

Save Our Planet



TelkomGroup takes an active role in realizing a greener ecosystem through the implementation of sustainable business practices and responsible operational impact management. Focusing on climate, energy, and waste risk management is the cornerstone of maintaining business sustainability during changing environmental dynamics. Other aspects of environmental management, such as water management and biodiversity, are always managed in accordance with applicable regulations and standards.

Figure 24. Telkom Environmental Aspect Management Framework

Save Our Planet



Climate change and energy management

- Low-carbon transition
- Operational resilience



Resource management

- Waste management



Other environmental management

- Water management
- Biodiversity

Material Topics	2030 Target	2025 Performance
Climate change and energy management	20% reduction in TelkomGroup's GHG emissions in scope 1 and 2 compared to the 2023 base year	3.7% increase in TelkomGroup's Scope 1 and 2 GHG emissions (Market-based) compared to 2023 base year. • 44% decrease in Scope 1 emissions due to the operational transition to using biodiesel (B40, B30, B20, and B10). • 3% increase in Scope 2 emissions due to asset expansion and data scope within TelkomGroup.
Resource management	At least 70% of fiber optic cable waste is diverted from disposal	73% of fiber optic cable waste is diverted from final disposal
	Minimum 70% total waste generation reduction	24% total waste generation reduction

Climate Change and Energy Management

The telecommunications industry is facing growing challenges related to climate change. The sector's reliance on energy-intensive infrastructure—such as network equipment and data centers—combined with increasing regulatory requirements and global standards for reducing GHG emissions, has heightened the urgency to transition toward low-carbon operations. At the same time, climate-related events also affect product resilience and service continuity, as demonstrated by the flooding incident in Sumatra. Therefore, strengthening operational resilience and integrating climate risk considerations into business strategies are essential to ensuring TelkomGroup's long-term business sustainability.

Change & Energy Management Working Group supports the Sustainability Committee in implementing climate mitigation and adaptation initiatives across TelkomGroup.

Telkom has a Sustainability Function Unit that is responsible for developing climate management strategies and monitoring the performance of achieving TelkomGroup's climate targets through GHG emission metrics that are monitored periodically in accordance with company policies. To support effective sustainability management, Telkom also makes efforts to recruit and strengthen teams with adequate capabilities in managing climate issues, as summarized in the performance table 16.

Management Approach

[GRI 3-3]

Climate Governance

Telkom's climate governance structure is integrated into TelkomGroup's Sustainability Governance framework, as stipulated in Company Regulation Number PD.704.00/r.00/HK290/DSC-M0200000/2025. The Sustainability Committee is responsible for overseeing and providing directions on climate-related goals, transition and adaptation plans, strategies, initiatives, targets, policies, performance monitoring, and reporting across TelkomGroup. In carrying out its roles and responsibilities, the Sustainability Committee coordinates with other committees under the Board of Commissioners and the Board of Directors, including the Corporate Social and Environmental Responsibility (TJSL) Committee, the Risk, Compliance, and Revenue Assurance Management Committee, the Audit Management Committee, and the Nomination and Remuneration Committee. The Climate

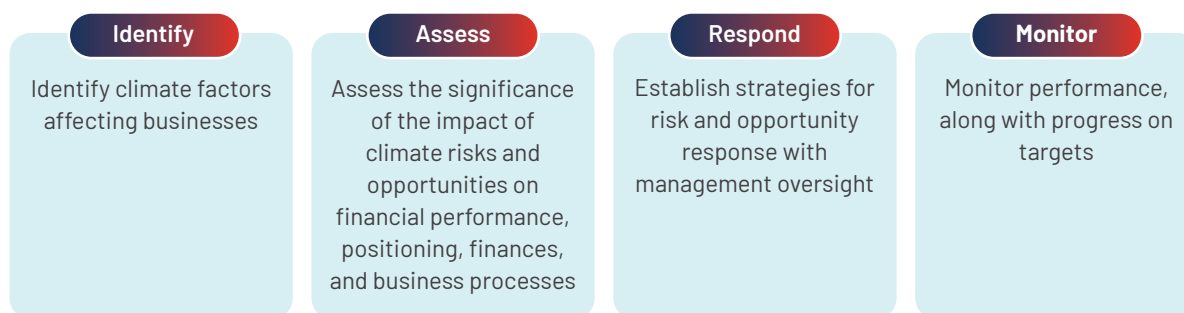
Climate Change Policy and Energy Management

Climate change and energy management policies are regulated in the sustainability governance policy established through the Board of Directors Regulation. These provisions are incorporated into the Standard Operating Procedures (SOPs), which regulate technical guidelines for the calculation and reporting of GHG emissions in TelkomGroup in accordance with international standards, such as ISO 14064-1 and GHG Protocol Corporate Accounting & Reporting Standard. In 2025, Telkom will evaluate and update the emission calculation POS by expanding the scope of the GHG emission inventory within the TelkomGroup.

Climate Change Management Framework

Climate change management at TelkomGroup is guided by four integrated actions—identify, assess, respond, and monitor—which form the basis for integrating climate considerations into the company's business strategy.

Figure 25. Telkom Climate Change Management Framework



Low-Carbon Transition

TelkomGroup's GHG Emissions Performance

[GRI 102-4, 102-5, 102-6, 102-7, 305-1, 305-2, 305-3]

The total GHG emissions of TelkomGroup (Market-based) in 2025 are 4,153,661.33 tCO₂e, consisting of 1% Scope 1 emissions, 52% Scope 2 emissions, and 47% Scope 3 emissions. There is an increase in emissions compared to the previous reporting year, particularly in Scope 3 emissions, due to the addition of calculation scopes covering categories 4, 7, 9, and 12. This step represents TelkomGroup's continuous improvement effort to strengthen GHG emissions management. The calculation methods, including limitations and assumptions, are presented in Appendix 7. Consistent with 2024, the 2025 GHG emissions are also validated by an independent party with the opinion presented in Appendix 11.

TelkomGroup Emission Profile in 2025*

Figure 26. TelkomGroup GHG Emissions Scope 1, 2 (Market-based), and 3

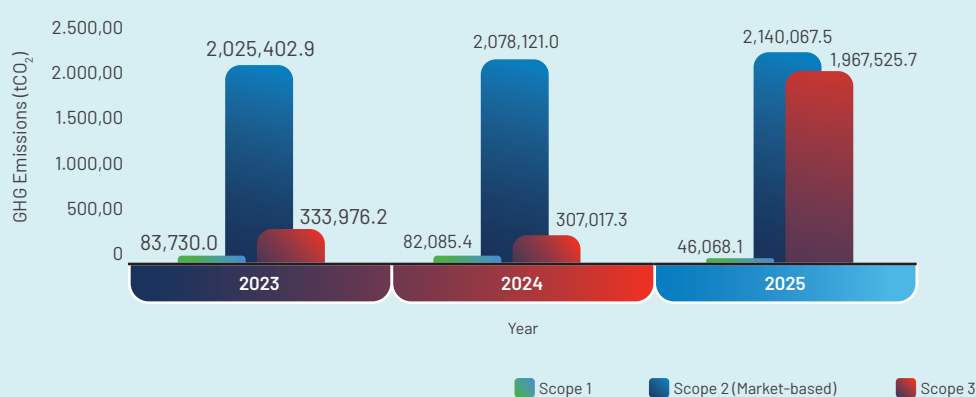


Figure 27. TelkomGroup GHG emissions disaggregation by category

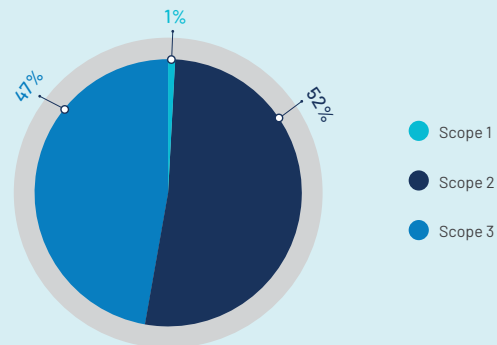
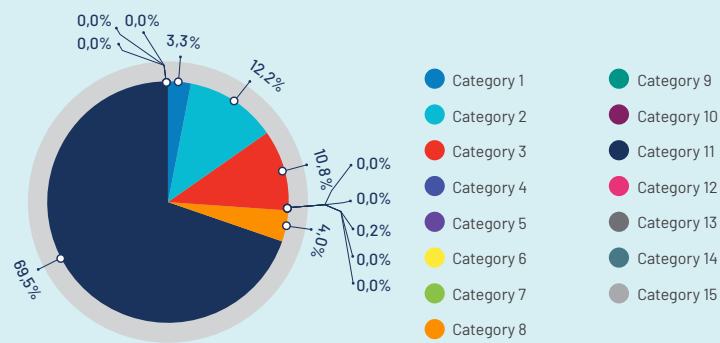


Figure 28. Disaggregation of TelkomGroup Scope 3 GHG emissions by category



Summary of TelkomGroup GHG Emissions Performance for the 2025 Reporting Year

Table 10. Summary of Greenhouse Gas Emissions Performance of TelkomGroup for Reporting Year 2025

Scope	Description	Reporting Year 2025 (tonCO ₂ e)	Reporting Year 2024 (tonCO ₂ e)	Reason for Emission Changes Since The 2024 Reporting Year	% Change in Emissions since The 2024 Reporting Year
Scope 1	Stationary Combustion	12,288.4	27,381.5	The expansion of the use of B40 Biodiesel as a power generator fuel source compared to the conservative approach (using B0) applied in 2024, along with efforts to reduce generator operational durations within the TelkomGroup environment, including Telkom, Telkomsel, Sigma, Mitratel, Telin, Telkomsat, Telkom Infra, and GSD.	▼ 55%
	Mobile Combustion	21,874.1	27,182.0	Improvement of the methodology for collecting vehicle fuel consumption data, which identifies that vehicles within Telkom, Sigma, and Mitratel use Pertamina gasoline, which has a relatively lower emission factor compared to Peralite.	▼ 20%
	Fugitive emission	11,905.7	27,521.9	Refinement of the methodology for collecting fugitive emission data from wastewater treatment and AC, including the identification of septic tanks as an additional wastewater treatment category and the inclusion of end-of-life emissions from dismantled AC units.	▼ 57%
Scope 2	Location-based Method	2,182,493.3	2,078,121.1*	The increase in electricity consumption emissions compared to 2024 is mainly due to the expansion of TelkomGroup assets (for example, the addition of BTS in 2025 for Telkomsel).	▲ 5%
	Market-based Method	2,140,067.5	2,078,121.1*	The increase in electricity consumption emissions compared to 2024 was primarily driven by the expansion of TelkomGroup assets (for example, the addition of BTS for Telkomsel in 2025). However, the initiative to purchase a total of 45,407 Renewable Energy Certificates (RECs) by Telkom and TDE in 2025 helped limit the emissions increase for that year to 3%.	▲ 3%
Scope 3 Category 1	Purchased goods and services	64,796.5	87,218.1	Refinement of the methodology for grouping goods and services (based on guidelines from GSMA) and adjusted to reflect the categories most relevant to the company's operational activities.	▼ 26%
Scope 3 Category 2	Capital goods	239,681.5	70,677.0	Refinement of the methodology for grouping goods and services (based on guidelines from GSMA) and adjusted to reflect the categories most relevant to the company's operational activities.	▲ 239%
Scope 3 Category 3	Fuel-and-energy-related activities (not included in scope 1 or scope 2)	211,750.40	0.3	Improvement of methodology and expansion of emission source coverage in the calculation of this category, where this year Scope 3 Category 3 is calculated for emissions originating from the well-to-tank process of consumed fuel and transmission and distribution loss of the electricity used.	▲ 65,040,394%
Scope 3 Category 4	Upstream transportation & distribution	51.1	N/A	The expansion of the calculation scope as it begins to accommodate Category 4, which was previously not included in the calculation.	-

Scope	Description	Reporting Year 2025 (tonCO ₂ e)	Reporting Year 2024 (tonCO ₂ e)	Reason for Emission Changes Since The 2024 Reporting Year	% Change in Emissions since The 2024 Reporting Year
Scope 3 Category 5	Waste generated in operations	270.7	0.7	Expansion of the coverage of TelkomGroup entities that disclose waste data.	▲ 40,421%
Scope 3 Category 6	Business travel	3,574.7	32,119.5	The decrease in the number of business trips in 2025.	▼ 89%
Scope 3 Category 7	Employee commuting	389.8	N/A	The expansion of the calculation scope as it begins to accommodate Category 7, which was previously not included in the calculation.	-
Scope 3 Category 8	Upstream leased assets	77,941.4	7,985.9	Increase in the number of TelkomGroup Subsidiaries that record leased assets.	▲ 876%
Scope 3 Category 9	Downstream transportation and distribution	172.6	N/A	The expansion of the calculation scope as it begins to accommodate Category 9, which was previously not included in the calculation.	-
Scope 3 Category 10	Processing of sold products	-	-	Not relevant to the nature of TelkomGroup's business.	-
Scope 3 Category 11	Use of sold products	1,367,736.8	99,559.4	Expansion of the scope of calculation of products sold, for example including Indihome, Indibiz, and ASTINet.	▲ 1,274%
Scope 3 Category 12	End-of-life treatment of sold products	58.6	N/A	The expansion of the calculation scope as it begins to accommodate Category 12, which was previously not included in the calculation.	-
Scope 3 Category 13	Downstream leased assets	833.4	148.1	Increase in the number of TelkomGroup Subsidiaries recording leased assets.	▲ 463%
Scope 3 Category 14	Franchise	-	-	Not relevant to the nature of TelkomGroup's business.	-
Scope 3 Category 15	Investment	268.1	9,308.30	Improvement of emission calculation accuracy.	▼ 97%
Total GHG Emissions (Location-based)		4,196,087.0	2,467,223.7*		
Total GHG Emissions (Market-based)		4,153,661.3	2,467,223.7*		

* Restatement of information based on adjustments to data collection methodology

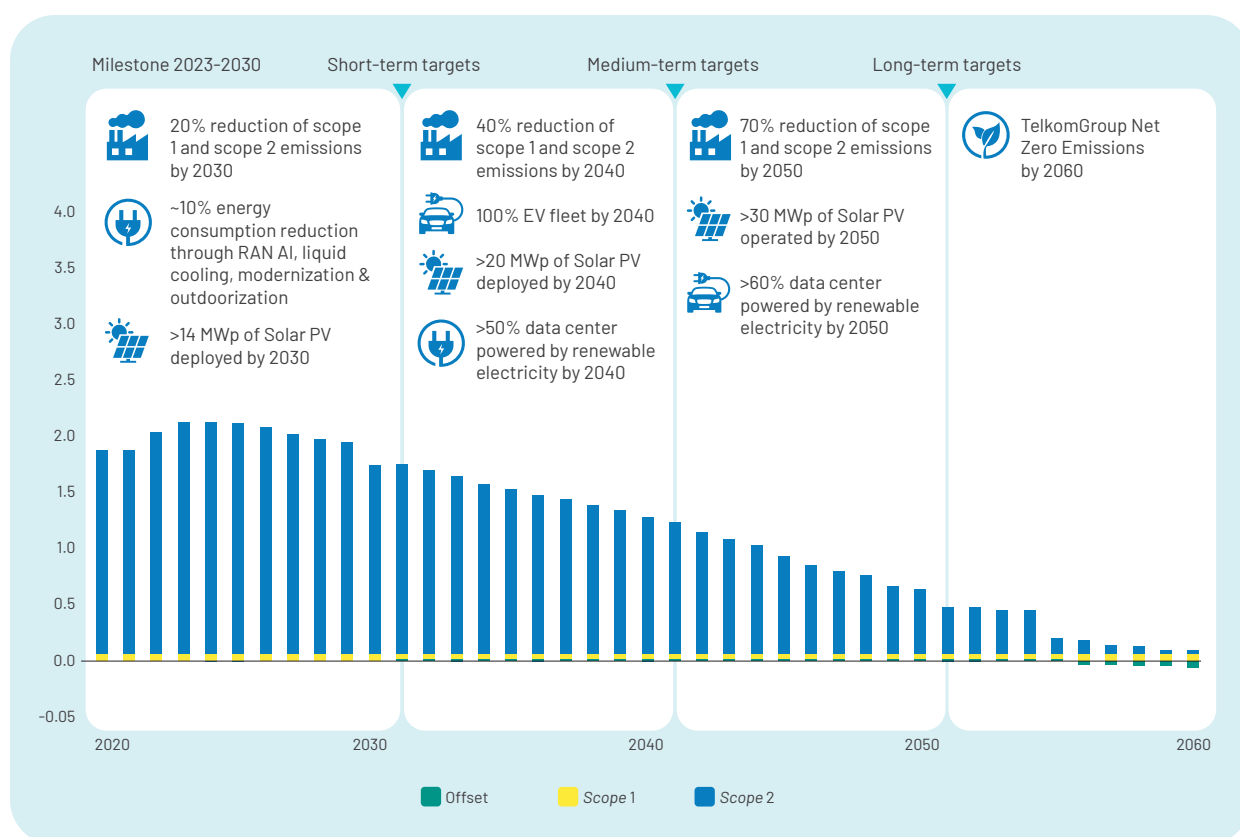
Decarbonization Strategy

[OJK F.7, F.12][GRI102-1, 102-4]

In 2025, TelkomGroup reached a strategic milestone in its transition toward low-carbon operations with the launch of its Climate Transition Plan. This document not only reaffirms TelkomGroup's commitment to addressing climate change but also outlines the company's transition plan toward achieving net zero emissions by 2060, along with the key strategies to support this ambition. Specifically, the Climate Transition Plan sets out TelkomGroup's pathway toward low-carbon operations, targeting a 20% reduction in Scope 1 and Scope 2 emissions in the short term (2023–2030), 40% in the medium term (2040–2050), and the achievement of net zero emissions by 2060. The methodology, assumptions, and limitations used in setting these targets are presented in Appendix 8.

TelkomGroup's Transition Journey for Emissions Scope 1 & 2

Figure 29. TelkomGroup's Transition Journey to Net Zero Emission 2060

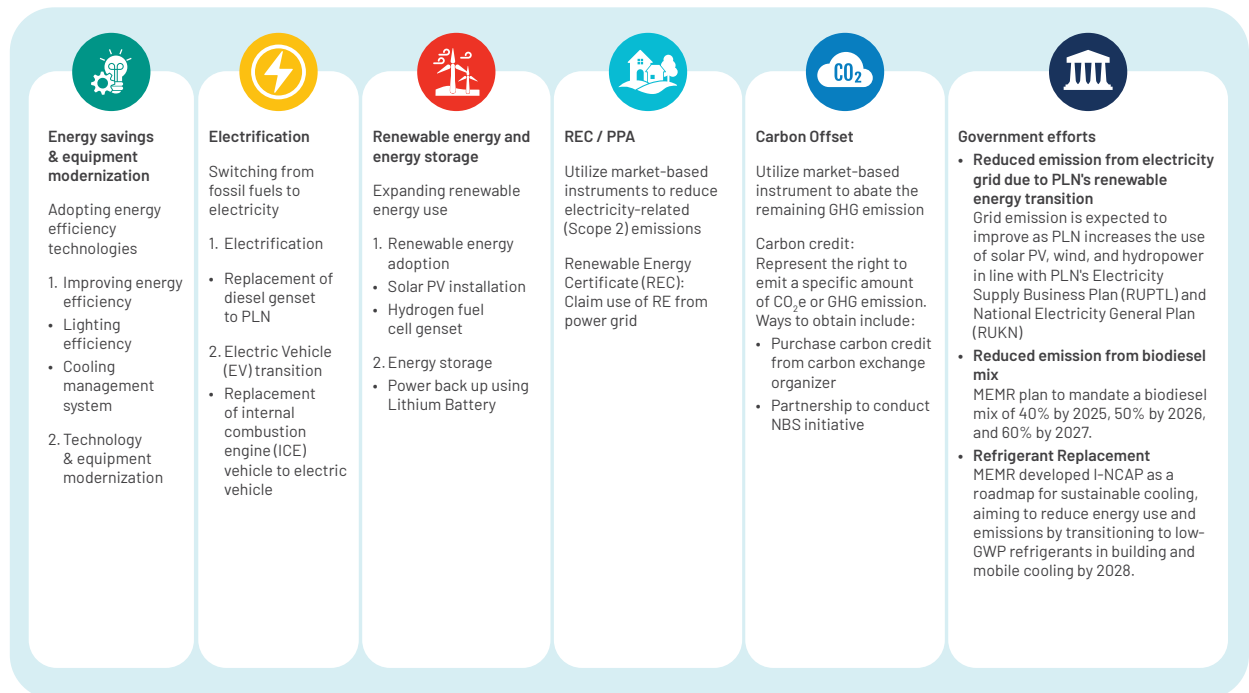


Note: The strategy to achieve net zero emissions also considers the use of RECs to reduce Scope 2 GHG emissions on a market-based approach

TelkomGroup has also identified six key decarbonization levers summarized in the Climate Transition Plan, including energy efficiency, electrification, renewable energy adoption, and the use of market-based instruments. These initiatives were selected based on TelkomGroup's emissions profile—dominated by electricity consumption—while also considering the national energy transition agenda and the need to maintain service reliability.

As of 2025, there was an increase in Scope 1 and 2 (Market-based) emissions of 77,002.7 tCO₂e, equivalent to 3.7% compared to the 2023 base year. This aligns with the increased operational activities throughout the year and is a condition that had been anticipated, given that the new transition plan was prepared in the second half of 2025, so its implementation had not yet run optimally during this reporting period.

Figure 30. TelkomGroup's Key Decarbonization Initiative



Energy Saving and Equipment Modernization

Telkom utilizes Internet of Things (IoT) technology by integrating sensors and actuators into the Integrated Smart Device for Advancing Energy Efficiency (iSave) platform as an energy-saving initiative. This platform allows monitoring and controlling the building's electrical energy consumption in real time, which is supported by the power consumption dashboard, people counting, and operational scheduling features. iSave has been implemented in several Telkom operational locations, including Jakarta Outer (former South Jakarta Region), Tangerang BSD Regional Region, Inner Jakarta (former West Jakarta Regional Police), Kebon Sirih 36 (former Central Jakarta Regional Police Department), Jakarta GMP, and Bandung GMP.

Gerakan Peduli Efisiensi Energi (GePEE) [GRI 302-4]



The implementation of Telkom's energy efficiency initiatives through the Energy Efficiency Care Movement (GePEE) has been running consistently since 2023. The GePEE program collectively includes nine activities, with the three main activities as follows:

Activation of Energy Efficiency Culture (ABE)
 Leaders talk and energy efficiency culture week

Optimization Cooling System (OCS)
 Room insulation, hot and cold line repair, and cooling system assessment

Dismantling Device (DMP)
 Turning off power and disassembling obsolete devices

Cumulatively, the implementation of the GePEE program at Telkom offices in 2025 has succeeded in reducing national electricity costs by 0.5% or the equivalent of total electricity consumption of 9,480 GJ (2,238 tons of CO₂e). This value is produced by converting the total electricity bill in 2025 into an estimated energy consumption (GJ) and calculating the emissions using Indonesia's grid emission factors.

The investment value of TelkomGroup's energy saving initiatives this year reached IDR 18,346,158,626 (presented in the table Environmental Costs). This cost includes the procurement and refurbishment of environmentally friendly equipment, such as LED lights, refrigerants, batteries, and monitors that are more environmentally friendly. As a follow-up step in the energy efficiency initiative, Telkom plans to implement Autonomous Network (AN) by 2026 to extend energy efficiency to the grid level through data-driven management that is adaptive to traffic needs.

Green Data Center Innovation

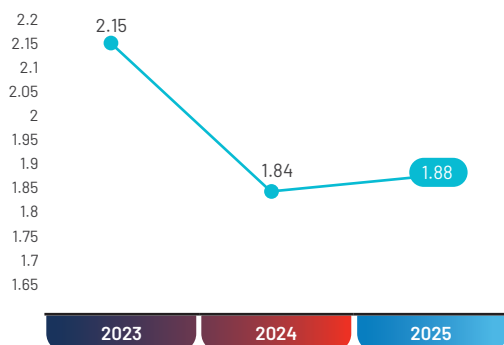
Figure 31. Green Data Center by TDE, left: front view, right: top view



TDE, which manages the data center, is developing a green data center in Batam with a capacity of more than 60 MW of IT Load. The development of the Hyperscale Data Center (HDC) in Batam is a form of joint venture collaboration with Medco Power in providing solar power plants around the Kabil Integrated Industrial Estate (KIIE) area. This green data center is designed with the goal of energy efficiency using high-density racks, special cooling systems, and optimal data distribution. If the necessary system requirements are met, this step will not only improve energy efficiency but also reduce costs. [SASB TC-SI-130a.3, TC-IM-130a.3]

Along with the application of these designs and technologies in the development of new data centers, TDE is gradually trying to improve the operational performance of existing data centers, which can be seen in the Power Usage Effectiveness (PUE) performance in the graph below. [SASB TC-TL-130a.1]

**Average weighted trailing 12-month (TTM)
data center Power Usage Effectiveness (PUE)**



In 2025, TDE also signed a consortium agreement with the Sustainable Tropical Data Centre Testbed (STDCT) 2.0, a five-year program led by the National University of Singapore (NUS) to support the development of sustainable and AI-ready data center designs in tropical regions (Southeast Asia). TDE participates as a member of the steering committee and is involved in testbed activities, power efficiency studies, and cooling systems, as well as energy and water saving technology trials. This collaboration is focused on applying academic research results into solutions that can be replicated by the data center industry. Through this partnership, TDE is expected to play a role as a connector of the digital ecosystem through the development of infrastructure that pays attention to sustainability aspects and is relevant to trends in the use of AI technology in the market.

Green Building Management through IBMS

Figure 32. Building Energy Monitoring through the IBMS dashboard



As part of efforts to improve energy efficiency and implement green building principles, GSD has deployed an Integrated Building Management System (IBMS) to support integrated building operations, particularly in managing energy consumption and optimizing maintenance costs. The system has been implemented in several key buildings, including Telkom Landmark Tower (TLT) Jakarta, TLT Surabaya, and the Multimedia Tower Jakarta.

GSD operates a Heating, Ventilation, and Air Conditioning (HVAC) system equipped with sensors to monitor occupant comfort levels, including CO₂ and O₂ concentrations, while optimizing indoor temperature and air circulation. In building construction and revitalization processes, GSD prioritizes the use of environmentally friendly, energy-efficient, and low-emission building materials. By 2025, the Telkom Landmark Tower (TLT) Jakarta building will have obtained EDGE certification from IFC and GBCI.

Liquid Tree

Figure 33. Implementation of Liquid Tree at Telkom Landmark Tower



As part of sustainability innovation in the TLT Jakarta office environment, liquid tree technology has been introduced as an algae-based transparent bioreactor designed to improve air quality while supporting indoor emission reduction. By 2025, the installed capacity of this technology will have reached 100 liters. Based on a regression modeling study conducted by the UGM Ecoplant Lab in collaboration with Algatech as the technology provider, the device

is estimated to have the potential to absorb approximately 0.02 tons of CO₂ and produce around 0.01 tons of O₂ by 2025. The implementation of liquid tree technology represents one of the solutions to help reduce CO₂ concentrations in workspaces, particularly in office areas located in city centers where conventional green space is limited.

Diversification of Eco-Friendly Tower Products

Figure 34. Glass Fiber Reinforced Polymer Tower



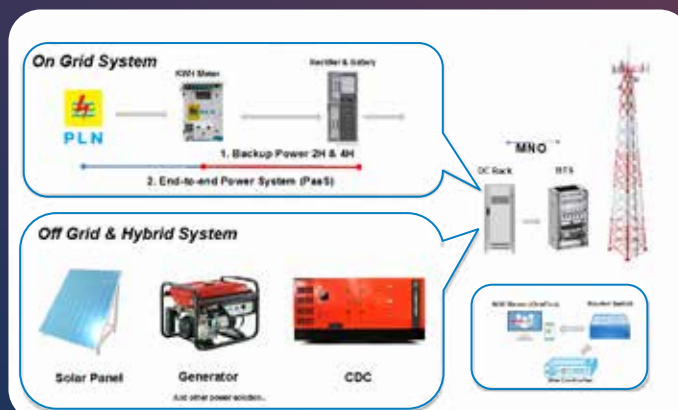
Mitratel continues to advance the development and deployment of low-carbon towers made of Glass Fiber Reinforced Polymer (GFRP). The GFRP material has been verified to meet technical requirements through testing conducted by three certified laboratories in Indonesia, namely the University of Indonesia Laboratory for material testing (February 2024), Telkom Lab for environmental resilience testing, including temperature and UV accelerated tests (April 2024), and technical

verification by ITB Laboratories. Through the implementation of a total of six towers, it is estimated to be able to reduce GHG emissions by ~0.099 tons of CO₂e which comes from the inherent carbon footprint of the GFRP material itself.

By 2025, Mitratel has also diversified its sustainability-oriented portfolio through the development of MiQAs (Mitratel Quality Air System), Power as a Service (PaaS), and the Small Cell Solar Panel System (SPS). MiQAs is an Internet of Things (IoT)-based solution for air quality and weather monitoring that generates the Air Pollutant Standard Index (ISPU), covering seven key parameters: PM₁₀, PM_{2.5}, NO₂, SO₂, CO, O₂, and HC, with data updated every 30 minutes. During the reporting year, this solution was piloted on a limited basis in the DKI Jakarta area, specifically in Kebon Kacang and Gunung Sahari (Central Jakarta), as well as in East Kalimantan, particularly in the Nusantara Capital City (IKN).

In supporting the energy transition, Mitratel has successfully commercialized 1,617 Power as a Service (PaaS) site, providing integrated power supply management solutions for Mobile Network Operators (MNOs). These services include off-grid, on-grid, and hybrid schemes to support service level agreement (SLA) fulfillment, enhance operational reliability, and maintain service quality. In addition, the Small Cell Solar Panel System (SPS) has been deployed at 650 sites as of 2025. The development and implementation of these environmentally friendly solutions form part of Mitratel's efforts to support the achievement of its transition targets toward net zero emissions in line with the commitments that have been established.

Figure 35. Skema off-grid, on-grid, and hybrid PaaS services



Electrification

TelkomGroup has consistently used Electric Vehicles (EVs) for operational vehicles and also participated in encouraging the EV use ecosystem through the installation of EV charging stations within TelkomGroup. By 2025, as many as 17% of total employee vehicles at Telkom will already use EVs. For operational support, Telkom rented 12 units of electric motorcycles and 12 units of EV charging to GSD. The use of EVs has also been implemented at the Subsidiary level, namely GSD, Telkom Infra, and Telkomsat. Cumulatively, the three entities, including EV units used by Telkom through a loan scheme from GSD, operate a total of 423 units of electric motorcycles to support operational activities. Telkomsat and GSD also contribute to the electric vehicle use ecosystem through the installation of EV charging stations at 16 points in their operational areas.

Added Value in SPKLU Expansion Synergy

Figure 36. Application of Public Electric Vehicle Charging Stations



GSD collaborates with V-Green in the development of Public Electric Vehicle Charging Station (SPKLU) infrastructure as part of accelerating SPKLU penetration in Indonesia. This collaboration is focused on the use of various property assets spread

across several TelkomGroup regions to support the availability of electric vehicle infrastructure. Until October 2025, there are 6 SPKLU points that have been operational and used as pilot projects in the implementation of Internet of Things (IoT)-based monitoring systems to support energy management and operational performance. In the future, this collaboration is planned to support the phased development of 400 SPKLU. Through the integration and optimization of asset utilization, both companies aim to create added value while supporting the Government's initiatives to accelerate the transition toward sustainable mobility.

Optimization of Energy Storage through the Use of Lithium Batteries



Mitratel, continues to increase the use of lithium batteries as an alternative energy storage solution in telecommunication towers to support more efficient and environmentally friendly operations. Through this initiative, Mitratel is gradually replacing conventional Valve Regulated Lead Acid (VRLA) batteries with lithium batteries that offer a longer service life and generate

lower waste, thereby helping to reduce the environmental impact of operational activities. In terms of waste management, both VRLA and lithium battery waste are handled through a battery replacement mechanism in collaboration with third-party First Line Maintenance (FLM) partners. Through this approach, the handling and management of VRLA battery waste are carried out in accordance with environmental standards and applicable regulatory requirements.

Utilization of New and Renewable Energy

In 2025, TelkomGroup continued its transition toward renewable energy by installing solar PV power plants (*Pembangkit Listrik Tenaga Surya/PLTS*) and micro-hydropower plants (*Pembangkit Listrik Tenaga Mikrohidro/PLTMH*) at strategic operational assets. In this regard, Telkomsel installed 360 units of PLTS and 1 unit of PLTMH at its base transceiver station (BTS) sites. The total consumption of renewable energy reached 13,926 GJ. Going forward, TelkomGroup will continue to increase the use of new and renewable energy in line with the Climate Transition Plan that has been established.

Solar Power Plants (PLTS) and Microhydro (PLTMH) in BTS

Figure 37. Solar PV Power Plants (PLTS) and Microhydro (PLTMH) in BTS



Telkomsel continues to expand the use of solar power plants at Base Transceiver Stations (BTS) by adding 86 new solar power plants in 2025. With this addition, Telkomsel has operated 360 BTS units with solar panels and 1 BTS unit that utilizes microhydro energy, with the total energy generated during 2025 reached 13,926 GJ. These BTS are spread not only in big cities, but also in underdeveloped, frontier, and outermost (3T) regions of Indonesia to provide excellent connections. The BTS unit that utilizes microhydro energy is located in Sijunjung Regency, West Sumatra. The BTS units that utilize solar energy are spread across the following areas.



Mitratel, which operates towers for Telkomsel BTS, is gradually electrifying BTS in rural areas through the replacement of fossil fuel generators with solar panel technology. In addition to carrying out its operational activities, Mitratel also strengthened its social contribution through the Social and Environmental Responsibility (CSR) program in July 2025 by collaborating with Telkom to build Solar Power Plants (PLTS) in five underdeveloped villages in West Kalimantan and East Nusa Tenggara, each with a capacity of 5 kWp.



Solar Public Street Lighting Innovation (PJUTS)



As part of the implementation of new and renewable energy, GSD has installed and operates 77 PJUTS lighting units across the Telkom Hub area in DKI Jakarta. The system requires approximately 5–6 hours of charging time and can operate for up to 12 hours per day, with a total energy consumption of 55.44 kWh per day. By utilizing solar energy, the TLT building is projected to reduce electricity consumption by 20,235.6 kWh per year.

Figure 38. Illustration of Solar Public Road Lighting (PJUTS)

Clean and Renewable Energy Support Program

Telkom seeks to support the provision and utilization of clean and renewable energy for communities that do not yet have access to electricity from PLN. By 2025, Telkom had distributed Rp1.4 billion in financial assistance to support seven locations across Indonesia through the provision of clean and renewable energy equipment, as well as training on installation, utilization, and sustainable system maintenance. In line with Sustainable Development Goal (SDG) 7, this initiative is expected to positively impact 14,463 beneficiaries by improving the quality of life and strengthening local economies through the use of new and renewable energy.

Renewable Energy Certificates (RECs)

Telkom and TDE purchased 45,407 Renewable Energy Certificates (RECs) sourced from hydroelectric power plants (Pembangkit Listrik Tenaga Air/PLTA) by 2025. Through this initiative, the companies support Scope 2 decarbonization efforts with the potential to reduce emissions by 42,425.7 tons of CO₂e per year.

Figure 39. Example of Renewable Energy Certificate



Operational Resilience to Climate Change

[GRI 102-2]

The flash flood event in Sumatra at the end of 2025 is clear evidence of the increasing intensity of climate change, the impact of which is also felt by the telecommunications industry. In this regard, TelkomGroup itself has proactively identified climate-related risks and opportunities as well as analyzed the climate scenario based on the framework of the Task Force on Climate-related Financial Disclosures (TCFD) since 2023. This process will continue in 2025 to look at the financial impact of climate risks to provide insight into the company's resilience. The process, methods, results, limitations, and assumptions of climate risk assessment in full can be found in the

[2023 Climate Risk Report](#).

Climate-related Risks and Opportunities

TelkomGroup has identified climate-related risks and opportunities for two categories, namely physical and transitional, which have the potential to have an impact on the company in the short (next 5 years), medium (5-15 years), and long term (more than 15 years). Information related to the methodology in determining climate-related risks and opportunities identified by TelkomGroup can be accessed in [the Telkom Climate Risk Report 2023](#) and [Telkomsel Sustainability Report 2024](#).

Table 11. List of Risks and Opportunities related to TelkomGroup's Climate

Type		Risk [R] / Opportunity [O]
Physical	Acute Due to extreme weather events	• Extreme rain/flooding [R] • Cyclone [R] • Forest fires [R] • Heatwave [R]
	Chronic Due to long-term changes in climate patterns	• Temperature rise [R] • Increased rainfall [R] • Sea level rise [R] • Water stress [R]
Transition	Policy & legal Due to changes in emission reduction regulations	• Rising carbon prices [R/O] • Increased energy costs due to energy regulations [R]
	Technology As a result of the adoption of technology and innovation that supports emission reduction	• Renewable energy [O] • Low carbon/green ICT technology [O]
	Markets Due to changes in market prices and demand for high-emission commodities, services, and low-carbon products	• Increased material supply prices [R/O] • Changing consumer preferences [R/O]
	Reputation As a result of the distorted perceptions and expectations of stakeholders on climate action	Reputational impact in meeting stakeholder expectations [R/O]

To better understand how climate-related risks and opportunities may impact the company, TelkomGroup selects key risks and opportunities for further analysis. This process includes defining relevant time horizons, mapping the exposure of assets to identified risks and opportunities, determining appropriate response strategies, and assessing potential financial impacts. The selection process considers the relevance of policy developments and prevailing conditions that may affect TelkomGroup's business, as well as the availability and readiness of internal processes.

Table 12. TelkomGroup's Climate-related Risk and Opportunity Analysis

Physical	
[R] Increased intensity and frequency of extreme rainfall that can cause flooding	
Period	Short to long term (5 years to more than 15 years in the future)
Concentration of assets exposed to risk	Land and building assets mainly on the islands of Sumatra, Kalimantan, Java, Sulawesi, and Papua / Base Transceiver Station (BTS) on the islands of Sumatra and Sulawesi
Strategy	Land and building assets • Asset infrastructure upgrade • Routine flood risk assessments for critical assets • Provision of flood management equipment and facilities • Preparation of flood management guidelines and Business Continuity Management • Formation of Disaster Recovery Plan and Crisis Management Team • Acceptance of ISO 22301:2019 Business Continuity Management System (BCMS) certification • Backing up access networks and networks for vulnerable areas • Insurance of assets prone to disasters BTS • Installation of elevation platforms and waterproof fixtures to protect BTS units in flood-prone areas • Formation of Telkomsel Emergency Response and Recovery (TERRA) team and Crisis Management (CMT) team • Implementation of standalone and hybrid energy solutions at base sites to reduce dependence on grid electricity during extreme weather disruptions • Placement of critical network infrastructure in high-elevation locations to minimize flood risk • Conduct annual emergency exercises and simulations to ensure operational readiness • Insurance of assets prone to disasters
Potential financial impact	• Increased operational costs • Increased cost of capital on investment • Impairment of assets • Expected increase in credit losses
[R] Rising air temperatures can lead to damage to assets, infrastructure, and decreased productivity of field workers	
Period	Medium to long term (5-15 years or more than the next 15 years)
Concentration of assets exposed to risk	Land and building assets mainly in East Java, DKI Jakarta, and West Java Provinces / BTS on the islands of Sumatra and Sulawesi
Strategy	Land and building assets • Management of equipment and cooling systems through the Finance & Asset Operation unit • Implementation of IoT in towers and buildings for air temperature monitoring BTS • Use of heat-resistant materials and improved ventilation systems in critical equipment rooms • Use of infrastructure materials that are resistant to high temperatures
Potential financial impact	• Increased operational costs • Increased cost of capital on investment

Transition	
[R/O] The increase in carbon prices is driven by increasingly stringent carbon tax regulations to support decarbonization	
Period	Medium to long term (5-15 years or more than the next 15 years)
Concentration of assets exposed to risk	All entities in TelkomGroup
Strategy	• Preparation of a climate transition roadmap • Preparation of a response to the Carbon Disclosure Project (CDP) • Modernizing the system • Improving operational efficiency to reduce emissions
Potential financial impact	● Increased operational costs ● Reduced operational costs ● Increased revenue
[O] Use of renewable energy to reduce emissions and optimize operational costs	
Period	Medium to long term (5-15 years or more than the next 15 years)
Concentration of assets exposed to risk	Building Assets / BTS
Strategy	Building assets The use of new and renewable energy technologies in street lighting, data centers, and offices BTS Implementation of standalone and hybrid energy solutions at base sites to reduce dependence on grid electricity during extreme weather disruptions
Potential financial impact	● Increased operational costs ● Reduced operational costs ● Increased cost of capital on investment
[R] Increased energy and electricity costs from rising supply chain energy tariffs	
Period	Medium to long term (5-15 years or more than the next 15 years)
Concentration of assets exposed to risk	Building assets / BTS
Strategy	Building assets • Initiation of the Energy Efficiency Care Movement (GePEE) • Implementation of IoT and AN systems for energy saving BTS Adopt energy-saving technology
Potential financial impact	● Increased operational costs ● Reduced operational costs

Transition

[R/O] Reputational impact arising from the success of, or failure to meet, stakeholder expectations of a company's climate action

Period	Medium to long term (5-15 years or more than the next 15 years)
Concentration of assets exposed to risk	All entities in TelkomGroup
Strategy	• Collaboration with rating agencies to obtain ESG ratings • Regular reporting of ESG initiatives and performance to stakeholders
Potential financial impact	● Increased revenue ● Increased access to funding ● Decreased access to funding ● Increased operational costs ● Reduced operational costs

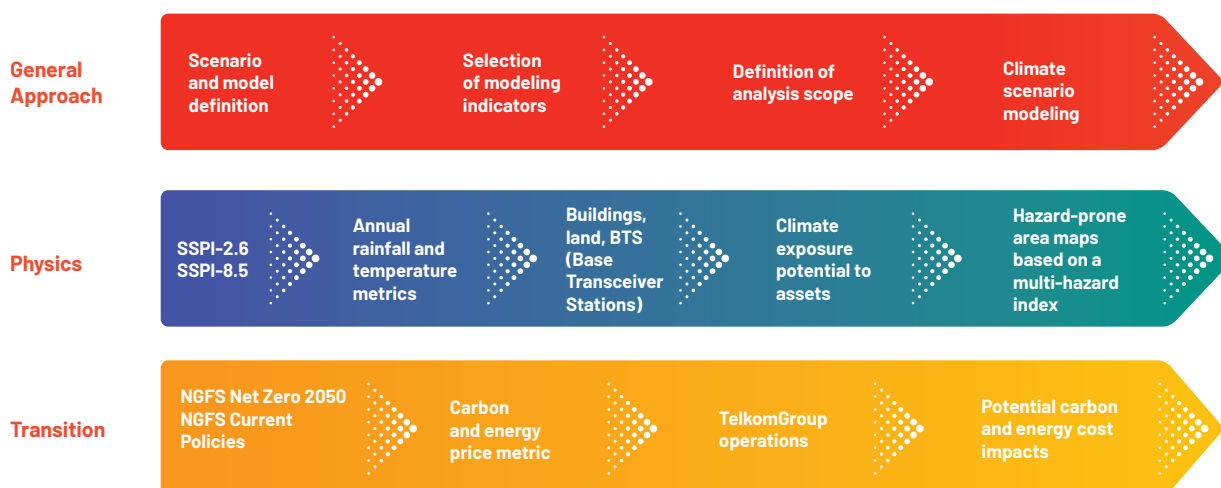
Legend:

● Positive financial impact ● Negative financial impact

Climate Scenario Analysis

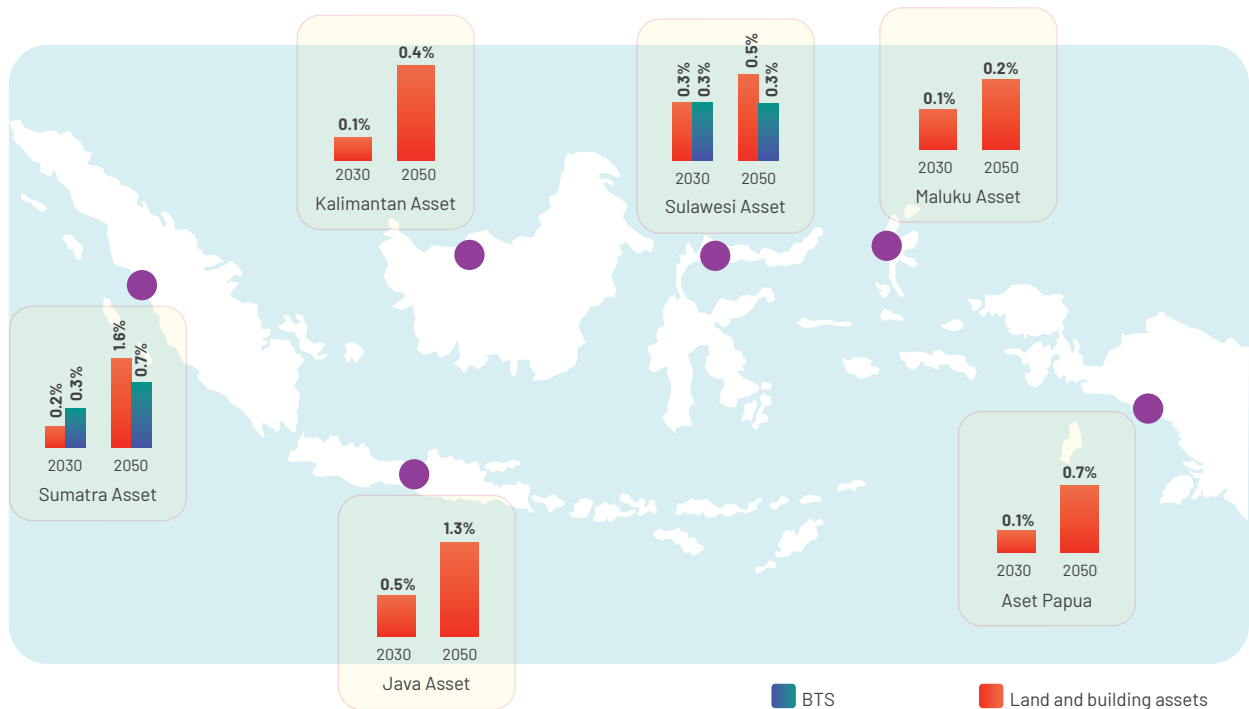
TelkomGroup has conducted a climate scenario analysis of two physical risks, namely extreme rain/flood and temperature rise, to determine the potential exposure to land and building assets in 2023, followed by an assessment of TelkomGroup's BTS assets in 2024 with the approach as shown in Figure 40. This analysis uses the Shared Socio-economic Pathways (SSP) – Sustainable Development (SSP1-2.6) and Fossil-fueled Development (SSP5-8.5) scenarios to see the conditions of climate change if the world achieves the Paris Agreement targets or limited climate action in 2030 and 2050. This process is further strengthened with follow-up analysis to map assets that are exposed to both physical climate hazards identified in high-emission scenarios and are in disaster-prone areas based on the multihazard index of the [2023 Indonesian Disaster Risk Index](#), according to the National Disaster Management Agency.

Figure 40. Climate Scenario Analysis Approach



The results of the climate scenario analysis in figure 41 show the number and distribution of land and building assets in disaster-prone locations based on BNPB that are exposed to extreme rain/flood in 2030 and 2050. The highest number of exposed assets is consistently represented by assets on the islands of Java and Sumatra, followed by Sulawesi.

Figure 41. Percentage of Land and Building Assets (red) and BTS (blue) Exposed to Extreme Rain and Temperature Rise in the SSP5-8.5 Scenario in 2030



Telkom also conducts an analysis of climate transition risks and opportunities, which include: 1) increased carbon prices, 2) the use of renewable energy, 3) increased energy and electricity costs, and 4) reputational impacts to meet stakeholder expectations. This analysis uses two reference scenarios, namely the NGFS Net Zero and Current Policy. This process is intended to identify a company's exposure based on the potential imposition of a carbon price on GHG emissions, the cost of solar panel investment, and the energy cost incurred by the company.

Through an analysis of transition risks in 2023, it is noted that Telkom's potential exposure to carbon costs will reach IDR 2.7 trillion by 2050 for the Net Zero NGFS scenario. The results of the analysis also estimate that there is a potential reduction in investment costs for solar panels to around IDR 140 billion in 2050 for the NGFS Net Zero scenario compared to 2030 (IDR 229 billion), due to the increasingly massive global efforts in the transition to a low-carbon economy. Meanwhile, energy costs, including electricity and fuel, are estimated to increase by 4.4 – 4.5% CAGR until 2050 based on the NGFS Net Zero scenario.

The results of this climate scenario analysis serve as the basis for strengthening climate transition and adaptation strategies in order to achieve operational resilience and business sustainability that can adapt to the dynamics and uncertainties caused by climate change, as outlined in Table 12.

Financial Impact Assessment

As part of ongoing efforts to understand climate risks and opportunities and to strengthen management strategies, Telkom conducted a financial impact assessment of climate risks that have a significant impact on the company's operational continuity in 2025, namely major flooding in Sumatra. This event required the company to write off some of the affected fixed assets and to procure new assets to restore services and business operations. In connection with this event, the company also incurred cleaning and recovery costs. Nevertheless, Telkom has comprehensive insurance coverage as part of its climate adaptation strategy, including protection for equipment and building assets against physical risks due to flooding in Sumatra.

Recovery and Acceleration of TelkomGroup Operations in Flood-Affected Areas in the Sumatra Region

The Sumatra region has been identified as one of the areas vulnerable to extreme rainfall for TelkomGroup (see figure 42). In November-December 2025, extreme rainfall hit various regions of Sumatra and caused flooding disasters that impacted 18 Telkom STO buildings in Aceh, North Sumatra, and West Sumatra provinces.

The priority of network restoration in Sumatra is carried out through various technical schemes to gradually restore services. These measures include repairing and strengthening network assets, utilizing alternative infrastructure to maintain connectivity in areas with limited access, and optimizing network design in locations with high exposure to climate risks. By the end of the reporting period, the repair rate of network assets had reached 95% of the total affected assets.

Figure 42. TelkomGroup's Assistance in Flood Disaster Recovery in the Sumatra Region



In addition to accelerating operational recovery, TelkomGroup is distributing social and humanitarian assistance to support community recovery. TelkomGroup participates in the Danantara Housing (Huntara or Hunian Danantara) program by providing free telecommunication and WiFi access, including the provision of WiFi Access Points in residential areas and public facilities, strengthening the cellular network through BTS and Mobile BTS, and providing satellite network access in collaboration with Telkomsat. As of the end of the reporting period, TelkomGroup's total social and humanitarian assistance distribution reached IDR 122.6 billion.

In response to the increasing frequency and intensity of extreme weather, Telkom is evaluating the adequacy of coverage and insurance costs for the coming period and strengthening its operational adaptation strategy. The company also maintains flexibility in managing financial and operational resources to ensure service resilience.

Towards Climate-Resilient Telecommunications Services

The integration of climate factors into the company's strategy is a key prerequisite for realizing telecommunications services that are resilient to climate change. Departing from these principles, the company systematically identifies, assesses, and manages climate-related risks and opportunities to ensure service sustainability, protect strategic assets, and maintain operational reliability amid the increasing intensity of extreme climate events.

With the implementation of climate-wise adaptation and operational efficiency strategies supported by a solid financial position and targeted resource allocation planning, the company assesses that the measures that have been and will be implemented are adequate to support the resilience of its business model and service continuity in the face of physical risks related to climate change until the next reporting period.

Resource Management



As a telecommunications service provider, TelkomGroup's operations depend on network infrastructure and data centers that involve the use of resources that, in the business process, produce waste. Through measurable resource and waste management, Telkom strives to reduce operational impacts while creating long-term sustainability value for businesses, stakeholders, and the environment.

Management Approach

[GRI 3-3]

Resource Management Policy

Telkom establishes formal policies that guide resource and waste management through the Board of Directors Regulation on Sustainability Governance Practices. The company further operationalizes these policies through technical guidelines set out in the Environmental Management System Planning Procedure.

Telkom manages waste in full compliance with applicable regulations and internationally recognized environmental standards. This commitment is reinforced by the implementation of the ISO 14001:2015 Environmental Management System and the ISO 45001:2018 Occupational Health and Safety Management System, which the company obtained in 2025.

TelkomGroup anchors its core operations in responsible management and sustainability principles. The Group demonstrates its commitment to a circular economy through integrated e-waste management, comprehensive digitalization, and systematic office waste segregation. As presented in Table 13, these initiatives reflect the Group's ongoing performance. Going forward, Telkom will continue to strengthen its waste management practices in alignment with evolving regulatory requirements and industry benchmarks. [OJK F.14]

TelkomGroup's Waste Management Performance

[OJK F.13][GRI 306-3]

In its business processes, TelkomGroup generates waste, both hazardous and non-hazardous. The majority of TelkomGroup's hazardous waste comes from electronic waste, while non-hazardous waste refers to office domestic waste. In 2025, the amount of waste generated by TelkomGroup was 41,157.5 tons. The increase in hazardous waste in 2024 was influenced by the start of hazardous waste data collection by TIF. Meanwhile, the decrease in waste production in 2025 was influenced by adjustments to the scope of non-hazardous waste data collection by GSD. In addition, the company carried out a restatement of the 2023 and 2024 data, identified through the process of data review and verification.

Table 13. Waste Management Performance**

Metrics	TelkomGroup		
	2025	2024	2023
Waste management**			
Total waste generated (tons)	41,157.5	54,170.6*	12,659.0*
Non-hazardous waste (tons)	6,264.9	6,542.5*	6,341.4*
Hazardous waste (tons)	34,892.6	47,628.1*	6,317.5*

* Restatement of information based on adjustments to data collection methodology

** Non-hazardous waste data includes organic and inorganic GSD waste, as well as non-electronic solid waste from Telkomsel, Mitratel, TDE, Telkomsat, and Telkom Akses. Hazardous waste data includes electronic waste data from TDE, Telkomsel, Sigma, Telkom Akses, Telkomsat, GSD, as well as medical waste data from Telkom entities in the health sector, namely TelkoMedika and Yakes (Telkom Health Foundation). These two entities are also included in the calculations because they are considered relevant based on the nature of the business conducted. There are adjustments to the disclosed information based on changes in the availability of reporting data and the results of the verification process.

E-waste management

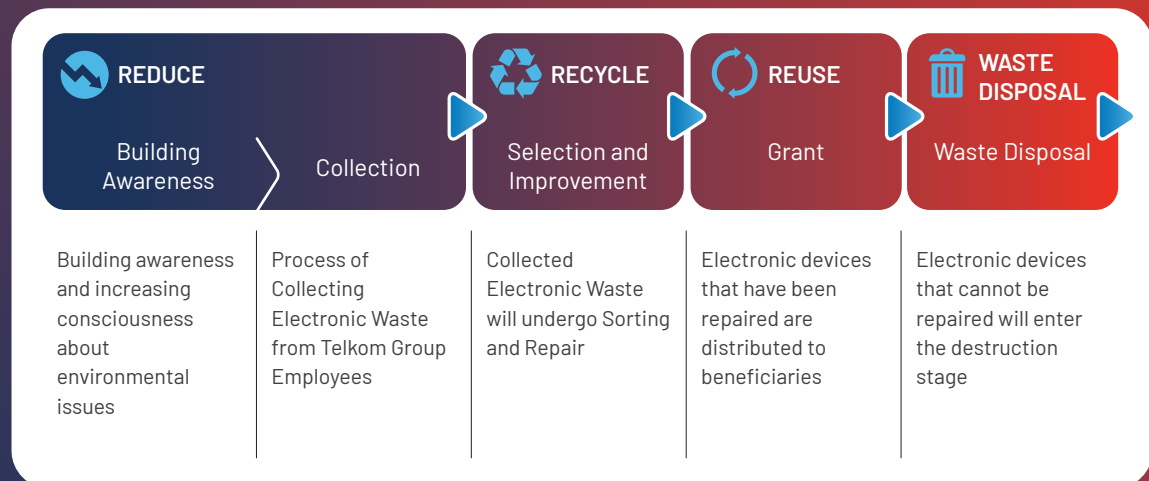
As an initial step in e-waste management, TelkomGroup segregates electronic waste—primarily generated from obsolete and unused devices—from non-electronic waste streams. In 2025, Mitratel, TDE, and GSD implemented e-waste management programs across 18 operational locations. In addition, several subsidiaries, including TIF, actively promote the reuse of electronic waste. As of 2025, TIF successfully diverted 166.9 tons of fiber optic cable waste from final disposal, equivalent to approximately 73% of the total cable waste managed. This figure is obtained from a comparison between the amount of cable waste that has been and can be reused, and the total cable waste collected by TIF.

PINS and Telkomsel manage the end-of-life of information technology hardware products, such as computers, servers, and routers that are classified as Customer Premises Equipment (CPE). The collected CPE devices will be classified based on the condition and handling needs, including refurbished devices that are ready to be reused, devices that can be used as operational backups, devices that are transferred to third parties, and devices that are no longer suitable for use and will be written off. In addition, Telkomsel has implemented modem waste management. In 2025, a total of 122,193 units of Network Terminal Equipment (NTE)/Customer Premises Equipment (CPE) devices, including Optical Network Terminals (ONT) and Set Top Boxes (STP), were repaired or reused.

Telkom's Electronic Waste Management Action

Electronic waste management at Telkom is integrated with the Eduvice program. This program aims to invite Telkom employees to donate electronic devices, such as smartphones, laptops, and Tablets. There are two channels for employees to distribute their donations, namely through donation boxes at Telkom office buildings throughout Indonesia, and through the web [Eduvice](#). The collected electronic devices are sorted and repaired to be distributed as educational support tools.

Figure 43. Telkom's Electronic Waste Management Approach



The collected e-waste is then managed with the Reduce, Recycle and Reuse approach. Electronic devices that cannot be reused will be destroyed by involving certified e-waste managers and B3s. The e-waste management partner of the Eduvice program is PT Rangka Sakti, a certified institution for environmentally friendly B3 waste management. Telkom conducts a strict partner selection process to ensure that waste management is conducted in full compliance with applicable regulations and standards.

In 2025, a total of 317 devices were successfully collected. Of these, 187 devices were successfully managed through the Eduvice program, and 90 units were distributed to 130 beneficiaries across several educational institutions in Indonesia, including:

- SMK 11 Bandung
- Lembaga Pelatihan Global Teknik
- Lembaga Pelatihan Metrix Flasher
- SMK Nasional
- SMK 11 Cimahi

Refurbish Workshop

Figure 44. Implementation of Electronic Waste Management through a Refurbish Workshop (left: old ODC, right: ODC result from reuse-refurbish-repair)



TIF encourages sustainability practices through reuse-refurbish-repair initiatives and leverages assets by transforming demolition network materials into reusable assets. Since the collection of demolition assets began in 2019 and the program has been running in full since 2022, TIF has

been able to restore the functions of various materials, such as cables, splitters, poles, Optical Distribution Points (ODP), and Optical Distribution Cabinets (ODC). This effort has a measurable financial impact, including cost avoidance from replacing ODP caps, which can now be reproduced through MSME partners at a cost of less than IDR 200,000, which is cheaper than replacing a set of devices worth IDR 1.5 million. In addition to the economic benefits, this approach improves the quality of services, such as ODC disruptions, which previously reached an average of 50 reports per month to zero after the integration of refurbished materials.

Reducing Paper Use through Digitalization

Telkom implements a policy of utilizing digital technology in the management and distribution of information through various online platforms, including digital service memorandums, virtual meetings, document sharing systems, online-based surveys, and information technology-based human resource services. This implementation is aimed at encouraging the acceleration of digitalization while reducing the use of paper in operational activities. In addition, a paperless system is also applied in the process of delivering bills to customers. Similar practices are also implemented by Telkom's subsidiaries. In 2025, Telkom Infra successfully reduced its corporate paper consumption by 35%.

Use of environmentally friendly materials [OJK F.5]



Telkomsel continues to strengthen its commitment to the use of environmentally friendly materials in product manufacturing and packaging. Starting in 2024, Telkomsel began replacing SIM card packaging made from PET (Polyethylene terephthalate) with paper-based alternatives for regular products, including Telkomsel Lite and by. U. The company fully implemented this transformation across all regular products by 2025, avoiding approximately 111.3 tons of PET through the transition of 2.9 million SIM cards to paper-based packaging. As of 2025, Telkomsel has applied environmentally friendly materials to 55.7 million SIM cards, contributing to cost efficiencies of IDR 8.35 billion in the same year.

Figure 45. Paving Block and Phone Holder from Waste SIM Card and Its Shell



In addition to transforming the packaging aspect, Telkomsel also optimizes the management of SIM card waste through a recycling program. SIM card waste and its shells collected from Telkomsel's partners throughout Indonesia are managed by a third party, PlusTik, which is engaged in waste management. Throughout 2025, approximately 0.3 tons of SIM card waste were converted into 10,000 phone holders, 10,000 starter pack displays, and 10,000 basket organizers. These products will subsequently be redistributed to Telkomsel Smart Offices (TSO) for operational use.

From the overall recycling process, approximately 705,282 SIM cards, equivalent to 4.2 tons, remain as residual waste. To overcome this, Telkomsel will continue to evaluate and monitor the waste management process and develop efforts to improve recycling efficiency to reduce the waste produced.

Reverse Vending Machine (RVM) Setup

Figure 46. Reverse Vending Machine in Telkom Hub Environment



Telkom supports an environmentally friendly work culture for all its employees, including fostering waste management habits and awareness. Within the Telkom office, three Reverse Vending Machine (RVM) locations are available for employees to exchange plastic bottles for points, specifically at the side lobby of Telkom Landmark Tower (TLT) Jakarta, the 7th-floor food court of TLT Jakarta, and Menara Multimedia Jakarta. By 2025, Telkom had processed 3.3 tons or the equivalent of 177,915 plastic bottles. The collected plastic bottle waste is recycled into useful recycled products, including bags, tote bags, pouches, laptop bags, and various other recyclable items. For the provision of RVM and the plastic waste recycling process, Telkom collaborates with a third party, namely PlasticPay.

Other Environmental Management



Water Management

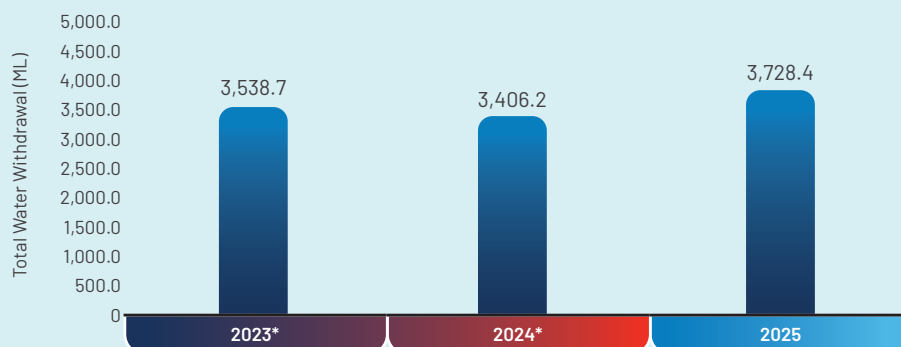
[OJK F.8]

TelkomGroup realizes the importance of water resource management as part of efforts to manage potential water scarcity risks. As an initial identification of these potential risks, Telkom assessed the level of water stress in the STO area using the AQUEDUCT Tool developed by the World Resources Institute (WRI). Based on the results of the assessment, around 12.9% of Telkom's STO areas are in the category of extremely high-water stress, while the other 29.9% are in the category of high-water stress. These findings are the basis for TelkomGroup to conduct further risk analysis on its subsidiaries and water suppliers, as well as the first step in the preparation of more comprehensive water management targets and strategies in the future.

To meet water supply needs, most entities in TelkomGroup supply water from a third party, namely the Perusahaan Daerah Air Minum (PDAM). In 2025, the company's total water withdrawal amounted to 3,728 ML, calculated based on the conversion of PDAM's water consumption bill. An increase in water consumption compared to 2024 was observed, mainly driven by the expansion of the reporting scope in 2025. This year includes Subsidiary entities that were previously not covered, especially Subsidiaries with their own building assets, such as Telkom Metra, Telin, Telkom Akses, and TIF. In addition, the company restated the data for 2023 and 2024 in line with adjustments to the data collection methodology.

[SASB TC- SI-130a.2, TC-IM-130a.2]

Figure 47. TelkomGroup's Water Withdrawal Trend



* Restatement of information based on adjustments to data collection methodology

Wastewater Management

[OJK F.14]

In line with water resource management efforts, GSD, as the building asset management of TelkomGroup's, ensures that all operational buildings are equipped with Sewage Treatment Plant (STP) facilities. The process of managing liquid waste goes through several stages, such as filtration and settling. The use of this technology is aimed at monitoring the quality of liquid waste that is disposed of back into municipal sewers or recycled more safely and does not contain grey water and black water.

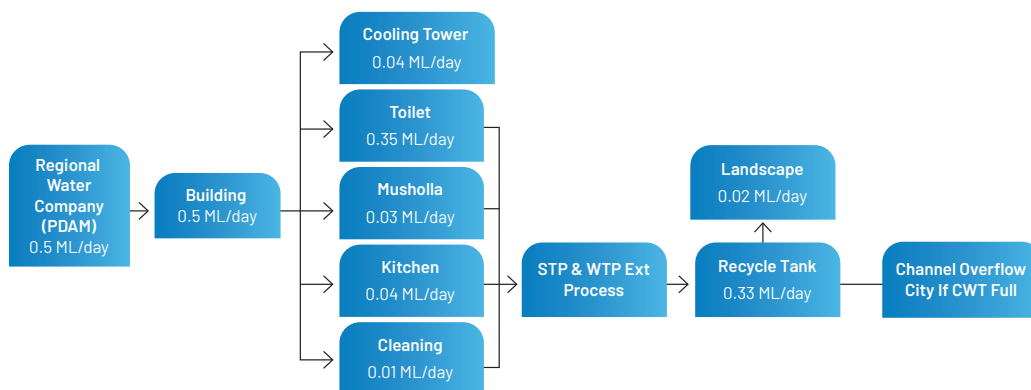
The output standard for liquid waste managed by STP TelkomGroup refers to the Ministry of Environment and Forestry No. 68 of 2016. Until 2025, STP facilities had operated in several TelkomGroup buildings, including Graha Merah Putih (GMP) Pekanbaru, Telkomsel Telecommunication Centre (TTC) Pekanbaru II, East North Sumatra Regional Area, Graha Sigma, West Jakarta Regional Area, West Jakarta OPMC and North Jakarta, Graha GSD, Multimedia Tower, Telkom Landmark Tower (TLT) Jakarta, GMP Bubut, TTC Solo Baru, GMP Pahlawan, and TLT Manyar.

Water and Sanitation Management Initiatives Within and Beyond TelkomGroup

Wastewater Recycling at Telkom Hub

Telkom Hub is TelkomGroup's main office complex, consisting of GMP, TLT, and TS0. The water used in the operation of the Telkom Landmark Tower (TLT) and Graha Merah Putih (GMP) Jakarta buildings is mostly used for various operational needs, including cooling towers, toilets, prayer rooms, kitchens, and building cleaning operations. This activity produces wastewater, which is then treated through the STP facility. Based on the flow chart of water use in the STP system at Telkom Hub, 26% of the total water drawn is used in operational processes, while around 74% is generated as effluent.

Figure 48. Water usage flow chart at Telkom Hub



To ensure that the quality of treated wastewater does not pollute urban waterways, GSD, as the building manager, conducts periodic testing of effluents at the local health lab. This test includes several key parameters, such as ex-situ pH, Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Suspended Solids (TSS), oils and fats, ammonia, and coliform, to ensure that the processing results meet applicable environmental quality standards.

In addition, TLT also utilizes some of the water from STP treatment through the implementation of wastewater recycling management. This system utilizes STP-treated water and condensed water from the Air Handling Unit (AHU) to be used as a medium for air conditioning and watering plants. The Shared Service Center Function Unit (TSSC) manages this initiative and gradually develops it to support other operational needs while minimizing water discharge into urban drains.

Access to Clean Water and Decent Sanitation for the Community

To support the achievement of Sustainable Development Goals (SDGs) Target 6, Telkom contributes to the provision of access to clean water and proper sanitation, especially in areas that still face limited water infrastructure. This contribution is realized through the construction and improvement of clean water facilities, including borewells, water treatment plants, and water distribution systems in various regions. In addition, Telkom also supports the construction of proper bathing, washing, and toilet facilities, accompanied by education and training related to the implementation of a clean and healthy lifestyle for the community.

Throughout 2025, the program was implemented across 17 provinces, reaching 99 locations and delivering direct benefits to over 58,501 individuals. Key target areas included Pekuncen Village (Banyumas, Central Java) and Tammero'do Hamlet (Majene, West Sulawesi). The program's execution relied on robust multi-stakeholder collaboration, involving local governments, community groups, and implementing partners such as the Harapan Dhuafa Foundation in Banten.

Figure 49. Support for the Development of Clean Water Facilities for the Bonokeling Indigenous Community



Supporting Access to Clean Water and Sustainable Sanitation for Indigenous Peoples

In 2025, Telkom supported the construction of clean water facilities for the Bonokeling indigenous people in Pekuncen Village, Banyumas Regency, in response to limited water access, especially during the dry season in Pekuncen Village. Telkom sees that water has an important meaning for the Bonokeling community, especially in the sustainability of agricultural traditions and traditional practices, including a series of rituals such as *wiwitan* before planting, *wiwitan pari* during harvest, and *sedekah bumi* as a form of respect for nature. This cooperation in the provision of clean water facilities strengthens the community's ability to maintain these traditions while meeting their daily needs, with water management carried out in harmony with cultural values and local wisdom.

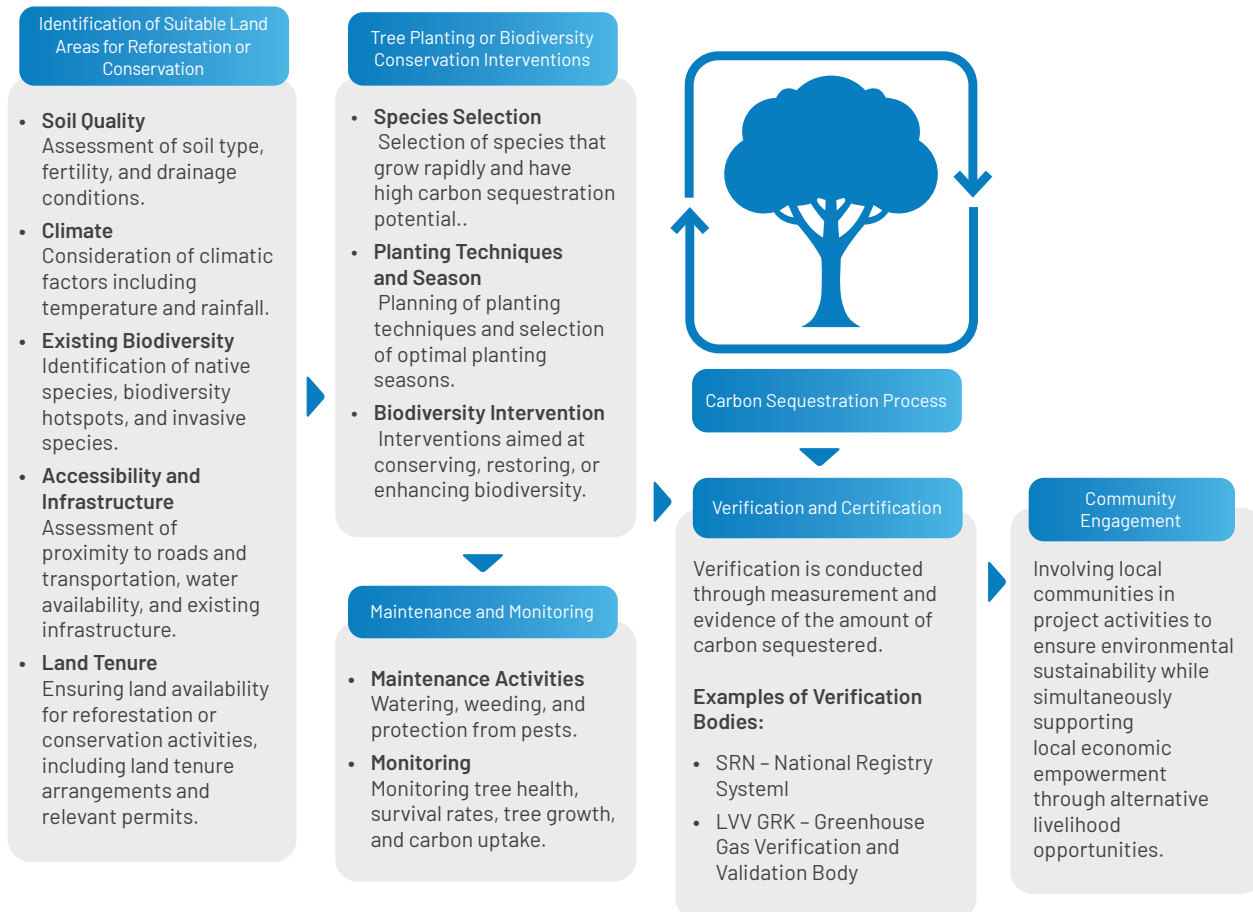
Biodiversity Conservation

[OJK F.9, F.10]

As part of its environmental stewardship, TelkomGroup actively contributes to biodiversity conservation, despite not having operational areas directly in the conservation zones. Our proactive management is further reflected in the absence of public complaints related to environmental issues in 2025. Consequently, there were no environmental grievances requiring mediation or resolution during this period. [OJK F.16]

Through pentahelix collaboration with institutions, communities, subsidiaries, media, and educational institutions, Telkom, through the Social Responsibility Center (SRC) Function Unit, implements a biodiversity conservation program that focuses on sustainable reforestation and greening with environmental education and active community participation. In 2025, Telkom's environmental programs encompassed both terrestrial and marine ecosystem conservation, including mangrove planting and coral reef rehabilitation, to mobilize local communities to reduce the potential for carbon emissions and build the economy of local communities. This collaborative approach supports carbon sequestration, environmental conservation, and strengthening socio-economic impacts with SROI 1:6.29.

Figure 50. Telkom Reforestation and Conservation Framework



In 2025, a total of 80,800 trees were planted across a cumulative land area of 8.1 hectares, in collaboration with local communities within Telkom's Hutan Binaan Digital owned by villages spread across Bojong and Jayabakti Villages, Garut Regency, Plumbon Village, Karanganyar Regency, Tlogolele Village, Boyolali Regency, Bissoloro Gowa Regency, Panyutran Village, Pangandaran Regency, and Waluran Mandiri Village, Sukabumi Regency.

The trees planted are avocado (*Persea americana*), palm (*Arenga pinnata*), durian (*Durio zibethinus L.*), mahogany (*Swietenia mahagoni*), petai (*Parkia speciosa*), guava (*Psidium guajava*), sonokeling (*Dalbergia latifolia*), rasamala (*Altingia excelsa*), pine (*Pinus merkusii*), and manglid (*Manglietia glauca Bl.*). Based on the results of monitoring since 2022, the survival rate of plants planted by Telkom is recorded at around 70%. Furthermore, Telkom developed a WebGIS (Web Geographic Information System)-based spatial visualization to monitor the area of conservation areas and the distribution of tree planting locations in an integrated manner. This WebGIS technology can be accessed publicly through [the Telkom Green Digital website](#).

Figure 51. Collective Action of Tree Planting in Priority Areas of the Special Region of Yogyakarta



In addition to increasing the carrying capacity of the terrestrial ecosystem, Telkom is also taking a role in similar initiatives for marine ecosystems. In 2025, Telkom and its subsidiaries—including Sigma, Telkomsel, and Telkom Akses—carried out a collective effort to plant 110,042 mangrove trees (*Rhizophora mucronata*) and seagrass (*Thalassia hemprichii*). Telkom also continues to transplant 760 substrates of coral reefs (*Acropora sp* and *Porites sp*). This initiative is carried out on various coasts of Indonesia, some of which are the Cipatujah and Cikalong Coasts of Tasikmalaya Regency, Tarakan, North Kalimantan, Tanjung Boleng NTT, Glagah Beach of Demak Regency, and Wringinputih Coast of Banyuwangi.

To ensure the program continuity of mangrove ecosystems planting, Telkom actively engages various stakeholders in ongoing maintenance efforts. In North Sumatra, Telkom collaborates with local community groups, including Baitulmaal Muamalat (BMM) and the Tanjung Rejo Mangrove Group, to support mangrove monitoring

activities. Similarly, for the coral reef transplantation program in Lanjukang, Telkom partners with the Gusung Tallasa Community (Gustalkom) and Hasanuddin University to conduct periodic monitoring.

Furthermore, in collaboration with Telkom University, Telkom conducts carbon stock assessments as part of the Hutan Binaan Digital program and mangrove restoration initiatives. These assessments aim to generate comprehensive estimations of carbon stocks to support the evaluation of environmental impacts. Telkom performs carbon stock calculations in accordance with SNI 7725:2019, covering five carbon pools: aboveground biomass, belowground biomass, necromass, litter, and soil carbon reserves in both mineral and mangrove ecosystems. Going forward, Telkom will continue to expand mangrove planting and reforestation initiatives, while also pursuing verification of carbon offset programs as part of its ongoing commitment to biodiversity conservation.

Table 14. Ecosystem Carbon Stocks of Telkom's Reforestation and Conservation Program

Indicator	Telkom		
	2025	2024	2023*
Carbon stock measurement location (location)	24	10	3
Carbon stock area (ha)	245.2	97.6	105.4
Average carbon stocks of the Hutan Binaan Digital program and mangrove restoration (tons C/ha)	1,172.1	625.4	1.5

* The year 2023 is a pilot measurement of carbon stocks, and the data only represents the carbon pools at above ground carbon stock.

Collective Action for Environmental Conservation

Berbagi Hepi with MyTelkomsel Donation Points

Figure 52. Telkomsel Point Donations for Seagrass Conservation



In collaboration with the Kitabisa platform, Telkomsel invited customers in

December 2025 to participate in environmental conservation actions through planting 3,000 seagrass seedlings and building cultivation houses in various regions of Indonesia, including at Karapyak Beach, Pangandaran Regency. This program encourages direct customer engagement, where they can channel Telkomsel Poin through the MyTelkomsel app to support the restoration of the marine ecosystem.

Jaga Bumi by Telkomsel

Figure 53. Earth Care Action Mangrove Revitalization by Telkomsel Planting in Earth Care Action by Telkomsel



Telkomsel continued the third phase of its Telkomsel Jaga Bumi Carbon Offset initiative during September–November 2025. This initiative was implemented through collaboration with environmental technology startup Jejakin and involved the participation of 47,000 Telkomsel customers and by U through donations from Telkomsel Poin and uCoin to support efforts to reduce the carbon footprint of daily activities.

In the third phase, Telkomsel targeted the planting of 12,731 trees, prioritizing eight conservation areas across Indonesia. The company implemented this phase through two key approaches: coastal ecosystem conservation through mangrove planting and community economic empowerment through Multi-purpose Tree Species (MPTS). The distribution of locations includes:

- Coastal Conservation (Mangrove)
- Patra Manggala, Tangerang (681 trees)
- Romokalisari, Surabaya (1,050 trees)
- Margojoyo, Kendal (2,000 trees)
- Gojoyo, Demak (2,000 trees)
- Langsa, Aceh (2,000 trees)
- Pramuka Island, Thousand Islands (1,000 trees)
- Pakisjaya, Karawang (2,000 trees)
- Economic Empowerment (MPTS Tree)
Located in Leuwisadeng, Bogor. A total of 2,000 MPTS trees consisting of coffee, durian, petai, and jengkol.

Since its inception from 2022 to 2024, the Telkomsel Jaga Bumi Carbon Offset program has planted more than 25,000 trees, with an estimated carbon sequestration of 1,093 tons of CO₂e. Meanwhile, the third phase of the Jaga Bumi Carbon Offset activity is estimated to be able to sequester carbon of around 824.5 tons of CO₂e in its eight-year lifespan. More information about how to contribute as a customer to the Telkomsel Jaga Bumi program is available on the tsel.id/jagabumi page.

Mangrove Planting in the Cable Landing Area by Telin



Figure 54. Collective Action of Mangrove Planting in the Cable Landing Area by Telin



Until 2024, Telin, as a Telkom Subsidiary, has planted 15,000 mangroves in the cable landing area and is affected by the abrasion of Tanjung, West Java. This effort continued in 2025 through the planting of 10,180 mangroves in the area. This activity is part of the realization of the Collective Carbon Action BATIC 2025 program and is carried out in collaboration with CarbonEthics. Telin also planted 1,500 mangroves in

the Minahasa landing cable area in Poopoh Village, North Sulawesi. Through this program, Telin has succeeded in planting as many as 26,680 mangroves since it was launched in 2022. Furthermore, Telin pays attention to periodic monitoring and evaluation to ensure that the impact produced can be maintained in the long term. The monitoring results from the previous period showed a survival rate of 97% planted mangroves.

Real Action with Waste Cleanup

Figure 55. GoZero% Roadshow Goes To Bandung bersama Pandawara Group



Figure 56. GoZero% Roadshow Goes To Makassar



Telkom promotes environmental conservation actions through penta-helix collaboration involving local government, media, and academics, as well as mobilizing volunteers and the community in river and coastal cleaning activities in Bandung and Makassar. In commemoration of World Clean Up Day (September 20) and World Rivers Day (September 28), Telkom collaborated with the Pandawara Group – a youth movement from Bandung with a track record of more than 200 clean-up actions across various regions of Indonesia – to carry out a real River Clean Up action at the Cioray River, Bandung, on September 25, 2025. This activity involved around 75 participants, consisting of Telkom management, employees, Telkom University students, and the Pandawara Group, and successfully collected 1.5 tons of waste.

Meanwhile, activities in Makassar were carried out at Barombong Beach and Galesong on 18 October 2025. Carrying the theme “Revive the Sea, Renew Our Future,” this Beach Clean-Up initiative involved 200 participants, consisting of TelkomGroup management and employees, SMK Telkom Makassar, village officials, local communities, general volunteers, and Marine Buddies Makassar—a community under WWF Indonesia that supports the management and protection of Indonesia’s marine potential. The activity successfully collected 1.4 tons of waste. In addition, Telkom also distributed 50 household waste bins and constructed two communal waste disposal facilities to support waste management in coastal communities.

Environmental Costs [OJK F.4]



Telkom and its subsidiaries continued to consistently allocate resources in 2025 to support environmental programs and initiatives. The costs were directed toward the implementation of environmental-related programs, including energy efficiency efforts and other environmental initiatives. In 2025, the cost of energy efficiency programs decreased in line with operational optimization focused on maintenance and repairs, and expenditure control direction. Meanwhile, the cost of environmental initiatives increased by 48%, driven by the strengthening of the mangrove planting program as part of the company's CSR priorities and targets, as well as the addition of initiatives in the form of the purchase of Renewable Energy Certificates (REC). Details of the environmental costs incurred by TelkomGroup in the last 3 years are presented in Table 15.

Table 15. TelkomGroup Environmental Costs for 2023-2025 (in Rupiah)

Provisions	2025	2024	2023
Cost for energy efficiency*	18,346,158,626	57,535,662,069	26,155,974,122
Fees to support environmental initiative programs**	16,583,361,593	11,199,138,467	5,571,836,437

* TelkomGroup's energy efficiency environmental costs are calculated based on the costs incurred for the procurement and upgrade of environmentally friendly equipment, such as LED lights, refrigerants, batteries, and more environmentally friendly monitors. The 2023-2024 figures cover Mitratel, TDE, and Sigma, and the 2025 data has been expanded to include GSD and Telkom Infra.

** In 2025, the environmental costs for other environmental initiatives are expanded by adding the REC program costs, in addition to the 2024 fiscal year cost parameters, which include digital forest conservation and revegetation, sanitation and clean water, mangrove planting, coral reef transplantation, and climate action initiatives through the use of IoT. The figures in the table, specifically for 2025, represent Telkom, Telkomsel, Mitratel, TDE, Sigma, and Telkomsat. This is an expanded coverage compared to the 2023-2024 data, which only covered Telkom and Mitratel.

Environmental Performance

Table 16. Number of Employee Recruitment to Manage Climate Change in TelkomGroup

[GRI 102-3]

Recruitment of employees to manage climate change	2025	2024	2023
Total employees to manage climate change	7	7	6
Number of employees to manage climate change			
Male	5	4	4
Female	2	3	2
Number of permanent employees to manage climate change			
Male	4	4	4
Female	2	3	2
Number of employees contracted to manage climate change			
Male	1	-	-
Female	-	-	-

* Recruitment to support the management of climate change mitigation and adaptation programs spans a variety of divisions, including but not limited to the Sustainability and Risk Management Division. The data presented above represent the results of recruitment at Telkom and Sigma.