Figures 14 and 15 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 mapping of these locations serves to assist Telkom in determining priority areas in the planning and implementation of the company's adaptation efforts. The highest number of exposed assets is consistently represented by assets on Java and Sumatra, followed by Sulawesi. Going forward, Telkom will use the results of this analysis as input to strengthen its business resilience.

Telkom also assesses transition risks, which includes 1) carbon pricing, 2) renewable energy adoption, 3) increasing energy costs, 4) reputational impact in meeting stakeholder's expectations. This analysis uses the NGFS Net Zero and Current Policy scenarios and aims to identify the exposure from carbon pricing enforcement, solar panel investment costs, and energy costs.

The findings indicate potential exposure to carbon costs of approximately Rp2.7 trillion by 2050 under the NGFS Net Zero scenario. Additionally, solar panel investment costs are projected to decrease from Rp229 billion in 2030 to Rp140 billion in 2050 due to global low-carbon transition efforts. Energy costs, including electricity and fuel, are expected to grow at a compound annual rate of 4.4–4.5% until 2050 under the same scenario. The full assessment results and methodology are available in the 2023 Climate Risk Report.

## Climate adaptation measures

Telkom has established a strategy to enhance business resilience to climate risks, including setting key metrics and targets, with GHG emissions as a main metric which will be continuously monitored. Telkom's target includes Scope 1 and 2 emissions reduction by 20% by 2030, compared to the 2023 base year, and achieve net zero for Scope 1 and 2 emissions by 2030. In responding to physical risks, Telkom has implemented various mitigation measures, such as upgrading building infrastructure to improve flood resilience by incorporating climate projections into infrastructure installation and new building construction. The company also conducts regular flood risk assessments, particularly for critical assets like Automatic Telephone Centers (STO) and outdoor equipment. In addition, the company ensures optimal cooling systems in buildings to prevent overheating and equipment damage due to high temperatures, while also maintaining field worker productivity through the Finance & Asset Operation Unit.

Telkom has established flood disaster response guidelines and a Business Continuity Management system in place since 2010, applicable across all organizational levels. It has also formed a Crisis Management Team responsible for ensuring effective emergency response and ongoing monitoring to prevent secondary incident impacts. Telkom is also certified with ISO 22301:2019 for its Business Continuity Management System (BCMS), ensuring operational continuity and mitigation of business disruption risks. To anticipate flood risks, Telkom has also provided flood mitigation equipment and facilities, such as water pumps, particularly in areas identified as flood prone. These measures have helped minimize the impact of past flooding events in Telkom Group, during which production tools and network equipment were secured and no casualties occurred. In cases where floods cause power outages, the affected telecommunications network remains operational through the activation of backup generators.

In addition to implementing disaster management systems, Telkom also considers the results of climate risk assessments when making decisions related to planning, construction, and facility upgrades. Moving forward, Telkom aims to continue taking proactive steps in climate adaptation, including building partnerships with research institutions, government agencies, and other third parties. Telkom is also committed to complying with international climate disclosure standards. In 2024, Telkom has submitted a response to the Carbon Disclosure Project (CDP) to enhance transparency in disclosing initiatives related to specific environmental topics, including climate change. Telkom received a score of B for CDP Climate and C for CDP Water.

## Climate Risk Assessment by Telkomsel

In 2024, Telkomsel, a subsidiary of Telkom, has initiated its climate risk assessment process. In alignment with Telkom, Telkomsel identifies climate-related risks (R) and opportunities (O) that may impact its business operations. These risks are categorized into physical and transition risks. Physical climate risks include both acute and chronic risks. Acute risks encompass extreme heat (R) and extreme rainfall (R), while chronic risks involve long-term temperature rise (R). For transition risks, Telkomsel has identified climate-related risks and opportunities across four themes, as outlined in IFRS S2. Policy and legal risks arise from increasing carbon prices (R) and the tightening of climate-related regulations (R). Technological opportunities includes advancements in green technology (O) and the adoption of renewable energy (O) present potential benefits. Market risks and opportunities covers rising fuel prices and fluctuations in electricity costs (R), as well as increasing demand for climate-friendly products and services (O). Reputational considerations highlights how climate change issues may influence the company's reputation (R/O), depending on its ability to meet stakeholder expectations. A more detailed analysis of the identified risks, opportunities, and the methodologies used will be provided in Telkomsel climate risk report.

**Table 5. Summary of Telkom's Climate Disclosure in accordance with IFRS S2**

| Information disclosed | Description |
|---|---|
| **Governance** | |
| Description of the board of directors' oversight of climate-related risks and opportunities | In 2024, Telkom established a Sustainability Committee, chaired by the President Director and comprising directors responsible for risk, network & IT, and human capital. The committee is supported by a working group that includes heads of work units, the Sustainability & Corporate Communication Group Manager (acting as secretary), and representatives from relevant departments, including sustainability, network & IT, assets, human capital, social responsibility, risk, legal & compliance, investor relations, and financial accounting.<br><br>The Sustainability Committee is responsible for overseeing, formulating, and providing guidance ESG performance plans, targets, and metrics, including climate-related initiatives. Additionally, the committee ensures the implementation of sustainability programs and compliance with regulatory requirements, including the publication of the Sustainability Report. |
| Description of management's role in assessing and managing climate-related risks and opportunities | The primary responsibility for sustainability and climate-related matters is assigned to the SVP of Group Sustainability & Corporate Communication. This role encompasses policy development, management, and governance of sustainability and climate-related initiatives. The SVP is supported by the Corporate Communication Sub-Department and the Sustainability Sub-Department.<br><br>The Sustainability Sub-Department is responsible for managing and directing sustainability initiatives across the organization. Led by the VP of Sustainability, this department oversees the formulation and execution of sustainability strategies and policies, including climate-related initiatives such as GHG emissions inventory management, ESG communications, and sustainability reporting.<br>The VP of Sustainability is supported by the AVPs of Sustainability Strategy & Programs, Sustainability Execution & Monitoring, and Sustainability Branding & Reporting. Key responsibilities include setting GHG emission reduction targets, consolidating data on emission sources, and reviewing GHG inventory reports before submission to stakeholders. |

| Information disclosed | Description |
|---|---|
| **Strategy** | |
| A description of climate-related risks and opportunities that the organization has identified in the short, medium, or long term | Telkom has identified climate-related risks and opportunities that may impact the company over the short (within the next five years), medium (5–15 years), and long term (beyond 15 years). These risks are detailed in the Climate Risk Assessment section. The methodology for identifying climate-related risks and opportunities is elaborated in the 2023 Climate Risk Report. |
| A description of the impact of climate-related risks and opportunities that have been identified on the organization's business, strategy, and financial planning | The identified risks include increased intensity and frequency of extreme rainfall, which can lead to flooding, infrastructure damage, operational disruptions, and service quality deterioration, ultimately impacting customer satisfaction. Rising temperatures also pose additional risks, such as increased energy demand for cooling, overheating of equipment, and reduced employee productivity due to heat stress. These risks contribute to higher operating costs, increased insurance premiums, and additional capital expenditures for asset replacement and investments. |
| A description of the resilience of the organisation's strategy, taking into account different climate scenarios, including the 2°C scenario | Telkom has outlined the organization's efforts and strategies to adapt to physical climate risks in the Climate Risk Assessment section. Telkom's resilience to transition risks is pursued through the implementation of various climate initiatives, including decarbonization through carbon offset, reforestation, and energy efficiency programs. The use of renewable energy, such as solar panels and solar fuel cells in green BTS and green data centers also supports emission reduction. Telkom also implements energy efficiency programs to reduce the risk of fluctuations in energy and electricity costs, such as Gerakan Peduli Efisiensi Energi (GePEE). To maintain its reputation, the company regularly communicates ESG initiatives and collaborates with ESG ratings to improve the quality of reporting and climate action. |
| **Risk Management** | |
| A description of the associated processes and policies that organizations use to identify, assess, prioritize, and monitor climate-related risks and opportunities | Telkom employs a combination of top-down and bottom-up approaches to identify climate-related risks and opportunities through document reviews and cross-unit workshops. These risks are categorized as either physical or transition risks. A more detailed analysis is conducted using climate scenario modeling for priority risks, with coordination led by the Sustainability Sub-Department.<br><br>Risk monitoring is an ongoing process aimed at tracking developments, evaluating mitigation effectiveness, and identifying emerging risks. Risk management strategies include acceptance, avoidance, mitigation, and risk transfer, which are integrated into the company's overall management framework. Additionally, Telkom has developed a Business Continuity Plan (BCP) to manage risks associated with natural disasters such as floods, droughts, and extreme weather. This plan incorporates Business Impact Analysis and disaster recovery measures. |
| **Metrics and Targets** | |
| Performance and climate targets defined by the organization | Telkom has established climate-related metrics and targets, with GHG emissions serving as a primary performance indicator. The company aims to achieve a 20% reduction in Scope 1 and Scope 2 GHG emissions by 2030 compared to the 2023 base year, with a long-term goal of achieving net-zero emissions for Scope 1 and Scope 2 by 2060.<br>In 2024, the company recorded a 2,6% increase in Scope 1 and Scope 2 GHG emissions compared to the 2023 base year. The breakdown of XXX Group's GHG emissions performance by scope is as follows:<br>• Scope 1 emissions: 2,0% reduction due to operational vehicle efficiency initiatives.<br>• Scope 2 emissions: 2,8% increase due to the addition of 3,531 Telkomsel BTS sites.<br>• Scope 3 emissions: 8.1% reduction due to capital expenditure efficiencies activities. |