro Power Plant is a 2 × 1.5 MW facility that utilizes the flow of the Urang River without generating greenhouse gas emissions. Located in Sijeruk Village, Banjarnegara, the plant was developed and is operated by PT PLN Indonesia Power (Mrica PGU), and began commercial operation on December 3, 2021, using a run-of-river system. The electricity generated is transmitted to the 20 kV interconnected grid through the Mrica Substation.

(7.79.1.4) Credits retired by your organization from this project in the reporting year (metric tons CO2e)

1392

(7.79.1.5) Purpose of retirement

Select from:

☒ Voluntary offsetting

(7.79.1.6) Are you able to report the vintage of the credits at retirement?

Select from:

☒ Yes

(7.79.1.7) Vintage of credits at retirement

2021

(7.79.1.8) Were these credits issued to or purchased by your organization?

Select from:

☒ Issued

(7.79.1.9) Carbon-crediting program by which the credits were issued

Select from:

☒ Other regulatory carbon crediting program, please specify :Emission Reduction Certificate

(7.79.1.10) Method the program uses to assess additionality for this project

Select all that apply

☒ Standardized Approaches

(7.79.1.11) Approaches by which the selected program requires this project to address reversal risk

Select all that apply

☒ No risk of reversal

(7.79.1.12) Potential sources of leakage the selected program requires this project to have assessed

Select all that apply

☒ Upstream/downstream emissions

(7.79.1.13) Provide details of other issues the selected program requires projects to address

As an element of the mitigation initiatives outlined in the long-term strategic business plan (RUPTL).

(7.79.1.14) Please explain

The Gunung Wugul Mini-Hydro project (serial 10-PR-X-2023-16887) issued carbon credits and, after 1,145 REC transactions, continues to support zero-emission mini-hydro energy, contributing to the company's sustainability and national emission reduction targets.

[Add row]

C9. Environmental performance - Water security

(9.1) Are there any exclusions from your disclosure of water-related data?

Select from:

☒ Yes

(9.1.1) Provide details on these exclusions.

Row 1

(9.1.1.1) Exclusion

Select from:

☒ Business activities

(9.1.1.2) Description of exclusion

Excluding transmission and distribution activities.

(9.1.1.3) Reason for exclusion

Select from:

☒ Other, please specify :Insignificant to total water use.

(9.1.1.7) Percentage of water volume the exclusion represents

Select from:

☒ 1-5%

(9.1.1.8) Please explain

Water use (withdrawal, consumption, and discharge) in the transmission and distribution units is minimal compared to the company’s total water consumption. Therefore, including data from these units would not have a significant impact on the total reported water quantity. These activities are excluded to focus reporting on generation units with significant water consumption.
[Add row]

(9.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

Water withdrawals – total volumes

(9.2.1) % of sites/facilities/operations

Select from:

☒ 76-99

(9.2.2) Frequency of measurement

Select from:

☒ Monthly

(9.2.3) Method of measurement

In 2024, PLN conducted comprehensive measurements of all water management aspects, including total water withdrawal, across 246 operational units representing 76.03% of the company’s total power generation capacity. To maintain high data accuracy, PLN adopts a two-pronged measurement approach. Water flow is directly recorded through strategically placed flow meters, while pump capacities are assessed in conjunction with detailed records of operational hours.

(9.2.4) Please explain

This response relates to PLN’s operations, defined as the total power generation capacity across all PLN-owned plants. In 2024, water aspects were measured and monitored in 246 units, representing 76.03% of total capacity (34210979 kW out of 44994014,49 kW), as these plants are directly operated by PLN. Other units, whose capacity is purchased or leased, are excluded because their water management is outside PLN’s operational control and their water aspects are insignificant to overall totals.

Water withdrawals – volumes by source

(9.2.1) % of sites/facilities/operations

Select from:

☒ 76-99

(9.2.2) Frequency of measurement

Select from:

☒ Monthly

(9.2.3) Method of measurement

The measurement is conducted by using flow meters alongside calculations based on pump capacity multiplied by operational hours. PLN applies a standardized approach to measuring water withdrawals across various sources, including seawater primarily used in coal-fired power plants for steam and cooling, surface water, groundwater, rainwater, and third-party supplied water.

(9.2.4) Please explain

This response relates to PLN's operations, defined as the total power generation capacity across all PLN-owned plants. In 2024, water aspects were measured and monitored in 246 units, representing 76.03% of total capacity (34210979 kW out of 44994014,49 kW), as these plants are directly operated by PLN. Other units, whose capacity is purchased or leased, are excluded because their water management is outside PLN's operational control and their water aspects are insignificant to overall totals.

Water withdrawals quality

(9.2.1) % of sites/facilities/operations

Select from:

☒ 76-99

(9.2.2) Frequency of measurement

Select from:

☒ Daily

(9.2.3) Method of measurement

PLN conducted daily inspections of water sources prior to operational use. Internal laboratories assess parameters such as pH to ensure water quality meets standards. PLN also monitors water bodies before withdrawal and disposal, adhering to Government Regulations No. 22/2021 and environmental surveillance guidelines.

(9.2.4) Please explain

This response relates to PLN's operations, defined as the total power generation capacity across all PLN-owned plants. In 2024, water aspects were measured and monitored in 246 units, representing 76.03% of total capacity (34210979 kW out of 44994014,49 kW), as these plants are directly operated by PLN. Other units, whose capacity is purchased or leased, are excluded because their water management is outside PLN's operational control and their water aspects are insignificant to overall totals.

Water discharges – total volumes

(9.2.1) % of sites/facilities/operations

Select from:

☒ 76-99

(9.2.2) Frequency of measurement

Select from:

☒ Daily

(9.2.3) Method of measurement

PLN utilizes flow meters and pump capacity calculations to accurately measure wastewater discharge volumes at power plants within its 246 operational units. Daily monitoring detects usage changes while monthly reports provide a comprehensive overview of water discharge trends over time.

(9.2.4) Please explain

This response relates to PLN's operations, defined as the total power generation capacity across all PLN-owned plants. In 2024, water aspects were measured and monitored in 246 units, representing 76.03% of total capacity (34210979 kW out of 44994014,49 kW), as these plants are directly operated by PLN. Other units, whose capacity is purchased or leased, are excluded because their water management is outside PLN's operational control and their water aspects are insignificant to overall totals.

Water discharges – volumes by destination

(9.2.1) % of sites/facilities/operations

Select from:

☒ 76-99

(9.2.2) Frequency of measurement

Select from:

☒ Daily

(9.2.3) Method of measurement

PLN conducts daily monitoring of wastewater discharge volumes using flow meters and pump capacity calculations. These data are compiled into monthly reports tracking the amount of water discharged. Treated wastewater is released into various destinations including the sea, ground, and surface waters (reservoirs and rivers).

(9.2.4) Please explain

This response relates to PLN's operations, defined as the total power generation capacity across all PLN-owned plants. In 2024, water aspects were measured and monitored in 246 units, representing 76.03% of total capacity (34210979 kW out of 44994014,49 kW), as these plants are directly operated by PLN. Other units, whose capacity is purchased or leased, are excluded because their water management is outside PLN's operational control and their water aspects are insignificant to overall totals.

Water discharges – volumes by treatment method

(9.2.1) % of sites/facilities/operations

Select from:

☒ 100%

(9.2.2) Frequency of measurement

Select from:

☒ Daily

(9.2.3) Method of measurement

PLN precisely measures the volume of wastewater to be treated using flow meters and pump capacity calculations. To comply with government wastewater discharge limits, the wastewater is processed at wastewater treatment plants (WWTP) through sedimentation, flocculation-coagulation, filtration, and neutralization before discharge.

(9.2.4) Please explain

This response relates to PLN's facilities, specifically wastewater treatment plants (WWTPs) across all operations. In 2024, water discharge volumes were measured and monitored at 100% of these facilities, covering both primary and tertiary treatment processes. This full coverage ensures accurate data collection for all wastewater processed before discharge with no facilities excluded from the measurement scope.

Water discharge quality – by standard effluent parameters

(9.2.1) % of sites/facilities/operations

Select from:

☒ 100%

(9.2.2) Frequency of measurement

Select from:

☒ Monthly

(9.2.3) Method of measurement

PLN routinely monitors and measures the quality of wastewater discharged into receiving water bodies. These measurements are directly conducted at the discharge outlets in accordance with the applicable regulations. The wastewater quality is regularly monitored following Regulation of the Minister of Environment No. 8 of 2009 on Wastewater Quality Standards for Thermal Power Plants and Regulation of the Minister of Environment and Forestry No. 68 of 2016 on Domestic Wastewater Quality Standards.

(9.2.4) Please explain

This response relates to PLN's facilities, specifically wastewater treatment plants (WWTPs) across all operations. In 2024, water discharge volumes were measured and monitored at 100% of these facilities, covering both primary and tertiary treatment processes. This full coverage ensures accurate data collection for all wastewater processed before discharge with no facilities excluded from the measurement scope.

Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)

(9.2.1) % of sites/facilities/operations

Select from:

☒ 100%

(9.2.2) Frequency of measurement

Select from:

☒ Monthly

(9.2.3) Method of measurement

Measurement of water emissions is calculated by multiplying wastewater concentration with monthly flow rate. Wastewater concentration data are provided by accredited laboratories. PLN measures relevant parameters including phosphate following Indonesian environmental regulations. This strict compliance ensures that discharged wastewater meets environmental standards.

(9.2.4) Please explain

This response relates to PLN's facilities, specifically wastewater treatment plants (WWTPs) across all operations. In 2024, water discharge volumes were measured and monitored at 100% of these facilities, covering both primary and tertiary treatment processes. This full coverage ensures accurate data collection for all wastewater processed before discharge with no facilities excluded from the measurement scope.

Water discharge quality – temperature

(9.2.1) % of sites/facilities/operations

Select from:

☒ 100%

(9.2.2) Frequency of measurement

Select from:

☒ Monthly

(9.2.3) Method of measurement

Regular temperature measurements are conducted at the condenser outlet in our thermal power plants. The cooling condenser cools the steam into water, allowing it to be reused in the steam generation process. As for cooling mechanism, PLN utilize cooling tower and long outfall canal to reduce temperature naturally. Temperature measurement will be conducted before water being discharged into water bodies. Monthly measurements ensure compliance with quality standards set by regulations.

(9.2.4) Please explain

Temperature monitoring is conducted across all condenser outlets in PLN's thermal power plants, representing 100% of such facilities in our operations. These measurements are taken to ensure that discharged cooling water meets regulatory quality standards and to safeguard aquatic ecosystems. No sites are excluded, as every thermal plant operated by PLN is equipped with a condenser outlet subject to regular monitoring.

Water consumption – total volume

(9.2.1) % of sites/facilities/operations

Select from:

☒ 76-99

(9.2.2) Frequency of measurement

Select from:

☒ Daily

(9.2.3) Method of measurement

PLN continuously measures total water consumption volume using flow meters and pump capacity on a daily basis. This data is compiled and reported monthly. Daily monitoring enables quick detection of consumption changes, while monthly reports provide a detailed overview of water usage trends over time.

(9.2.4) Please explain

This response relates to PLN's operations, defined as the total power generation capacity across all PLN-owned plants. In 2024, water aspects were measured and monitored in 246 units, representing 76.03% of total capacity (34210979 kW out of 44994014,49 kW), as these plants are directly operated by PLN. Other units, whose capacity is purchased or leased, are excluded because their water management is outside PLN's operational control and their water aspects are insignificant to overall totals.

Water recycled/reused

(9.2.1) % of sites/facilities/operations

Select from:

☒ 76-99

(9.2.2) Frequency of measurement

Select from:

☒ Yearly

(9.2.3) Method of measurement

The measurement of recycled/reused water is incorporated within the measurement of water discharge. A fraction of treated water is discharged into water bodies, while another portion is recycled or reused. Prior to reuse in power plant operations, the water undergoes further purification processes. This practice is primarily implemented in units with strict water management and those recognized as “Beyond Compliance” in the Environmental Performance Rating Program (PROPER).

(9.2.4) Please explain

This response relates to PLN’s operations, defined as the total power generation capacity across all PLN-owned plants. In 2024, water aspects were measured and monitored in 246 units, representing 76.03% of total capacity (34210979 kW out of 44994014,49 kW), as these plants are directly operated by PLN. Other units, whose capacity is purchased or leased, are excluded because their water management is outside PLN’s operational control and their water aspects are insignificant to overall totals.

The provision of fully-functioning, safely managed WASH services to all workers

(9.2.1) % of sites/facilities/operations

Select from:

☒ 100%

(9.2.2) Frequency of measurement

Select from:

☒ Daily

(9.2.3) Method of measurement

PLN monitors the water supply for WASH services for all employees through flow meters, covering water from desalination processes and groundwater sources. Water quality monitoring is conducted daily. Besides desalinated water, PLN also sources controlled-quality water from third parties for WASH purposes. This data enables PLN to ensure the water used for WASH meets required quality standards. Additionally, PLN purchases drinking water from external suppliers certified for safety standards.

(9.2.4) Please explain

This response relates to PLN's provision of drinking water and sanitation (WASH) services for all workers across its operations. The scope includes water supplied through desalination processes, groundwater sources, and external suppliers. PLN reports 100% coverage because WASH services are provided and monitored for all employees, with no sites or facilities excluded. In addition to internally managed sources such as desalination and groundwater, PLN also purchases drinking water from certified external suppliers to guarantee safe and reliable access. Monitoring at this proportion is essential to ensure that every worker has access to safe drinking water and sanitation facilities, in line with occupational health and safety standards.

[Fixed row]

(9.2.1) For your hydropower operations, what proportion of the following water aspects are regularly measured and monitored?

Fulfilment of downstream environmental flows

(9.2.1.1) % of sites/facilities/operations measured and monitored

Select from:

☒ 100%

(9.2.1.2) Please explain

PLN is strongly committed to operating its hydropower plants (PLTA) while preserving nature and the surrounding environment. One of the key aspects routinely monitored is ensuring that the presence of PLN's hydropower plants does not disrupt water supply and demand for local communities or nearby ecosystems, in accordance with the initial water balance norms outlined in environmental assessment documents such as UKL-UPL and AMDAL. Downstream environmental flows, as defined by national legislation, represent the minimum volume of water that must be maintained downstream of hydropower plants to sustain ecological balance and support life within the river and its surrounding areas. These flows are critical for environmental sustainability, ecosystem health, and the well-being of

communities living near rivers. To ensure this, PLN measures and monitors water aspects across 100% of its dam-type hydropower plants, which include PLTM Santong, PLTMH Pengga, PLTA Koto Panjang, PLTA Saguling, PLTA PB. Sudirman, PLTA Maninjau, PLTA Singkarak, PLTA Cirata, and PLTA Sutami. The scope of measurement covers daily, monthly, and annual water balance recordings, including inflows and outflows, water levels, and water volumes to ensure proper balance and management of water resources. Regular water quality monitoring is also conducted. For example, at PLTA Saguling, there are 22 monitoring points distributed across the reservoir and its tributaries, where 53 water quality parameters are measured periodically to ensure that environmental conditions are maintained.

Sediment loading

(9.2.1.1) % of sites/facilities/operations measured and monitored

Select from:

☒ 100%

(9.2.1.2) Please explain

PLN has implemented a Sediment Management Program to mitigate the impacts of sediment accumulation from hydropower operations. The program includes routine measurement and monitoring of sediment loads in rivers surrounding hydropower plants. Sediment loading, as defined by national legislation, represent the measurement of sediment inflow and outflow from reservoirs. This monitoring is conducted across 100% of PLN's dam-type hydropower plants, including PLTM Santong, PLTMH Pengga, PLTA Koto Panjang, PLTA Saguling, PLTA PB. Sudirman, PLTA Maninjau, PLTA Singkarak, PLTA Cirata, and PLTA Sutami. In addition, PLN conducts scheduled monitoring every five years, including sedimentation rates, updates to reservoir elevation curves, and service life calculations of reservoirs specifically for hydropower plants. This is critical to ensuring the long-term sustainability of reservoir functions and hydropower operations. To address sedimentation and maintain reservoir functions, several methods are applied: 1. Reducing sediment inflow into reservoirs through watershed conservation, sediment control structures such as clarifiers, and bypass channels to divert high-sediment flows. 2. Minimizing sediment deposition within reservoirs by releasing sediments before they settle. 3. Removing accumulated sediments either hydraulically through flushing using potential water energy or mechanically through dredging. 4. Replacing lost storage capacity by raising dam height. 5. For water with high Total Dissolved Solids (TDS), PLN applies chemical polymers. 6. As part of the Sediment Management Program, PLN also undertakes reforestation efforts through the planting of trees along the watershed to reduce erosion and sediment inflow into the reservoir.

Other, please specify

(9.2.1.1) % of sites/facilities/operations measured and monitored

Select from:

☒ Not relevant

(9.2.1.2) Please explain

Not relevant.

[Fixed row]

(9.2.2) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, how do they compare to the previous reporting year, and how are they forecasted to change?

Total withdrawals

(9.2.2.1) Volume (megaliters/year)

35428858.82

(9.2.2.2) Comparison with previous reporting year

Select from:

☒ About the same

(9.2.2.3) Primary reason for comparison with previous reporting year

Select from:

☒ Change in accounting methodology

(9.2.2.4) Five-year forecast

Select from:

☒ About the same

(9.2.2.5) Primary reason for forecast

Select from:

☒ Divestment from water intensive technology/process

(9.2.2.6) Please explain

The total water withdrawal in the current reporting year is 35,428,858.82 megaliters, compared to 40,091,620 megaliters in the previous year. Based on PLN's categorization thresholds (less than 30% change = about the same, 30–60% = higher/lower, and more than 60% = much higher/much lower), this decrease is considered about the same as the previous reporting year. The primary reason for the change is the adjustment in accounting methodology, as PLN reviewed calculation bases and recalibrated several monitoring instruments to ensure more accurate data reporting. Looking ahead, PLN forecasts water withdrawal at approximately 42,830,000 megaliters/year over the next five years. This volume is also categorized as about the same, since the projected change remains below 30%. The primary driver of this forecast is PLN's strategy to divest from water-intensive technologies and processes, which helps balance the expected increase in water demand from the expansion of hydropower and geothermal power plants as stated in the Corporate Plan and the Rencana Usaha Penyediaan Tenaga Listrik (RUPTL).

Total discharges

(9.2.2.1) Volume (megaliters/year)

12684084.62

(9.2.2.2) Comparison with previous reporting year

Select from:

☒ About the same

(9.2.2.3) Primary reason for comparison with previous reporting year

Select from:

☒ Change in accounting methodology

(9.2.2.4) Five-year forecast

Select from:

☒ About the same

(9.2.2.5) Primary reason for forecast

Select from:

☒ Divestment from water intensive technology/process

(9.2.2.6) Please explain

The total water discharge for the reporting year is 12,684,084.62 megaliters, compared to 14,207,610 megaliters in the previous reporting year. Based on PLN's categorization thresholds (less than 30% change = about the same, 30–60% = higher/lower, and more than 60% = much higher/much lower), this change is considered about the same, as the decrease is below 30%. The primary reason for this outcome is a change in accounting methodology, where PLN reviewed the calculation basis and recalibrated several measuring instruments to generate more accurate data. Looking ahead, the five-year forecast for water discharge is projected at 15,100,000 megaliters per year, which also falls into the about the same category. This projection is driven by PLN's divestment from water-intensive technologies and processes, despite the expected increase in hydropower and geothermal capacity outlined in the Corporate Plan and the Rencana Usaha Penyediaan Tenaga Listrik (RUPTL).

Total consumption

(9.2.2.1) Volume (megaliters/year)

21085693.26

(9.2.2.2) Comparison with previous reporting year

Select from:

☒ About the same

(9.2.2.3) Primary reason for comparison with previous reporting year

Select from:

☒ Change in accounting methodology

(9.2.2.4) Five-year forecast

Select from:

☒ About the same

(9.2.2.5) Primary reason for forecast

Select from:

☒ Divestment from water intensive technology/process

(9.2.2.6) Please explain

The total water consumption during this reporting year is 21,085,693.26 megaliters, compared to 25,104,760 megaliters in the previous year. This change is categorized as “about the same” since it is below the 30% threshold defined by PLN (less than 30% change = about the same, 30–60% = higher/lower, and more than 60% = much higher/much lower). The decrease mainly resulted from a change in accounting methodology, recalibration, and improved conservation practices in units recognized under the Beyond Proper program, as well as water efficiency initiatives through 3R (Reduce, Reuse, Recycle) programs. For the next five years, the water consumption is forecasted to reach around 26,700,000 megaliters per year, which is also considered “about the same” under PLN’s categorization. The projection reflects the company’s Corporate Plan and the Rencana Usaha Penyediaan Tenaga Listrik (RUPTL), where PLN plans to expand hydropower and geothermal capacity. However, this increase is expected to be balanced through divestment from water-intensive technologies and processes, thereby preventing a significant rise in overall water consumption.

[Fixed row]

(9.2.4) Indicate whether water is withdrawn from areas with water stress, provide the volume, how it compares with the previous reporting year, and how it is forecasted to change.

(9.2.4.1) Withdrawals are from areas with water stress

Select from:

☒ Yes

(9.2.4.2) Volume withdrawn from areas with water stress (megaliters)

2471093.79

(9.2.4.3) Comparison with previous reporting year

Select from:

☒ Much higher

(9.2.4.4) Primary reason for comparison with previous reporting year

Select from:

☒ Change in accounting methodology

(9.2.4.5) Five-year forecast

Select from:

☒ About the same

(9.2.4.6) Primary reason for forecast

Select from:

☒ Divestment from water intensive technology/process

(9.2.4.7) % of total withdrawals that are withdrawn from areas with water stress

6.97

(9.2.4.8) Identification tool

Select all that apply

☒ WRI Aqueduct

(9.2.4.9) Please explain

In 2024, water withdrawal from areas with water stress was 2,471,093.79 megaliters, much higher than 2023 (1,366,211.08 megaliters) mainly due to revised accounting methodology, particularly the correction of PLTD operations that were previously not recorded in 2023. PLN defines changes above 60% as “much higher.” Over the next five years, withdrawal is expected to remain about the same, as hydropower expansion in the Corporate Plan and RUPTL will be balanced with divestment from water-intensive processes. In 2024, 17 of 246 units were identified in water stress areas using WRI’s Aqueduct.
[Fixed row]

(9.2.7) Provide total water withdrawal data by source.

Fresh surface water, including rainwater, water from wetlands, rivers, and lakes

(9.2.7.1) Relevance

Select from:

☒ Relevant

(9.2.7.2) Volume (megaliters/year)

16033060.92

(9.2.7.3) Comparison with previous reporting year

Select from:

☒ Higher

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

☒ Change in accounting methodology

(9.2.7.5) Please explain

Water withdrawal from fresh surface water including rainwater in the reporting year reached 16,033,060.92 megaliters/year, higher than 11,332,110 megaliters/year in the previous year. Based on PLN's thresholds (less than 30% change = about the same, 30–60% = higher/lower, and more than 60% = much higher/much lower), this change is categorized as higher. The increase is mainly due to a change in accounting methodology, as several units corrected calculations, particularly PLTDs (Diesel Power Plants) that previously did not report withdrawals but have now begun recording them. Additional drivers include extended operating hours and higher power generation from hydropower plants. To maintain high data accuracy, PLN adopts a two-pronged measurement approach. Water flow is directly recorded through strategically placed flow meters, while pump capacities are assessed in conjunction with detailed records of operational hours.

Brackish surface water/Seawater

(9.2.7.1) Relevance

Select from:

☒ Relevant

(9.2.7.2) Volume (megaliters/year)

17536467.66

(9.2.7.3) Comparison with previous reporting year

Select from:

☒ Lower

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

☒ Increase/decrease in business activity

(9.2.7.5) Please explain

Water withdrawal from brackish surface water or seawater during the reporting year was 17,536,467.66 megaliters, which is lower compared to 28,759,340 megaliters in the previous reporting year. Based on PLN's categorization (less than 30% change = about the same, 30–60% = higher/lower, and more than 60% = much higher/much lower), this represents a decrease of around 39 percent, which falls into the “lower” category. The primary reason for this decrease is the reduction in business activity, particularly because in 2024 several combined cycle power plants (PLTGU) operated only in open cycle mode, resulting in lower water consumption for steam production. To maintain high data accuracy, PLN adopts a two-pronged measurement approach. Water flow is directly recorded through strategically placed flow meters, while pump capacities are assessed in conjunction with detailed records of operational hours.

Groundwater – renewable

(9.2.7.1) Relevance

Select from:

☒ Relevant

(9.2.7.2) Volume (megaliters/year)

1859314.08

(9.2.7.3) Comparison with previous reporting year

Select from:

☒ Much higher

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

☒ Change in accounting methodology

(9.2.7.5) Please explain

Groundwater withdrawal in the reporting year reached 1,859,314.08 megaliters, compared to only 150 megaliters in the previous year. Based on PLN's thresholds, this represents a "much higher" increase since the change exceeds 60 percent ((less than 30% change = about the same, 30–60% = higher/lower, and more than 60% = much higher/much lower). The primary reason is a change in accounting methodology. In 2023, some Diesel Power Plants (PLTD) did not record groundwater withdrawal, but in 2024 they started reporting, which caused the total volume to appear significantly higher. If the PLTD data had been included in the previous year, the withdrawal levels would have been relatively "about the same." To maintain high data accuracy, PLN adopts a two-pronged measurement approach. Water flow is directly recorded through strategically placed flow meters, while pump capacities are assessed in conjunction with detailed records of operational hours.

Groundwater – non-renewable

(9.2.7.1) Relevance

Select from:

☒ Not relevant

(9.2.7.5) Please explain

PLN does not withdraw water from non-renewable groundwater sources.

Produced/Entrained water

(9.2.7.1) Relevance

Select from:

☒ Not relevant

(9.2.7.5) Please explain

PLN does not withdraw water from produced/entrained water sources.

Third party sources

(9.2.7.1) Relevance

Select from:

☒ Relevant

(9.2.7.2) Volume (megaliters/year)

16.16

(9.2.7.3) Comparison with previous reporting year

Select from:

☒ About the same

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

☒ Increase/decrease in business activity

(9.2.7.5) Please explain

Water withdrawal from third party sources (PDAM) in the current year was 16.16 megaliters, compared to 20 megaliters in the previous year. This change falls within the “about the same” category, based on PLN’s thresholds (less than 30% change = about the same, 30–60% = higher/lower, and more than 60% = much higher/much lower). The slight decrease was primarily driven by reduced business activity, particularly due to several combined cycle power plants (PLTGU) operating only in open cycle mode during 2024, which required less water for steam production. Looking ahead, withdrawal from third party sources is expected to remain relatively stable over the next five years, with fluctuations depending on plant operational modes and production demand. To maintain high data accuracy, PLN adopts a two-pronged measurement approach. Water flow is directly recorded through strategically placed flow meters, while pump capacities are assessed in conjunction with detailed records of operational hour
[Fixed row]

(9.2.8) Provide total water discharge data by destination.

Fresh surface water

(9.2.8.1) Relevance

Select from:

☒ Relevant

(9.2.8.2) Volume (megaliters/year)

4009022.48

(9.2.8.3) Comparison with previous reporting year

Select from:

☒ Much lower

(9.2.8.4) Primary reason for comparison with previous reporting year

Select from:

☒ Other, please specify :Change in operational patterns.

(9.2.8.5) Please explain

The volume of discharge to fresh surface water in the current reporting year was 4,009,022.48 megaliters, compared to 11,211,370 megaliters in the previous year. Based on PLN's threshold (less than 30% change = about the same, 30–60% = higher/lower, and more than 60% = much higher/much lower), this decrease of more than 60% is categorized as “much lower.” The primary driver is a change in operational patterns, where an increase in hydropower plant operating hours led to higher electricity generation and consequently reduced discharge volumes to surface water. This data is sourced from direct measurements. To maintain high data accuracy, PLN adopts a two-pronged measurement approach. Water flow is directly recorded through strategically placed flow meters, while pump capacities are assessed in conjunction with detailed records of operational hours.

Brackish surface water/seawater

(9.2.8.1) Relevance

Select from:

☒ Relevant

(9.2.8.2) Volume (megaliters/year)

7838738.52

(9.2.8.3) Comparison with previous reporting year

Select from:

☒ Much higher

(9.2.8.4) Primary reason for comparison with previous reporting year

Select from:

☒ Change in accounting methodology

(9.2.8.5) Please explain

The discharge volume to brackish surface water/seawater in the current reporting year was 7,838,738.52 megaliters, compared to 2,996,230 megaliters in the previous year. Based on PLN's threshold (less than 30% change = about the same, 30–60% = higher/lower, and more than 60% = much higher/much lower), this represents an increase of more than 60% which is categorized as "much higher." The main reason for this change is a shift in accounting methodology. In the previous year, several power plants (PLTU Suralaya, PLTU Jeranjang, PLTU Tarahan, and PLTU Suge) did not report their discharge volumes, leading to lower figures. The current year's data, with complete coverage, reflects the actual scale of discharges. All volumes are sourced from direct measurements. To maintain high data accuracy, PLN adopts a two-pronged measurement approach. Water flow is directly recorded through strategically placed flow meters, while pump capacities are assessed in conjunction with detailed records of op

Groundwater

(9.2.8.1) Relevance

Select from:

☒ Relevant

(9.2.8.2) Volume (megaliters/year)

836323.63

(9.2.8.3) Comparison with previous reporting year

Select from:

☒ Much higher

(9.2.8.4) Primary reason for comparison with previous reporting year

Select from:

- ☒ Change in accounting methodology

(9.2.8.5) Please explain

The groundwater discharge volume in the current reporting year is 836,323.63 megaliters, compared to 10 megaliters in the previous year, which is categorized as “much higher” since the increase exceeds 60%. PLN applies thresholds where changes below 30% are “about the same,” 30–60% are “higher or lower,” and above 60% are “much higher or much lower.” This significant increase is mainly due to a change in accounting methodology, as several PLTD units previously did not report discharge volumes but have started to include the data this year. The reported volumes are sourced from direct measurements. To maintain high data accuracy, PLN adopts a two-pronged measurement approach. Water flow is directly recorded through strategically placed flow meters, while pump capacities are assessed in conjunction with detailed records of operational hours.

Third-party destinations

(9.2.8.1) Relevance

Select from:

- ☒ Relevant

(9.2.8.2) Volume (megaliters/year)

0

(9.2.8.3) Comparison with previous reporting year

Select from:

- ☒ About the same

(9.2.8.4) Primary reason for comparison with previous reporting year

Select from:

- ☒ Maximum potential volume reduction already achieved

(9.2.8.5) Please explain

PLN does not discharge water to third party sources in 2024.
[Fixed row]

(9.2.9) Within your direct operations, indicate the highest level(s) to which you treat your discharge.

Tertiary treatment

(9.2.9.1) Relevance of treatment level to discharge

Select from:

☒ Relevant

(9.2.9.2) Volume (megaliters/year)

12684013.82

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

☒ About the same

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

☒ Change in accounting methodology

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

☒ 71-80

(9.2.9.6) Please explain

In the reporting year, PLN recorded a volume of 12,684,013.82 megaliters per year treated through tertiary treatment, compared to 14,207,558.19 megaliters per year in the previous year. Based on PLN's internal threshold, this difference is categorized as "about the same," as the change is less than 30% (less than 30% change = about the same, 30–60% = higher/lower, and more than 60% = much higher/much lower). The primary reason for this outcome is the change in accounting methodology, in which PLN reviewed the calculation basis and recalibrated several measuring instruments to ensure more accurate and reliable data. The reported volumes are sourced from direct measurements carried out across 246 operational units, which represent 76.03% of PLN's total installed capacity (34,210,979 kW out of 44,994,014.49 kW). Tertiary water treatment has been applied to ensure the quality of wastewater discharged from PLN's operations complies with applicable regulations and minimizes environmental impacts. This treatment level removes residual pollutants that are not eliminated in primary and secondary processes. PLN implements tertiary treatment in almost all types of power plants, excluding diesel-fired power plants (PLTD), and applies it as well to domestic wastewater. Processes include sedimentation, separation traps, coagulation-flocculation, and neutralization prior to discharge. For domestic wastewater, sewage treatment plants (STPs) apply a combination of physical, chemical, and biological processes such as screening, aerobic-anaerobic treatment, oxidation, and chlorination. Compliance is monitored in line with the Regulation of the Minister of Environment No. 8/2009 on Wastewater Quality Standards for Thermal Power Plants and the Regulation of the Minister of Environment and Forestry No. 68/2016 on Domestic Wastewater Quality Standards.

Secondary treatment

(9.2.9.1) Relevance of treatment level to discharge

Select from:

☒ Relevant

(9.2.9.2) Volume (megaliters/year)

0

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

☒ About the same

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

☒ Other, please specify :Not relevant.

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

☒ 71-80

(9.2.9.6) Please explain

This is not the highest level of treatment within the PLN operation.

Primary treatment only

(9.2.9.1) Relevance of treatment level to discharge

Select from:

☒ Relevant

(9.2.9.2) Volume (megaliters/year)

70.81

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

☒ Higher

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

☒ Change in accounting methodology

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

☒ 71-80

(9.2.9.6) Please explain

In the current reporting year, the volume of wastewater treated through primary treatment reached 70.81 megaliters, compared to 48.45 megaliters in the previous year. Based on PLN's internal threshold, this difference is categorized as "higher," (less than 30% change = about the same, 30–60% = higher/lower, and more than 60% = much higher/much lower). The change is closely linked to adjustments in data reporting, particularly the inclusion of water withdrawal data from diesel power plants (PLTD). This additional data has resulted in an increase in the reported discharge volume, which in turn influences the total wastewater processed. The reported volume is sourced from direct measurements conducted across PLN's facilities. Water aspects were measured and monitored in 246 units, representing 76.03% of total installed capacity (34,210,979 kW out of 44,994,014.49 kW). These facilities are directly operated by PLN and have systematic monitoring systems in place to ensure reliable data quality. Primary treatment is applied to remove physical pollutants, such as suspended solids and oil, from wastewater. In PLN's operations, this treatment is particularly relevant for PLTD facilities, which generate wastewater containing oil residues. The process typically involves screening to remove suspended materials and oil traps to separate oil and grease. This treatment is implemented as a pre-treatment stage to improve water quality before secondary or more advanced processes are applied. Through the application of primary water treatment, PLN ensures that its discharges comply with applicable standards, reduce potential environmental impacts, and reinforce its responsibility to maintain water quality around its operating sites. Compliance is monitored in line with the Regulation of the Minister of Environment No. 8/2009 on Wastewater Quality Standards for Thermal Power Plants.

Discharge to the natural environment without treatment

(9.2.9.1) Relevance of treatment level to discharge

Select from:

☒ Not relevant

(9.2.9.6) Please explain

Not relevant.

Discharge to a third party without treatment

(9.2.9.1) Relevance of treatment level to discharge

Select from:

☒ Not relevant

(9.2.9.6) Please explain

Not relevant.

Other

(9.2.9.1) Relevance of treatment level to discharge

Select from:

☒ Not relevant

(9.2.9.6) Please explain

Not relevant.

[Fixed row]

(9.2.10) Provide details of your organization's emissions of nitrates, phosphates, pesticides, and other priority substances to water in the reporting year.

(9.2.10.1) Emissions to water in the reporting year (metric tons)

1164.3

(9.2.10.2) Categories of substances included

Select all that apply

☒ Phosphates

(9.2.10.4) Please explain

For this reporting year, phosphate emissions could not be disclosed due to system limitations, as the "Energyst" application was unavailable, preventing access to the relevant data. However, PLN sought to estimate the phosphate emissions by using historical data from previous year. The methodology applied involved projecting the 2023 water pollution load intensity and multiplying it by the installed capacity of power plants with phosphate parameters such as coal-fired power plants (PLTU), gas-fired power plants (PLTG), and combined cycle power plants (PLTGU). The emissions from PLN's operations are not located near vulnerable communities nor within water-stressed areas. Monitoring and management are carried out in line with applicable environmental regulations to ensure no significant risks to surrounding water bodies. As an electric utility company, PLN primarily utilizes water for power generation, mainly for cooling processes and as a medium to drive turbines. Unlike industrial or manufacturing processes, these operations are not typically associated with significant emissions of nitrates, phosphates, pesticides, or other priority substances. Phosphate emissions are only relevant to a limited number of facilities (PLTU, PLTG, and PLTGU). PLN complies with the effluent quality standards set by the Ministry of Environment and Forestry through Ministerial Regulation No. 8 of 2009, which regulates wastewater quality for power generation activities.

[Fixed row]

(9.3) In your direct operations and upstream value chain, what is the number of facilities where you have identified substantive water-related dependencies, impacts, risks, and opportunities?

Direct operations

(9.3.1) Identification of facilities in the value chain stage

Select from:

☒ Yes, we have assessed this value chain stage and identified facilities with water-related dependencies, impacts, risks, and opportunities

(9.3.2) Total number of facilities identified

17

(9.3.3) % of facilities in direct operations that this represents

Select from:

☒ 76-99

(9.3.4) Please explain

The evaluation of 246 operational units indicated that 17 units, or approximately 6.91%, withdraw water from areas experiencing high to very high levels of water stress.

Upstream value chain

(9.3.1) Identification of facilities in the value chain stage

Select from:

☒ No, we have not assessed this value chain stage for facilities with water-related dependencies, impacts, risks, and opportunities, and are not planning to do so in the next 2 years

(9.3.4) Please explain

Due to the scale and complexity of its operations, PLN has not yet included the upstream value chain in the identification of water stress risks. Obtaining accurate data from the upstream segment requires significant resources. However, PLN is implementing a gradual and systematic approach, with an initial focus on several key operational units, which will later be expanded to other units as well as the upstream value chain in the coming years.

[Fixed row]

(9.3.1) For each facility referenced in 9.3, provide coordinates, water accounting data, and a comparison with the previous reporting year.

Row 1

(9.3.1.1) Facility reference number

Select from:

☒ Facility 1

(9.3.1.2) Facility name (optional)

PLTD Pulo Panjang

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

☒ Dependencies

☒ Impacts

☒ Risks

☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

☒ Other, please specify :Teluk Pulo Panjang (Serang, Banten)

(9.3.1.8) Latitude

-5.930987

(9.3.1.9) Longitude

106.145385

(9.3.1.10) Located in area with water stress

Select from:

☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

☒ Oil

(9.3.1.13) Total water withdrawals at this facility (megaliters)

0.15

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ About the same

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

0.15

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

0.03

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ Much lower

(9.3.1.23) Discharges to fresh surface water

0.03

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

0.12

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ About the same

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. At this facility, the total water withdrawal amounted to 0.15 megaliters, sourced entirely from renewable groundwater. Compared to the previous year, withdrawals remained about the same with a change of 4.57%. Total water discharge was 0.03 megaliters to fresh surface water, which is much lower than the previous year with a decrease of 75.25%. Water consumption reached 0.12 megaliters, showing an about the same change of 6.47% from the prior year. All water consumption figures are based on local measurements.

Row 2

(9.3.1.1) Facility reference number

Select from:

☒ Facility 2

(9.3.1.2) Facility name (optional)

ULPLTD Ampenan

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

☒ Dependencies

☒ Impacts

☒ Risks

☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

☒ Other, please specify :Loang Baloq River Basin (Mataram, West Nusa Tenggara)

(9.3.1.8) Latitude

-8.595616

(9.3.1.9) Longitude

116.076401

(9.3.1.10) Located in area with water stress

Select from:

☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

☒ Oil

(9.3.1.13) Total water withdrawals at this facility (megaliters)

17.46

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ About the same

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

17.46

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

8.46

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ Lower

(9.3.1.23) Discharges to fresh surface water

8.46

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

8.36

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ About the same

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. At this facility, the total water withdrawal amounted to 17.46 megaliters, sourced entirely from renewable groundwater. Compared to the previous year, withdrawals remained about the same with a change of 9.13%. Total water discharge was 8.46 megaliters to fresh surface water, which is lower than the previous year with a decrease of 37.23%. Water consumption reached 8.36 megaliters, showing an about the same change of 5.81% from the prior year. All water consumption figures are based on local measurements.

Row 3

(9.3.1.1) Facility reference number

Select from:

☒ Facility 3

(9.3.1.2) Facility name (optional)

PLTD Taman

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

- ☒ Dependencies
- ☒ Impacts
- ☒ Risks
- ☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

- ☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

- ☒ Other, please specify :Nuraksa River Basin (Mataram, West Nusa Tenggara)

(9.3.1.8) Latitude

-8.596828

(9.3.1.9) Longitude

116.107783

(9.3.1.10) Located in area with water stress

Select from:

- ☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

- ☒ Oil

(9.3.1.13) Total water withdrawals at this facility (megaliters)

0.13

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ Much lower

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

0.13

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

0.05

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ Much higher

(9.3.1.23) Discharges to fresh surface water

0.05

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

0.07

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ Lower

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. All water consumption figures are based on local measurements. At this facility, the total water withdrawal amounted to 0.13 megaliters, sourced entirely from renewable groundwater. Compared to the previous year, withdrawals decreased by 71.56%. All water consumption figures are based on local measurements.

Row 4

(9.3.1.1) Facility reference number

Select from:

☒ Facility 4

(9.3.1.2) Facility name (optional)

ULPLTD Paokmotong

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

☒ Dependencies

☒ Impacts

☒ Risks

☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

☒ Other, please specify :Bilasundung River Basin (East Lombok, West Nusa Tenggara)

(9.3.1.8) Latitude

-8.628219

(9.3.1.9) Longitude

116.463647

(9.3.1.10) Located in area with water stress

Select from:

☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

☒ Oil

(9.3.1.13) Total water withdrawals at this facility (megaliters)

3.98

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ About the same

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

3.98

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

2.24

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ Lower

(9.3.1.23) Discharges to fresh surface water

2.24

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

1.58

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ About the same

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. All water consumption figures are based on local measurements. At this facility, the total water withdrawal amounted to 3.98 megaliters, sourced entirely from renewable groundwater. Compared to the previous year, withdrawals remained about the same with a change of 10.33%. All water consumption figures are based on local measurements.

Row 5

(9.3.1.1) Facility reference number

Select from:

☒ Facility 5

(9.3.1.2) Facility name (optional)

ULPLTD Labuhan

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

- ☒ Dependencies
- ☒ Impacts
- ☒ Risks
- ☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

- ☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

- ☒ Other, please specify :Saliper Ate River Basin (East Lombok, West Nusa Tenggara)

(9.3.1.8) Latitude

-8.475138

(9.3.1.9) Longitude

117.404675

(9.3.1.10) Located in area with water stress

Select from:

- ☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

- ☒ Oil

(9.3.1.13) Total water withdrawals at this facility (megaliters)

0.96

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ Much higher

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

0.96

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

0.03

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ About the same

(9.3.1.23) Discharges to fresh surface water

0.03

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

0.93

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ Much higher

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. All water consumption figures are based on local measurements. At this facility, the total water withdrawal amounted to 0.96 megaliters, sourced entirely from renewable groundwater. Compared to the previous year, withdrawals are slightly higher. All water consumption figures are based on local measurements.

Row 6

(9.3.1.1) Facility reference number

Select from:

☒ Facility 6

(9.3.1.2) Facility name (optional)

ULPTD Bima

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

☒ Dependencies

☒ Impacts

☒ Risks

☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

☒ Other, please specify :West Sumbawa, West Nusa Tenggara

(9.3.1.8) Latitude

-8.458887

(9.3.1.9) Longitude

118.744047

(9.3.1.10) Located in area with water stress

Select from:

☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

☒ Oil

(9.3.1.13) Total water withdrawals at this facility (megaliters)

0.21

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ About the same

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

0.21

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

0.04

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ Much higher

(9.3.1.23) Discharges to fresh surface water

0.04

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

0.17

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ About the same

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. All water consumption figures are based on local measurements. At this facility, the total water withdrawal amounted to 0.21 megaliters, sourced entirely from renewable groundwater. Compared to the previous year, withdrawals remained about the same with a change of 2.71%. All water consumption figures are based on local measurements.

Row 7

(9.3.1.1) Facility reference number

Select from:

☒ Facility 7

(9.3.1.2) Facility name (optional)

PLTD Niu

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

- ☒ Dependencies
- ☒ Impacts
- ☒ Risks
- ☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

- ☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

- ☒ Other, please specify :Bima, West Nusa Tenggara

(9.3.1.8) Latitude

-8.489652

(9.3.1.9) Longitude

118.716885

(9.3.1.10) Located in area with water stress

Select from:

- ☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

- ☒ Oil

(9.3.1.13) Total water withdrawals at this facility (megaliters)

1.4

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ About the same

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

1.4

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

0.29

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ Lower

(9.3.1.23) Discharges to fresh surface water

0.29

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

1.09

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ Much higher

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. All water consumption figures are based on local measurements. At this facility, the total water withdrawal amounted to 1.4 megaliters, sourced entirely from renewable groundwater. Compared to the previous year, withdrawals remained about the same with a change of 14.58%. All water consumption figures are based on local measurements.

Row 8

(9.3.1.1) Facility reference number

Select from:

☒ Facility 8

(9.3.1.2) Facility name (optional)

PLTD Dompu

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

☒ Dependencies

☒ Impacts

☒ Risks

☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

☒ Other, please specify :Laju River Basin (Dompu, West Nusa Tenggara)

(9.3.1.8) Latitude

-8.543938

(9.3.1.9) Longitude

118.444203

(9.3.1.10) Located in area with water stress

Select from:

☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

☒ Oil

(9.3.1.13) Total water withdrawals at this facility (megaliters)

0.82

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ Much higher

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

0.82

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

0.06

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ About the same

(9.3.1.23) Discharges to fresh surface water

0.06

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

0.76

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ Much higher

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. All water consumption figures are based on local measurements. At this facility, the total water withdrawal amounted to 0.82 megaliters, sourced entirely from renewable groundwater. All water consumption figures are based on local measurements.

Row 9

(9.3.1.1) Facility reference number

Select from:

☒ Facility 9

(9.3.1.2) Facility name (optional)

PLTMG Sumbawa

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

- ☒ Dependencies
- ☒ Impacts
- ☒ Risks
- ☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

- ☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

- ☒ Other, please specify :Sumbawa, West Nusa Tenggara

(9.3.1.8) Latitude

-8.447337

(9.3.1.9) Longitude

117.335578

(9.3.1.10) Located in area with water stress

Select from:

- ☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

- ☒ Gas

(9.3.1.13) Total water withdrawals at this facility (megaliters)

9.64

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ Higher

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

9.64

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

0.73

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ Higher

(9.3.1.23) Discharges to fresh surface water

0

(9.3.1.24) Discharges to brackish surface water/seawater

0.73

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

8.85

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ About the same

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. All water consumption figures are based on local measurements. At this facility, the total water withdrawal amounted to 9.64 megaliters, sourced entirely from renewable groundwater. Compared to the previous year, withdrawals are slightly higher. All water consumption figures are based on local measurements.

Row 10

(9.3.1.1) Facility reference number

Select from:

☒ Facility 10

(9.3.1.2) Facility name (optional)

PLTMG Bima

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

☒ Dependencies

☒ Impacts

☒ Risks

☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

☒ Other, please specify :Bima, West Nusa Tenggara

(9.3.1.8) Latitude

-8.409638

(9.3.1.9) Longitude

118.699422

(9.3.1.10) Located in area with water stress

Select from:

☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

☒ Gas

(9.3.1.13) Total water withdrawals at this facility (megaliters)

13.36

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ About the same

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

13.36

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

8.22

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ Much higher

(9.3.1.23) Discharges to fresh surface water

0

(9.3.1.24) Discharges to brackish surface water/seawater

8.22

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

4.43

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ Higher

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. All water consumption figures are based on local measurements. At this facility, the total water withdrawal amounted to 13.36 megaliters, sourced entirely from renewable groundwater. Compared to the previous year, withdrawals remained about the same with a decreased by 13.58%. All water consumption figures are based on local measurements.

Row 11

(9.3.1.1) Facility reference number

Select from:

☒ Facility 11

(9.3.1.2) Facility name (optional)

PLTA Saguling

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

- ☒ Dependencies
- ☒ Impacts
- ☒ Risks
- ☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

- ☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

- ☒ Other, please specify :Citarum River Basin

(9.3.1.8) Latitude

-6.8638

(9.3.1.9) Longitude

107.350351

(9.3.1.10) Located in area with water stress

Select from:

- ☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

- ☒ Hydropower

(9.3.1.13) Total water withdrawals at this facility (megaliters)

0.94

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ Higher

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0.94

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

0

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

0.3

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ Lower

(9.3.1.23) Discharges to fresh surface water

0.3

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

0.6

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ Much lower

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. All water consumption figures are based on local measurements. At this facility, the total water withdrawal amounted to 0.94 megaliters, sourced entirely from river. Compared to the previous year, withdrawals are slightly higher%. All water consumption figures are based on local measurements.

Row 12

(9.3.1.1) Facility reference number

Select from:

☒ Facility 12

(9.3.1.2) Facility name (optional)

PLTA Mrica PB Soedirman

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

☒ Dependencies

☒ Impacts

☒ Risks

☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

☒ Other, please specify :Serayu River Basin (Banjarnegara, Central Java)

(9.3.1.8) Latitude

-7.395137

(9.3.1.9) Longitude

109.605391

(9.3.1.10) Located in area with water stress

Select from:

☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

☒ Hydropower

(9.3.1.13) Total water withdrawals at this facility (megaliters)

2471018.08

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ Much higher

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

2471018.08

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

0

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

735127.88

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ Lower

(9.3.1.23) Discharges to fresh surface water

735127.88

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

1606161.75

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ Much higher

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. All water consumption figures are based on local measurements. At this facility, the total water withdrawal amounted to 2471018.08 megaliters, sourced entirely from river. Compared to the previous year, withdrawals are slightly higher. All water consumption figures are based on local measurements.

Row 13

(9.3.1.1) Facility reference number

Select from:

☒ Facility 13

(9.3.1.2) Facility name (optional)

PLTP Kamojang Gunung Salak

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

- ☒ Dependencies
- ☒ Impacts
- ☒ Risks
- ☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

- ☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

- ☒ Other, please specify :Cisaketi River Basin (Bogor, West Java)

(9.3.1.8) Latitude

-6.741688

(9.3.1.9) Longitude

106.645672

(9.3.1.10) Located in area with water stress

Select from:

- ☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

- ☒ Geothermal

(9.3.1.13) Total water withdrawals at this facility (megaliters)

2.85

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ Lower

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

2.85

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

0

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

0

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ Much lower

(9.3.1.23) Discharges to fresh surface water

0

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

2.85

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ Lower

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. All water consumption figures are based on local measurements. For “Withdrawals from fresh surface water,” PLN sources its water from rivers. The withdrawal volume from river sources has remained stable over recent years, with no significant increase observed. At this facility, the total water withdrawal amounted to 2.85 megaliters, sourced entirely from river. Compared to the previous year, withdrawals decreased by 48.03%. All water consumption figures are based on local measurements.

Row 14

(9.3.1.1) Facility reference number

Select from:

☒ Facility 14

(9.3.1.2) Facility name (optional)

PLTP Kamojang

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

☒ Dependencies

☒ Impacts

☒ Risks

☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

☒ Other, please specify :Cikaro River Basin (Bandung, West Java)

(9.3.1.8) Latitude

-7.140339

(9.3.1.9) Longitude

107.790271

(9.3.1.10) Located in area with water stress

Select from:

☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

☒ Geothermal

(9.3.1.13) Total water withdrawals at this facility (megaliters)

5.88

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ Much lower

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

5.88

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

0.56

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ Much higher

(9.3.1.23) Discharges to fresh surface water

0.56

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

5.29

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ About the same

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. All water consumption figures are based on local measurements. At this facility, the total water withdrawal amounted to 5.88 megaliters, sourced entirely from renewable groundwater. Compared to the previous year, withdrawals decreased by 89.83%. All water consumption figures are based on local measurements.

Row 15

(9.3.1.1) Facility reference number

Select from:

☒ Facility 15

(9.3.1.2) Facility name (optional)

PLTDG Pesanggaran

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

- ☒ Dependencies
- ☒ Impacts
- ☒ Risks
- ☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

- ☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

- ☒ Other, please specify :Denpasar, Bali

(9.3.1.8) Latitude

-8.717813

(9.3.1.9) Longitude

115.211797

(9.3.1.10) Located in area with water stress

Select from:

- ☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

☒ Other non-renewable

(9.3.1.13) Total water withdrawals at this facility (megaliters)

12.71

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ About the same

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

12.71

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

6.25

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ Higher

(9.3.1.23) Discharges to fresh surface water

6.25

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

5.98

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ Lower

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. All water consumption figures are based on

local measurements. At this facility, the total water withdrawal amounted to 12.71 megaliters, sourced entirely from renewable groundwater. Compared to the previous year, withdrawals remained about the same with a change of 8.05%. All water consumption figures are based on local measurements.

Row 16

(9.3.1.1) Facility reference number

Select from:

☒ Facility 16

(9.3.1.2) Facility name (optional)

PLTG Gilimanuk

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

☒ Dependencies

☒ Impacts

☒ Risks

☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

☒ Other, please specify :Melaya River Basin (Jembrana, Bali)

(9.3.1.8) Latitude

-8.175538

(9.3.1.9) Longitude

114.442734

(9.3.1.10) Located in area with water stress

Select from:

☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

☒ Gas

(9.3.1.13) Total water withdrawals at this facility (megaliters)

4.31

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ Higher

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

0

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

4.31

(9.3.1.21) Total water discharges at this facility (megaliters)

3.57

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ Much higher

(9.3.1.23) Discharges to fresh surface water

3.57

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

0.55

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ Much lower

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. All water consumption figures are based on local measurements. At this facility, the total water withdrawal amounted to 4.31 megaliters, sourced entirely third party sources. Compared to the previous year, withdrawals are slightly higher. All water consumption figures are based on local measurements.

Row 17

(9.3.1.1) Facility reference number

Select from:

☒ Facility 17

(9.3.1.2) Facility name (optional)

PLTGU Pamaran

(9.3.1.3) Value chain stage

Select from:

☒ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

- ☒ Dependencies
- ☒ Impacts
- ☒ Risks
- ☒ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

- ☒ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Indonesia

- ☒ Other, please specify :Tukad Bangka River Basin (Buleleng, Bali)

(9.3.1.8) Latitude

-8.166747

(9.3.1.9) Longitude

115.009304

(9.3.1.10) Located in area with water stress

Select from:

- ☒ Yes

(9.3.1.11) Primary power generation source for your electricity generation at this facility

Select from:

☒ Gas

(9.3.1.13) Total water withdrawals at this facility (megaliters)

0.92

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ Much higher

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

0.92

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

0.55

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☒ Much higher

(9.3.1.23) Discharges to fresh surface water

0

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

0.55

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

0.33

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ About the same

(9.3.1.29) Please explain

For the reporting year, PLN applied the following categorization to assess year-on-year changes: less than 30% is considered about the same, 30–60% as higher or lower, and more than 60% as much higher or much lower. Water risk estimations are informed by the WRI Aqueduct tool. All water consumption figures are based on local measurements. At this facility, the total water withdrawal amounted to 0.92 megaliters, sourced entirely from renewable groundwater. Compared to the previous year, withdrawals are slightly higher. All water consumption figures are based on local measurements.

[Add row]

(9.3.2) For the facilities in your direct operations referenced in 9.3.1, what proportion of water accounting data has been third party verified?

Water withdrawals – total volumes

(9.3.2.1) % verified

Select from:

☒ 76-100

(9.3.2.2) Verification standard used

AA1000AS with moderate level of assurance

Water withdrawals – volume by source

(9.3.2.1) % verified

Select from:

☒ 76-100

(9.3.2.2) Verification standard used

AA1000AS with moderate level of assurance

Water withdrawals – quality by standard water quality parameters

(9.3.2.1) % verified

Select from:

☒ 76-100

(9.3.2.2) Verification standard used

AA1000AS with moderate level of assurance

Water discharges – total volumes

(9.3.2.1) % verified

Select from:

☒ 76-100

(9.3.2.2) Verification standard used

AA1000AS with moderate level of assurance

Water discharges – volume by destination

(9.3.2.1) % verified

Select from:

☒ 76-100

(9.3.2.2) Verification standard used

AA1000AS with moderate level of assurance

Water discharges – volume by final treatment level

(9.3.2.1) % verified

Select from:

☒ 76-100

(9.3.2.2) Verification standard used

AA1000AS with moderate level of assurance

Water discharges – quality by standard water quality parameters

(9.3.2.1) % verified

Select from:

☒ 76-100

(9.3.2.2) Verification standard used

AA1000AS with moderate level of assurance

Water consumption – total volume

(9.3.2.1) % verified

Select from:

☒ 76-100

(9.3.2.2) Verification standard used

AA1000AS with moderate level of assurance

[Fixed row]

(9.4) Could any of your facilities reported in 9.3.1 have an impact on a requesting CDP supply chain member?

Select from:

☒ No, CDP supply chain members do not buy goods or services from facilities listed in 9.3.1

(9.5) Provide a figure for your organization's total water withdrawal efficiency.

(9.5.1) Revenue (currency)

545380000000000

(9.5.2) Total water withdrawal efficiency

15393665.45

(9.5.3) Anticipated forward trend

As stated in the RUPTL, PLN is required to increase the capacity of hydropower and geothermal plants. This expansion will inevitably lead to higher water use for power plant operations. However, the increase in hydropower production will be offset by PLN's transition away from other water-intensive processes. In line with this expansion, revenue from power generation activities is also expected to grow.

[Fixed row]

(9.7) Do you calculate water intensity for your electricity generation activities?

Select from:

☒ Yes

(9.7.1) Provide the following intensity information associated with your electricity generation activities.

Row 1

(9.7.1.1) Water intensity value (m3/denominator)

1049587.31

(9.7.1.2) Numerator: water aspect

Select from:

☒ Total water withdrawals

(9.7.1.3) Denominator

Select from:

☒ Other, please specify :Revenue (Million USD)

(9.7.1.4) Comparison with previous reporting year

Select from:

☒ About the same

(9.7.1.5) Please explain

The reported water intensity value for the current reporting year is 1,049,587.31 m³/million USD, calculated using total water withdrawal as the numerator and total revenue (in million USD) as the denominator. This methodology ensures that the indicator reflects the efficiency of water use in relation to economic output. The comparison between the two years shows a decrease of 21.03%. According to PLN's internal materiality threshold, where changes of less than 30% are categorized as "about the same," the performance is considered relatively stable year-on-year. This reduction demonstrates improved efficiency in water use for generating revenue. Internally, water intensity metrics are utilized as indicators to monitor resource efficiency, identify areas for improvement, and evaluate the effectiveness of water management strategies. PLN has implemented various measures to achieve this outcome, including water recycling programs, water-saving initiatives, and enhanced water management practices. Additional efforts involve rainwater harvesting, reuse of water through reverse osmosis, desalination, and regular water consumption audits to ensure operations comply with established efficiency standards. These initiatives not only reduce the company's dependency on freshwater withdrawal but also strengthen long-term water security for operations.

[Add row]

(9.12) Provide any available water intensity values for your organization's products or services.

Row 1

(9.12.1) Product name

Electricity

(9.12.2) Water intensity value

103.02

(9.12.3) Numerator: Water aspect

Select from:

☒ Water withdrawn

(9.12.4) Denominator

Total electricity produced in MWh.

(9.12.5) Comment

In the reporting year, PLN's water intensity was 103.02 m³/MWh, compared to 124 m³/MWh in the previous year. This reflects a 16.92% decrease, which falls under PLN's threshold category of "about the same." The intensity metric is calculated using total water withdrawal as the numerator and total electricity production (MWh) as the denominator. This reduction indicates improved efficiency in water use for power generation, supported by initiatives such as water recycling and saving programs, rainwater harvesting, reverse osmosis reuse, desalination, and overall water management practices improvement. Routine water consumption audits also ensure production units comply with efficiency standards, helping PLN optimize performance while minimizing water-related impacts.

[Add row]

(9.13) Do any of your products contain substances classified as hazardous by a regulatory authority?

(9.13.1) Products contain hazardous substances

Select from:

☒ No

(9.13.2) Comment

PLN, as an electricity provider, produces electricity that is distributed to customers throughout Indonesia. The main product of PLN is energy in the form of electricity. Therefore, no hazardous substances are contained in or delivered to PLN's consumers. Consequently, there is no use or delivery of hazardous substances in PLN's products or services.

[Fixed row]

(9.14) Do you classify any of your current products and/or services as low water impact?

(9.14.1) Products and/or services classified as low water impact

Select from:

☒ Yes

(9.14.2) Definition used to classify low water impact

PT PLN Indonesia classifies its products and services as low water impact based on the following criteria: 1. Monitoring the volume of water used across all power generation processes, including both conventional and renewable energy facilities. 2. Classified as low water impact because only a small proportion of PLN's electricity is generated from hydropower plants, while the majority of electricity is produced by other types of power plants that do not significantly depend on or consume water in their operations. Hydropower contributes only around 6% of PLN's total electricity generation. 3. Conducting water footprint assessments and life cycle analyses (LCA) to identify opportunities for optimizing water consumption and improving efficiency. 4. Implementing strict water treatment and management practices to ensure that water used in operations meets environmental quality standards. 5. Benchmarking water management practices against industry standards and global best practices. These criteria primarily apply to the production stage, particularly power generation operations where water use is most significant and the entire life cycle of its products and services. PLN considers multiple aspects of water management in classifying its operations as low water impact. The company monitors and optimizes the volume of water withdrawals and consumption, while also ensuring that water quality is maintained through robust treatment systems designed to prevent pollution and protect aquatic ecosystems. In addition, PLN focuses on improving the efficiency of water use relative to power generation output, thereby reducing water intensity. To strengthen these efforts, PLN aligns its practices with internationally recognized methodologies such as Life Cycle Assessment (LCA) and continuously benchmarks its performance against industry standards and best practices to drive ongoing improvement.

(9.14.4) Please explain

PT PLN Indonesia is dedicated to responsible water management, employing the 3R approach. They utilize various methods to ensure efficient and sustainable water usage: 1. Conducting water footprint assessments. 2. Using life cycle assessment (LCA) tools. Implemented in PROPER Power units that are categorized as Gold and Green PROPER rating. 3. Benchmarking against other products or services. 4. Water audit. Here are some future examples of opportunities for low water impact products and services to be implemented on all power plants operated by PLN: 1. Water-efficient appliances: These appliances use less water than traditional appliances, without sacrificing performance. 2. Waterless cleaning products: These products use no water, but still effectively clean surfaces. 3. Water-recycling technologies: These technologies allow companies to reuse water, reducing their overall water consumption.

[Fixed row]

(9.15) Do you have any water-related targets?

Select from:

☒ Yes

(9.15.1) Indicate whether you have targets relating to water pollution, water withdrawals, WASH, or other water-related categories.

Water pollution

(9.15.1.1) Target set in this category

Select from:

☒ Yes

Water withdrawals

(9.15.1.1) Target set in this category

Select from:

☒ Yes

Water, Sanitation, and Hygiene (WASH) services

(9.15.1.1) Target set in this category

Select from:

☒ No, but we plan to within the next two years

(9.15.1.2) Please explain

As of now, PLN is preparing to set a target related to Water Sanitation and Hygiene (WASH) by collecting relevant data.

Other

(9.15.1.1) Target set in this category

Select from:

☒ No, but we plan to within the next two years

(9.15.1.2) Please explain

As of now, PLN is preparing to set a target related to the water aspect, in addition to the targets that have already been reported, by collecting relevant data.
[Fixed row]

(9.15.2) Provide details of your water-related targets and the progress made.

Row 1

(9.15.2.1) Target reference number

Select from:

☒ Target 1

(9.15.2.2) Target coverage

Select from:

☒ Organization-wide (direct operations only)

(9.15.2.3) Category of target & Quantitative metric

Water withdrawals

☒ Increase in water use met through recycling/reuse

(9.15.2.4) Date target was set

12/30/2022

(9.15.2.5) End date of base year

12/30/2022

(9.15.2.6) Base year figure

23123168

(9.15.2.7) End date of target year

12/30/2030

(9.15.2.8) Target year figure

27135351.51

(9.15.2.9) Reporting year figure

29183127

(9.15.2.10) Target status in reporting year

Select from:

☒ Achieved

(9.15.2.11) % of target achieved relative to base year

151

(9.15.2.12) Global environmental treaties/initiatives/ frameworks aligned with or supported by this target

Select all that apply

☒ Sustainable Development Goal 6

(9.15.2.13) Explain target coverage and identify any exclusions

PLN plans to achieve a 26.4% increase in water use through recycling and reuse by 2030. This target is based on the average recycled and reused water volume (million m³) data from 2022 and applies across the entire organization. The target covers all PLN business units without exclusion, with the expectation that each year more facilities will be equipped with 3R (Reduce, Reuse, Recycle) infrastructure.

(9.15.2.15) Actions which contributed most to achieving or maintaining this target

In the reporting year, PLN successfully achieved and maintained its 3R water target through a series of initiatives aimed at enhancing efficiency and reducing reliance on freshwater resources. The key actions contributing to this achievement included: 1. Monitoring water volume sufficiency across facilities. 2. Monitoring water usage, including withdrawal, consumption, and recycling. 3. Implementing the 3R (Reduce, Reuse, Recycle) program in both operational and supporting activities. 4. Enhancing water management practices to improve efficiency. 5. Applying rainwater harvesting systems. 6. Reusing water through reverse osmosis and desalination technologies. Going forward, PLN will continue to maintain its 3R water target by sustaining these initiatives while strengthening their performance to deliver greater impact.

(9.15.2.16) Further details of target

The 2024 target for PLN was set at a 26.21% increase in water recycling and reuse, which has been successfully achieved. Progress has been demonstrated through the annual increase in the number of facilities equipped with 3R systems: 33 units in 2022, 39 units in 2023, and 42 units in 2024. This target forms part of PLN's broader ESG framework, which aims to enhance water efficiency and resilience by 2030. The target contributes to managing PLN's water-related dependencies, impacts, risks, and opportunities by reducing freshwater consumption and increasing the reuse of treated wastewater. This not only supports environmental sustainability but also improves operational cost efficiency compared to sourcing and treating raw water through conventional water treatment plants. The methodology for setting targets and baselines is based on historical 3R performance data, with baselines reflecting the actual 3R practices implemented in the respective year. Annual target figures are projected using this historical data, ensuring consistency and alignment with PLN's long-term sustainability goals.

Row 2

(9.15.2.1) Target reference number

Select from:

☒ Target 2

(9.15.2.2) Target coverage

Select from:

☒ Organization-wide (direct operations only)

(9.15.2.3) Category of target & Quantitative metric

Water pollution

☒ Increase in water use met through recycling/reuse

(9.15.2.4) Date target was set

12/30/2022

(9.15.2.5) End date of base year

12/30/2022

(9.15.2.6) Base year figure

23123168

(9.15.2.7) End date of target year

12/30/2030

(9.15.2.8) Target year figure

27135351.51

(9.15.2.9) Reporting year figure

29183127

(9.15.2.10) Target status in reporting year

Select from:

☒ Achieved

(9.15.2.11) % of target achieved relative to base year

151

(9.15.2.12) Global environmental treaties/initiatives/ frameworks aligned with or supported by this target

Select all that apply

☒ Sustainable Development Goal 6

(9.15.2.13) Explain target coverage and identify any exclusions

PLN plans to achieve a 26.4% increase in water use through recycling and reuse by 2030. This target is based on the average recycled and reused water volume (million m³) data from 2022 and applies across the entire organization. The target covers all PLN business units without exclusion, with the expectation that each year more facilities will be equipped with 3R (Reduce, Reuse, Recycle) infrastructure.

(9.15.2.15) Actions which contributed most to achieving or maintaining this target

In the reporting year, PLN successfully achieved and maintained its 3R water target through a series of initiatives aimed at enhancing efficiency and reducing reliance on freshwater resources. The key actions contributing to this achievement included: 1. Monitoring water volume sufficiency across facilities. 2. Monitoring water usage, including withdrawal, consumption, and recycling. 3. Implementing the 3R (Reduce, Reuse, Recycle) program in both operational and supporting activities. 4. Enhancing water management practices to improve efficiency. 5. Applying rainwater harvesting systems. 6. Reusing water through reverse osmosis and desalination technologies. Going forward, PLN will continue to maintain its 3R water target by sustaining these initiatives while strengthening their performance to deliver greater impact.

(9.15.2.16) Further details of target

The 2024 target for PLN was set at a 26.21% increase in water recycling and reuse, which has been successfully achieved. Progress has been demonstrated through the annual increase in the number of facilities equipped with 3R systems: 33 units in 2022, 39 units in 2023, and 42 units in 2024. This target forms part of PLN's broader ESG framework, which aims to enhance water efficiency and resilience by 2030. The target contributes to managing PLN's water-related dependencies, impacts, risks, and opportunities by reducing freshwater consumption and increasing the reuse of treated wastewater. This not only supports environmental sustainability but also improves operational cost efficiency compared to sourcing and treating raw water through conventional water treatment plants. The methodology for setting targets and baselines is based on historical 3R performance data, with baselines reflecting the actual 3R practices implemented in the respective year. Annual target figures are projected using this historical data, ensuring consistency and alignment with PLN's long-term sustainability goals.
[Add row]

C10. Environmental performance - Plastics

(10.1) Do you have plastics-related targets, and if so what type?

(10.1.1) Targets in place

Select from:

☒ No, but we plan to within the next two years

(10.1.3) Please explain

No, PLN does not yet have plastics-related targets in place, but plans to establish them within the next two years. During 2023–2024, the company has been preparing the baseline to determine specific targets for domestic plastic waste management and reduction. For the current year, only general targets on domestic waste have been set, and more detailed plastics-related targets will be developed once the baseline is finalized.

[Fixed row]

(10.2) Indicate whether your organization engages in the following activities.

Production/commercialization of plastic polymers (including plastic converters)

(10.2.1) Activity applies

Select from:

☒ No

(10.2.2) Comment

This activity is not relevant to PLN.

Production/commercialization of durable plastic goods and/or components (including mixed materials)

(10.2.1) Activity applies

Select from:

☒ No

(10.2.2) Comment

This activity is not relevant to PLN.

Usage of durable plastics goods and/or components (including mixed materials)

(10.2.1) Activity applies

Select from:

☒ Yes

(10.2.2) Comment

PLN uses durable plastic goods and components primarily for domestic and operational purposes. This includes the use of drinking water containers (such as refillable gallons and plastic bottles), plastic bags, and food wrapping plastics within office and unit activities. These items are mainly applied to support daily operations and employee needs. While their usage is relatively small-scale and limited to internal consumption, PLN continues to monitor and manage plastic use as part of its broader environmental responsibility initiatives. PLN engages in waste management through both internal systems and external partnerships. Plastic waste generated from operational activities is managed internally where possible, while external third-party service providers are also involved to ensure proper collection, transportation, and treatment. This dual approach ensures compliance with environmental regulations and supports PLN's commitment to reducing environmental impacts associated with plastic waste.

Production/commercialization of plastic packaging

(10.2.1) Activity applies

Select from:

☒ No

(10.2.2) Comment

This activity is not relevant to PLN.

Production/commercialization of goods/products packaged in plastics

(10.2.1) Activity applies

Select from:

☒ No

(10.2.2) Comment

This activity is not relevant to PLN.

Provision/commercialization of services that use plastic packaging (e.g., food services)

(10.2.1) Activity applies

Select from:

☒ No

(10.2.2) Comment

This activity is not relevant to PLN.

Provision of waste management and/or water management services

(10.2.1) Activity applies

Select from:

☒ No

(10.2.2) Comment

This activity is not relevant to PLN.

Provision of financial products and/or services for plastics-related activities

(10.2.1) Activity applies

Select from:

☒ No

(10.2.2) Comment

This activity is not relevant to PLN.

Other activities not specified

(10.2.1) Activity applies

Select from:

☒ No

(10.2.2) Comment

This activity is not relevant to PLN.

[Fixed row]

(10.4) Provide the total weight of plastic durable goods and durable components produced, sold and/or used, and indicate the raw material content.

Durable goods and durable components used

(10.4.1) Total weight during the reporting year (Metric tons)

221.95

(10.4.2) Raw material content percentages available to report

Select all that apply

☒ None

(10.4.7) Please explain

PLN only reports the domestic use of plastic durable goods and durable components, including drinking water containers (such as gallons and plastic bottles), plastic bags, and other types of durable plastic waste. The reported percentages were determined by calculating the weighted average of all plastic durable goods and durable components used.

[Fixed row]

(10.6) Provide the total weight of waste generated by the plastic you produce, commercialize, use and/or process and indicate the end-of-life management pathways.

Usage of plastic

(10.6.1) Total weight of waste generated during the reporting year (Metric tons)

221.95

(10.6.2) End-of-life management pathways available to report

Select all that apply

☒ Preparation for reuse

☒ Recycling

(10.6.3) % prepared for reuse

0.17

(10.6.4) % recycling

2.94

(10.6.12) Please explain

The reported plastic waste data covers PLN units that recorded plastic waste in the reporting year. Percentages were calculated based on total plastic waste of 221.95 tons, with 0.37 tons reused (0.17%), 6.41 tons recycled (2.94%), and the remainder disposed of in final disposal sites. Data was sourced from PLN's environmental database system (Energyst). Currently, no third-party verification is in place. Reported percentages may change in future reporting periods as PLN

strengthens data collection and expands recycling initiatives. Plastic waste recording across units is not yet uniform, therefore, PLN plans to improve awareness and capacity through socialization and upskilling programs. Going forward, PLN targets consistent plastic waste data recording across all operational units.
[Fixed row]

C11. Environmental performance - Biodiversity

(11.2) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

(11.2.1) Actions taken in the reporting period to progress your biodiversity-related commitments

Select from:

☒ Yes, we are taking actions to progress our biodiversity-related commitments

(11.2.2) Type of action taken to progress biodiversity- related commitments

Select all that apply

☒ Law & policy

☒ Species management

☒ Education & awareness

☒ Land/water protection

☒ Land/water management

☒ Livelihood, economic & other incentives

☒ Other, please specify :Organizational adjustments (focal point) at the parent unit, TNFD reporting, and safeguard reorganization.

[Fixed row]

(11.3) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
	Select from:	Select all that apply

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
	☒ Yes, we use indicators	☒ State and benefit indicators ☒ Pressure indicators ☒ Response indicators

[Fixed row]

(11.4) Does your organization have activities located in or near to areas important for biodiversity in the reporting year?

Legally protected areas

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

☒ Yes

(11.4.2) Comment

Yes, there were activities located in or near legally protected areas and key biodiversity areas in the reporting year. PLN applies the Integrated Biodiversity Assessment Tool (IBAT) to screen facility geolocations and identify proximity to such areas. Where possible, activities are avoided.

UNESCO World Heritage sites

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

☒ No

(11.4.2) Comment

There were no activities located in or near areas important for this type of biodiversity in the reporting year. PLN applies the Integrated Biodiversity Assessment Tool (IBAT) to screen facility geolocations and identify whether any operations fall within or near protected areas, ensuring avoidance of such locations. In addition, PLN follows the applicable Environmental Impact Assessment (AMDAL) requirements and UNESCO guidelines to ensure that no activities are conducted in or near UNESCO World Heritage sites.

UNESCO Man and the Biosphere Reserves

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

☒ No

(11.4.2) Comment

There were no activities located in or near areas important for this type of biodiversity in the reporting year. PLN applies the Integrated Biodiversity Assessment Tool (IBAT) to screen facility geolocations and identify whether any operations fall within or near protected areas, ensuring avoidance of such locations. In addition, PLN follows the applicable Environmental Impact Assessment (AMDAL) requirements and UNESCO guidelines to ensure that no activities are conducted in or near UNESCO World Heritage sites.

Ramsar sites

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

☒ No

(11.4.2) Comment

There were no activities located in or near areas important for this type of biodiversity in the reporting year. PLN applies the Integrated Biodiversity Assessment Tool (IBAT) to screen facility geolocations and identify whether any operations fall within or near protected areas, ensuring avoidance of such locations. In addition, PLN

follows the applicable Environmental Impact Assessment (AMDAL) requirements and UNESCO guidelines to ensure that no activities are conducted in or near UNESCO World Heritage sites.

Key Biodiversity Areas

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

☒ Yes

(11.4.2) Comment

Yes, there were activities located in or near legally protected areas and key biodiversity areas in the reporting year. PLN applies the Integrated Biodiversity Assessment Tool (IBAT) to screen facility geolocations and identify proximity to such areas. Where possible, activities are avoided.

Other areas important for biodiversity

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

☒ Yes

(11.4.2) Comment

Yes, there were activities other areas important for biodiversity in the reporting year (Koto Panjang, Nature Reserve). PLN applies the Integrated Biodiversity Assessment Tool (IBAT) to screen facility geolocations and identify proximity to such areas. Where possible, activities are avoided.
[Fixed row]

(11.4.1) Provide details of your organization’s activities in the reporting year located in or near to areas important for biodiversity.

Row 1

(11.4.1.2) Types of area important for biodiversity

Select all that apply

☒ Legally protected areas

(11.4.1.3) Protected area category (IUCN classification)

Select from:

☒ Category Ia-III

(11.4.1.4) Country/area

Select from:

☒ Indonesia

(11.4.1.5) Name of the area important for biodiversity

PLTP gunung salak (100%) national park

(11.4.1.6) Proximity

Select from:

☒ Overlap

(11.4.1.7) Area of overlap (hectares)

6.48

(11.4.1.8) Briefly describe your organization's activities in the reporting year located in or near to the selected area

Geothermal Power Plant (PLTP).

(11.4.1.9) Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Select from:

☒ Yes, but mitigation measures have been implemented

(11.4.1.10) Mitigation measures implemented within the selected area

Select all that apply

☒ Restoration

(11.4.1.11) Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

In the reporting year, PLN operated the Gunung Salak Geothermal Power Plant (PLTP Gunung Salak), which is located within a national park area. The presence of this facility has the potential to negatively impact biodiversity, particularly protected species such as the Javan Hawk Eagle (Nisaetus bartelsi). PLN implemented targeted mitigation measures through the Umbrella Program for Javan Hawk Eagle conservation. This program includes habitat protection, monitoring of eagle populations, and collaboration with relevant stakeholders to ensure long-term species preservation. Through this initiative, PLN ensures that potential negative impacts are minimized and that operations within the national park contribute to biodiversity protection rather than degradation.

Row 2

(11.4.1.2) Types of area important for biodiversity

Select all that apply

☒ Key Biodiversity Areas

(11.4.1.4) Country/area

Select from:

☒ Indonesia

(11.4.1.5) Name of the area important for biodiversity

UP Muara Karang (PLTGU, PLTU, dan PLTG) over 75.41% of KBA

(11.4.1.6) Proximity

Select from:

☒ Overlap

(11.4.1.7) Area of overlap (hectares)

23.03

(11.4.1.8) Briefly describe your organization's activities in the reporting year located in or near to the selected area

Coal-fired Power Plants (PLTU), Gas-fired Power Plants (PLTG), and Combined Cycle Power Plants (PLTGU).

(11.4.1.9) Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Select from:

☒ Yes, but mitigation measures have been implemented

(11.4.1.10) Mitigation measures implemented within the selected area

Select all that apply

☒ Biodiversity offsets

(11.4.1.11) Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

*In the reporting year, PLN operated the Muara Karang Combined Cycle Power Plant (PLTGU Muara Karang), which is located in proximity to areas important for biodiversity. To assess this proximity, PLN applied the Integrated Biodiversity Assessment Tool (IBAT) by inputting facility geolocations to determine potential intersections with protected or biodiversity-sensitive areas. PLN has implemented a range of mitigation measures. These include mangrove rehabilitation programs, conservation efforts targeting the Brown-throated Sunbird (*Anthreptes malacensis*), and the establishment of an artificial terrestrial ecosystem to support species diversity and habitat restoration. Additionally, PLN collaborates with the Hutan Organik Foundation, the Muara Angke Mangrove Community, and the Provincial Government of DKI Jakarta in Penjaringan Subdistrict to strengthen conservation actions and ensure the sustainability of biodiversity protection efforts. Through these initiatives, PLN mitigates direct and indirect impacts while contributing to the ecological resilience of the Muara Karang area.*

Row 3

(11.4.1.2) Types of area important for biodiversity

Select all that apply

☒ Key Biodiversity Areas

(11.4.1.4) Country/area

Select from:

☒ Indonesia

(11.4.1.5) Name of the area important for biodiversity

PLTP darajat over 94.38%

(11.4.1.6) Proximity

Select from:

☒ Overlap

(11.4.1.7) Area of overlap (hectares)

9.29

(11.4.1.8) Briefly describe your organization's activities in the reporting year located in or near to the selected area

Geothermal Power Plant (PLTP).

(11.4.1.9) Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Select from:

☒ Yes, but mitigation measures have been implemented

(11.4.1.10) Mitigation measures implemented within the selected area

Select all that apply

☒ Biodiversity offsets

(11.4.1.11) Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

The mitigation is carried out through smart little reforestation, including the enhancement of soil fertility, tree planting with Samanea saman, Mangifera indica, Persea americanam and various endemic plants such as Litsea tumentosa.

Row 4

(11.4.1.2) Types of area important for biodiversity

Select all that apply

☒ Legally protected areas

☒ Key Biodiversity Areas

(11.4.1.3) Protected area category (IUCN classification)

Select from:

☒ Category Ia-III

(11.4.1.4) Country/area

Select from:

☒ Indonesia

(11.4.1.5) Name of the area important for biodiversity

PLTG Gilimanuk over 78.38% located in national park, dan 100% located in key biodiversity area

(11.4.1.6) Proximity

Select from:

☒ Overlap

(11.4.1.7) Area of overlap (hectares)

2.02

(11.4.1.8) Briefly describe your organization's activities in the reporting year located in or near to the selected area

Gas-fired Power Plants (PLTG).

(11.4.1.9) Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Select from:

☒ Yes, but mitigation measures have been implemented

(11.4.1.10) Mitigation measures implemented within the selected area

Select all that apply

☒ Biodiversity offsets

(11.4.1.11) Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

In the reporting year, the Gilimanuk Gas Power Plant (PLTG Gilimanuk) was identified as being located in or near areas important for biodiversity, with over 78.38% of its location within a national park and 100% within a designated key biodiversity area. PLN assessed this proximity using the Integrated Biodiversity Assessment Tool (IBAT), which screens facility geolocations and identifies intersections with protected and biodiversity-sensitive areas. PLN has implemented conservation programs focusing on the protection of Bali Myna feed plants, the establishment of breeding facilities, and the restoration of supporting ecosystems. PLN also works closely with the Head of the West Bali National Park Office and the Ministry of Environment and Forestry (KLHK), as well as with local community and conservation partners, including the Community Empowerment Institution, SUKETEKI Assisted Group, Burung Mandiri Community Group, CV Nata Loka, and Karya Makmur Cooperative. These collaborations ensure that biodiversity conservation measures are effectively implemented, community-based, and aligned with national conservation priorities. Through these measures, PLN minimizes direct and indirect biodiversity impacts while actively contributing to the protection of one of Indonesia's most critical ecosystems.

Row 5

(11.4.1.2) Types of area important for biodiversity

Select all that apply

☒ Key Biodiversity Areas

(11.4.1.4) Country/area

Select from:

☒ Indonesia

(11.4.1.5) Name of the area important for biodiversity

PLTGU Keramasan 100% located in area key biodiversity area

(11.4.1.6) Proximity

Select from:

☒ Overlap

(11.4.1.7) Area of overlap (hectares)

30.65

(11.4.1.8) Briefly describe your organization's activities in the reporting year located in or near to the selected area

Combined-cycle Power Plant (PLTGU).

(11.4.1.9) Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Select from:

☒ Yes, but mitigation measures have been implemented

(11.4.1.10) Mitigation measures implemented within the selected area

Select all that apply

☒ Biodiversity offsets

(11.4.1.11) Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

The mitigation is carried out through the implementation of an IOT watering schedule for the reforestation area.

Row 6

(11.4.1.2) Types of area important for biodiversity

Select all that apply

☒ Other areas important for biodiversity

(11.4.1.4) Country/area

Select from:

☒ Indonesia

(11.4.1.5) Name of the area important for biodiversity

PLTA Koto Panjang

(11.4.1.6) Proximity

Select from:

☒ Overlap

(11.4.1.7) Area of overlap (hectares)

12.45

(11.4.1.8) Briefly describe your organization's activities in the reporting year located in or near to the selected area

Hydro Power Plant (HPP).

(11.4.1.9) Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Select from:

☒ Yes, but mitigation measures have been implemented

(11.4.1.10) Mitigation measures implemented within the selected area

Select all that apply

☒ Biodiversity offsets

(11.4.1.11) Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

In the reporting year, the Koto Panjang Hydropower Plant (PLTA Koto Panjang) was identified as being located in or near a protected nature reserve area. PLN assessed this proximity using the Integrated Biodiversity Assessment Tool (IBAT), which screens facility geolocations against protected and biodiversity-sensitive areas. Potential negative impacts include changes in water flow and catchment dynamics that may affect aquatic habitats and surrounding biodiversity. To address these risks, PLN partnered with the Indragiri Rokan Watershed Management Agency under the Ministry of Forestry to develop an Integrated Watershed Management Plan for the Koto Panjang Catchment Area. As part of this initiative, watershed management activities include reforestation and tree planting in critical land areas across the Koto Panjang watershed, specifically in Koto Tuo and Pongkal Istiqomah villages. These activities were carried out in collaboration with the government through BPDAS Indragiri, which provided plant seedlings to support restoration efforts. Through this multi-stakeholder collaboration, including PT PLN Nusantara Power PLTA Koto Panjang, PLN contributes to minimizing biodiversity impacts, restoring degraded ecosystems, and enhancing long-term conservation outcomes in the protected area.

Row 7

(11.4.1.2) Types of area important for biodiversity

Select all that apply

☒ Key Biodiversity Areas

(11.4.1.4) Country/area

Select from:

☒ Indonesia

(11.4.1.5) Name of the area important for biodiversity

UIP Sulawesi Transmission Line

(11.4.1.6) Proximity

Select from:

☒ Overlap

(11.4.1.7) Area of overlap (hectares)

6.1

(11.4.1.8) Briefly describe your organization's activities in the reporting year located in or near to the selected area

Project under construction

(11.4.1.9) Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Select from:

☒ Yes, but mitigation measures have been implemented

(11.4.1.10) Mitigation measures implemented within the selected area

Select all that apply

☒ Project design

☒ Restoration

(11.4.1.11) Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

The UIP Sulawesi Transmission Line was identified as being located in or near a key biodiversity area. PLN conducted an assessment using the Integrated Biodiversity Assessment Tool (IBAT), which screens facility geolocations and identifies overlaps with protected or sensitive biodiversity areas. Potential negative impacts may include habitat disturbance, fragmentation, and risks to local flora and fauna caused by transmission line development and maintenance. To mitigate

these impacts, PLN has implemented biodiversity management measures in collaboration with the Kinatouan Foundation. This partnership supports conservation initiatives and ensures that project activities are carried out in line with biodiversity protection principles. By working with local conservation organizations, PLN seeks to minimize environmental impacts, promote habitat preservation, and contribute to sustainable biodiversity management in the region. In 2022, PLN implemented several key biodiversity initiatives, including conducting awareness campaigns at strategic locations in Bitung City and providing medical equipment for wildlife at the Tasikoki Wildlife Rescue Center (PPS Tasikoki). The following year, in 2023, PLN expanded its efforts by planting tree seedlings and carrying out a beach clean-up at the Batu Angus Nature Tourism Park. Additional measures were taken to mitigate human–wildlife interactions through awareness campaigns, Yaki deterrence patrols, and trimming of tree branches near residential areas. PLN also organized tour guide training and maintained directional information boards within the park to support ecotourism and conservation education. In 2024, the initiatives were further strengthened through the capacity building of the Manembo-Nembo Forest Conservation Community Forum (FMKH). Yaki deterrence patrols were conducted by FMKH members, while broader public engagement was achieved through the “Save Yaki” campaign, delivered via billboard media. These initiatives reflect PLN’s commitment to minimizing biodiversity impacts, protecting habitats, and promoting long-term conservation in the region.

[Add row]

C13. Further information & sign off

(13.1) Indicate if any environmental information included in your CDP response (not already reported in 7.9.1/2/3, 8.9.1/2/3/4, and 9.3.2) is verified and/or assured by a third party?

	Other environmental information included in your CDP response is verified and/or assured by a third party
	Select from: ☒ Yes

[Fixed row]

(13.1.1) Which data points within your CDP response are verified and/or assured by a third party, and which standards were used?

Row 1

(13.1.1.1) Environmental issue for which data has been verified and/or assured

Select all that apply

- ☒ Climate change
- ☒ Water
- ☒ Plastics
- ☒ Biodiversity

(13.1.1.2) Disclosure module and data verified and/or assured

Identification, assessment, and management of dependencies, impacts, risks, and opportunities

☒ Identification, assessment, and management processes

(13.1.1.3) Verification/assurance standard

General standards

☒ AA1000AS

(13.1.1.4) Further details of the third-party verification/assurance process

The details of third-party assurance are provided on the Sustainability Report 2024 assurance page. The assurance for this report is moderate level and applicable to consolidated data.

(13.1.1.5) Attach verification/assurance evidence/report (optional)

Assurance Statement - PLN - 2024.pdf

Row 2

(13.1.1.1) Environmental issue for which data has been verified and/or assured

Select all that apply

☒ Climate change

☒ Water

☒ Plastics

☒ Biodiversity

(13.1.1.2) Disclosure module and data verified and/or assured

Governance

☒ Environmental policies

(13.1.1.3) Verification/assurance standard

General standards

☒ AA1000AS

(13.1.1.4) Further details of the third-party verification/assurance process

The details of third-party assurance are provided on the Sustainability Report 2024 assurance page. The assurance for this report is moderate level and applicable to consolidated data.

(13.1.1.5) Attach verification/assurance evidence/report (optional)

Assurance Statement - PLN - 2024.pdf

Row 3

(13.1.1.1) Environmental issue for which data has been verified and/or assured

Select all that apply

☒ Climate change

☒ Water

☒ Plastics

☒ Biodiversity

(13.1.1.2) Disclosure module and data verified and/or assured

Business strategy

☒ Supplier compliance with environmental requirements

☒ Transition plans

(13.1.1.3) Verification/assurance standard

General standards

☒ AA1000AS

(13.1.1.4) Further details of the third-party verification/assurance process

The details of third-party assurance are provided on the Sustainability Report 2024 assurance page. The assurance for this report is moderate level and applicable to consolidated data.

(13.1.1.5) Attach verification/assurance evidence/report (optional)

Assurance Statement - PLN - 2024.pdf

Row 4

(13.1.1.1) Environmental issue for which data has been verified and/or assured

Select all that apply

☒ Climate change

☒ Water

☒ Plastics

☒ Biodiversity

(13.1.1.2) Disclosure module and data verified and/or assured

Environmental performance – Consolidation approach

☒ Consolidation approach

(13.1.1.3) Verification/assurance standard

General standards

☒ AA1000AS

(13.1.1.4) Further details of the third-party verification/assurance process

The details of third-party assurance are provided on the Sustainability Report 2024 assurance page. The assurance for this report is moderate level and applicable to consolidated data.

(13.1.1.5) Attach verification/assurance evidence/report (optional)

Assurance Statement - PLN - 2024.pdf

Row 5

(13.1.1.1) Environmental issue for which data has been verified and/or assured

Select all that apply

☒ Climate change

(13.1.1.2) Disclosure module and data verified and/or assured

Environmental performance – Climate change

- | | |
|--|---|
| ☒ Fuel consumption | ☒ Electricity/Steam/Heat/Cooling generation |
| ☒ Base year emissions | ☒ Electricity/Steam/Heat/Cooling consumption |
| ☒ Progress against targets | ☒ Emissions reduction initiatives/activities |
| ☒ Renewable fuel consumption | ☒ Renewable Electricity/Steam/Heat/Cooling generation |
| ☒ Emissions breakdown by business division | ☒ Year on year change in absolute emissions (Scope 3) |
| ☒ Renewable Electricity/Steam/Heat/Cooling consumption | |
| ☒ Year on year change in emissions intensity (Scope 3) | |
| ☒ Year on year change in absolute emissions (Scope 1 and 2) | |
| ☒ Year on year change in emissions intensity (Scope 1 and 2) | |

(13.1.1.3) Verification/assurance standard

General standards

☒ AA1000AS

(13.1.1.4) Further details of the third-party verification/assurance process

The details of third-party assurance are provided on the Sustainability Report 2024 assurance page. The assurance for this report is moderate level and applicable to consolidated data.

(13.1.1.5) Attach verification/assurance evidence/report (optional)

Assurance Statement - PLN - 2024.pdf

Row 6

(13.1.1.1) Environmental issue for which data has been verified and/or assured

Select all that apply

☒ Water

(13.1.1.2) Disclosure module and data verified and/or assured

Environmental performance – Water security

☒ Water consumption– total volume

☒ Water discharges– total volumes

☒ Water discharges – volumes by destination

☒ Water withdrawals– total volumes

☒ Water withdrawals – volumes by source

(13.1.1.3) Verification/assurance standard

General standards

☒ AA1000AS

(13.1.1.4) Further details of the third-party verification/assurance process

The details of third-party assurance are provided on the Sustainability Report 2024 assurance page. The assurance for this report is moderate level and applicable to consolidated data.

(13.1.1.5) Attach verification/assurance evidence/report (optional)

Assurance Statement - PLN - 2024.pdf

Row 7

(13.1.1.1) Environmental issue for which data has been verified and/or assured

Select all that apply

☒ Plastics

(13.1.1.2) Disclosure module and data verified and/or assured

Environmental performance – Plastics

☒ End-of-life management pathways

☒ Waste generated

(13.1.1.3) Verification/assurance standard

General standards

☒ AA1000AS

(13.1.1.4) Further details of the third-party verification/assurance process

The details of third-party assurance are provided on the Sustainability Report 2024 assurance page. The assurance for this report is moderate level and applicable to consolidated data.

(13.1.1.5) Attach verification/assurance evidence/report (optional)

Assurance Statement - PLN - 2024.pdf

[Add row]

(13.2) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

(13.2.1) Additional information

PLN continuously accelerates the development of new and renewable energy (NRE) to support Indonesia's sustainable energy transition. In line with the Nationally Determined Contribution (NDC) targets for 2030 and the Net Zero Emission (NZE) goal for 2060, as well as the increasing demand for clean electricity.

(13.2.2) Attachment (optional)

PLN 2024.pdf
[Fixed row]

(13.3) Provide the following information for the person that has signed off (approved) your CDP response.

(13.3.1) Job title

Director of Transmission and System Planning

(13.3.2) Corresponding job category

Select from:

☒ Director on board

[Fixed row]

(13.4) Please indicate your consent for CDP to share contact details with the Pacific Institute to support content for its Water Action Hub website.

Select from:

☒ Yes, CDP may share our Disclosure Submission Lead contact details with the Pacific Institute

