

Phase 3 Greenhouse Gas Periodic Regulatory Goals

I. Legal Basis

Taiwan's Greenhouse Gas Periodic Regulatory Goals (below, "Periodic Regulatory Goals") are established pursuant to Article 10 of the *Climate Change Response Act*, as amended and promulgated on February 15, 2023, and Article 5 of the *Enforcement Rules of the Climate Change Response Act*, as amended and promulgated on December 29, 2023.

II. Scope of the Periodic Regulatory Goals

The national greenhouse gas (GHG) emission targets are expressed in terms of net emissions, which are calculated by subtracting carbon sink volumes from the total GHG emissions. In accordance with Article 3 of the *Climate Change Response Act*, the total GHG emissions include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), nitrogen trifluoride (NF₃), and any other substances publicly announced by the central competent authority. In the future, progress toward meeting the Periodic Regulatory Goals will be assessed based on the statistical results of the National Greenhouse Gas Inventory.

To achieve the national long-term GHG reduction goal, the Periodic Regulatory Goals are established in stages and implemented on a 5-year basis in accordance with Article 10 of the *Climate Change Response Act*. These goals include national periodic regulatory goals; sectoral periodic regulatory goals for the energy, manufacturing, residential and commercial, transportation, agriculture, and environment sectors, and periodic regulatory goals for electricity emission factors. Phase 2 of the Periodic Regulatory Goals is effective from 2021 to 2025, and Phase 3 of the Periodic Regulatory Goals will be implemented from 2026 to 2030.

III. Process of Developing the Periodic Regulatory Goals

1. Taiwan's Carbon Reduction Pathway

Taiwan declared its 2050 net-zero emissions target in 2021. The government announced the *2050 Net-zero Emissions Pathway and Strategy Overview* on March 30, 2022, and subsequently, on December 28, 2022, released the *Twelve Key Strategic Action Plans*, thereby completing the planning for Taiwan's net-zero transition pathway. On February 15, 2023, the 2050 net-zero emissions target was incorporated into the *Climate Change Response Act*.

To align with international standards, and pursuant to Article 4.8 of the *Paris Agreement* as well as Decision 4/CMA.1 and Decision 1/CMA.3 of the Conference of

the Parties serving as the meeting of the Parties to the Paris Agreement (CMA) under the United Nations Framework Convention on Climate Change (UNFCCC), Taiwan updated its 2030 Nationally Determined Contribution (2030 NDC) on December 28, 2022. The new target is a $24\% \pm 1\%$ reduction in GHG emissions by 2030 compared to the 2005 base year.

According to the *2024 Republic of China National Greenhouse Gas Inventory Report*, Taiwan's total GHG emissions in 2022 amounted to 285.967 MtCO₂e, with net emissions of 264.133 MtCO₂e after subtracting carbon sink volumes. In the base year (2005), the total GHG emissions were 291.183 MtCO₂e, with net emissions of 268.893 MtCO₂e after subtracting carbon sink volumes.

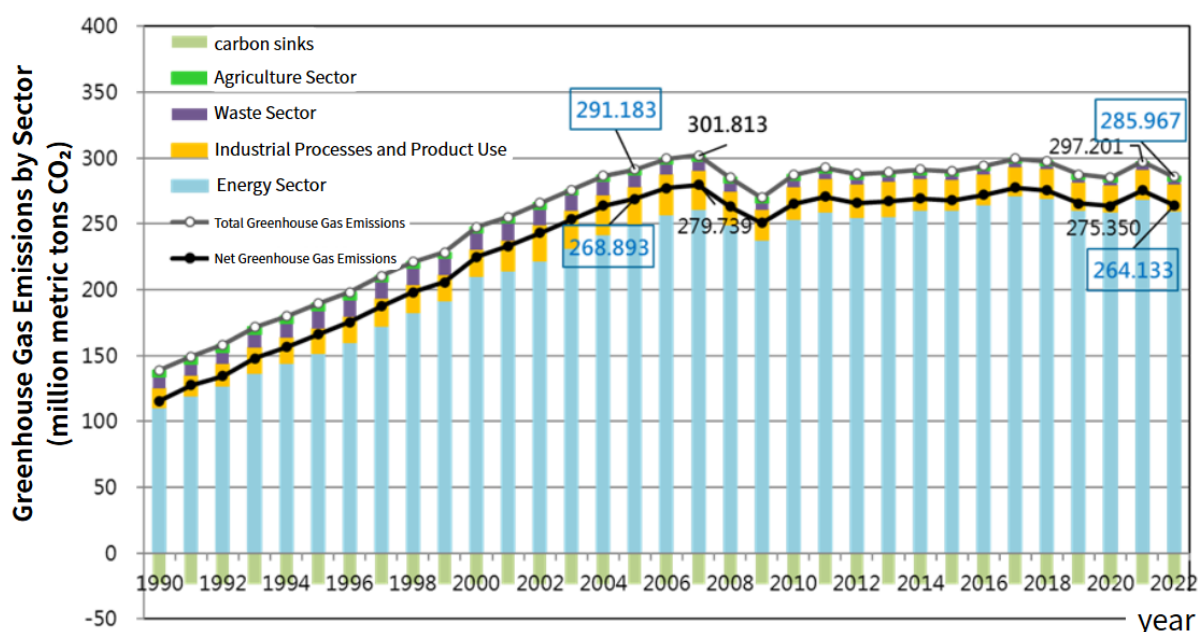


Figure 1. National Greenhouse Gas Emissions Trend

On May 20, 2024, Taiwan launched the National Project of Hope, which emphasizes “Green Growth and 2050 Net-zero Transition” as a core policy objective. The plan outlines five key strategies for achieving transformation to net-zero: constructing intelligent and shared strategies for green energy, promoting dual-axis transformation of industries in digitalization and green development, creating a sustainable, net-zero lifestyle of living green, positioning the government as the strongest pillar for net-zero transition, and ensuring an inclusive and just transition for all. These strategies aim to realize Taiwan's new national carbon reduction targets. Additionally, on June 19, 2024, the Office of the President established the National Climate Change Committee, which governs climate policy and fosters international cooperation from a holistic national development perspective. Comprising

representatives from the industry, government, academic, and research sectors, the Committee focuses on seven major themes: net-zero pathway, green energy and carbon reduction technology, green and digital twin transformation, sustainable green lifestyle, just transition, green finance, and sustainable homeland and adaptive resilience. By providing a communication platform for strengthening climate change response, the Committee aims to accelerate policy implementation and enhance public engagement.

At the third meeting of the National Climate Change Committee on January 23, 2025, the Ministry of Environment presented a draft of the *New National Carbon Reduction Targets*, and the National Development Council introduced *Taiwan's Action Plan on Comprehensive Carbon Reduction*. The plan sets progressive reduction targets relative to the 2005 base year, aiming to reduce emissions by 28%±2%, 32%±2%, and 38%±2% by 2030, 2032, and 2035, respectively. These targets were formulated through a bottom-up approach, where individual ministries proposed Sectoral Carbon Reduction Plans and rolling reviews of existing strategies. A top-down approach was also adopted to focus on six major sectors through Flagship Carbon Reduction Projects, intensifying carbon mitigation efforts. These efforts are underpinned by six strategic pillars: technological innovation, financial support, carbon pricing, regulatory adjustment, green-collar professionals, and community-driven approaches. Together, these pillars systemically integrate the six major sectors' carbon reduction actions, establish necessary financial support mechanisms, and facilitate the steady pursuit of the goal of reaching net zero by 2050.



Figure 2. Taiwan's Action Plan on Comprehensive Carbon Reduction

2. Technical Consultation with Scholars and Experts

To formulate the Phase 3 Greenhouse Gas Periodic Regulatory Goals, the Ministry of Environment convened a Phase 3 Greenhouse Gas Periodic Regulatory Goals (Draft) Interagency Working Group Meeting on May 30, 2023, and a Preparatory Meeting for the Formulation of Phase 3 Greenhouse Gas Periodic Regulatory Goals on November 27, 2023. These meetings established the guiding principles for GHG emissions trend projections and scenario analyses.

Furthermore, in accordance with Article 10 of the *Climate Change Response Act*, a Phase 3 Greenhouse Gas Periodic Regulatory Goals Technical Advisory Panel composed of scholars and experts was established on January 24, 2024. The panel convened meetings on February 16, 2024, and March 20, 2024, to review submissions from each sector, including GHG emissions trend projections and scenario analyses, electricity emission factors, projected growth of electricity demand, sectoral GHG reduction scenarios, estimates of emission reduction contributions, and cost assessments. Based on experts' feedback, all sectors revised their respective data. However, after integrating the emissions trend projections from all sectors, the results indicated that the projected outcomes would still fall short of achieving Taiwan's 2030 NDC target of a 24%±1% reduction compared to the 2005 base year.

3. Interministerial Coordination

In accordance with Article 8 of the *Climate Change Response Act*, to promote climate change response and strengthen cross-sectoral governance, the National Council for Sustainable Development (NCSA) of the Executive Yuan is responsible for coordinating, delegating, and integrating interministerial affairs related to the nation's climate policy guidelines and major strategies. Accordingly, after this matter was submitted to the Executive Yuan, it was referred to the NCSA Climate Change and Net-zero Transition Task Force (below, the "Net-zero Task Force") for interministerial coordination. Pursuant to the meeting resolutions, Taiwan's carbon reduction targets were assessed using both bottom-up and top-down approaches, as described below:

- (1) Top-down: The Ministry of Environment and the National Development Council took inventory of the carbon reduction targets that should be implemented by Taiwan. The targets were then distributed through an additional target allocation mechanism.
- (2) Bottom-up: Each ministry proposed its own carbon reduction targets and action plans, while outlining related needs and areas requiring support.

(3) Based on bottom-up assessments of the gap between carbon reduction achievements and the top-down targets of the six major sectors, a total of 20 Flagship Carbon Reduction Projects for the Six Major Sectors were proposed to enhance the nation's Periodic Regulatory Goals:

- i. Energy sector: Strengthen energy transition policies through accelerating renewable energy development (solar power and off-shore wind), renewable energy breakthroughs (geothermal energy and small hydropower), advanced energy storage, methane pyrolysis, hydrogen (including ammonia) supply chain, and Carbon Capture, Utilization, and Storage (CCUS).
- ii. Manufacturing sector: Strengthen industrial transition policies through voluntary industry-led reductions, deep energy saving improvements in manufacturing, and GHG reduction by state-owned enterprises, e.g., CSC and CPC Corporation.
- iii. Residential and Commercial sector: Strengthen lifestyle transformation policies through net-zero buildings and deep energy saving in the residential and commercial sectors.
- iv. Transportation sector: Strengthen transportation transition policies through the adoption of electric and carbon-free commercial vehicles and Sustainable Aviation Fuel (SAF).
- v. Agriculture sector: Enhance carbon reduction through agricultural resilience, carbon sinks, and low-carbon and sustainable agriculture.
- vi. Environment sector: The Ministry of Environment has completed sub-laws for carbon fee collection, and 2025 marks the beginning of the carbon pricing era in Taiwan. It has also launched flagship actions for resource recycling and a net-zero sustainable green lifestyle to support all sectors in improving the effectiveness of carbon reduction.

Following a comprehensive review and enhancement of the carbon reduction strategies and measures across the six major sectors, the Phase 3 Greenhouse Gas Periodic Regulatory Goals established a national target of a 28%±2% reduction in GHG emissions by 2030 compared to the 2005 base year.

Additionally, pursuant to the resolutions adopted at the 35th meeting of the Net-zero Task Force on August 15, 2023, annual GHG emission targets and yearly breakdowns were newly added. In accordance with Article 11 of the *Climate Change Response Act*, the six major sectors subsequently revised their phase 3 greenhouse gas reduction action plans, and they will be required to set annual GHG emissions targets for the period from 2026 to 2030.

Moreover, to achieve the Phase 3 Greenhouse Gas Periodic Regulatory Goals while upholding the principle of leaving no one behind in the course of sustainable

development, each sector assessed potential impacts. The compiled and consolidated findings are summarized below:

- (1) Economic dimension: These measures will enhance Taiwan's economic and industrial competitiveness internationally. Low-carbon industries will become the new drivers of economic growth, although there may be changes in industrial value-added growth rates.
- (2) Social dimension: Energy costs and livelihood protection for disadvantaged groups, including families in special circumstances, low-income, and lower-middle-income households, may be impacted. Additionally, fiscal implications may arise in terms of taxation, public spending, and government finances. However, the transition is also expected to create green jobs and increase public social welfare.
- (3) Environmental dimension: In addition to achieving GHG emissions reduction, co-benefits include improvements in air quality, changes in public behavior, enhanced living environments, and other environmental gains.

Considering the aforementioned economic, social, and environmental impacts, each sector is required to incorporate impact assessments into its Phase 3 Greenhouse Gas Reduction Action Plan to ensure social justice during implementation.

4. Public Engagement

Pursuant to Article 10 of the *Climate Change Response Act*, on December 30, 2024, the Ministry of Environment released its draft of the Phase 3 Greenhouse Gas Periodic Regulatory Goals, along with details about the public hearing thereof. In accordance with the law, these documents were also announced and published on the designated website of the central competent authority (i.e., the Climate Information Disclosure Platform of the Climate Change Administration, Ministry of Environment), and notifications were sent to relevant central and local agencies, scholars, experts, and NGOs. During a public hearing on February 7, 2025, the Ministry of Environment and the six major sectors presented the draft of the Phase 3 Periodic Regulatory Goals. Members of the public could also register to speak at the hearing, and participants included statutory technical advisory panel members, human rights and gender equality experts and scholars, NGOs, young people, and students. The hearing covered a wide range of topics, including government policy, technical consultation, human rights, gender equality, and public engagement. The collected feedback was compiled and published on February 10, 2025. Each ministry was required to refer to and respond to the feedback, and the Ministry of Environment compiled the official responses and made them publicly available in the "New National Carbon Reduction Targets" webpage of the Climate Change Administration's website.

Furthermore, the Ministry of Environment also disclosed the entire

process of formulating the draft of the Phase 3 Periodic Regulatory Goals—including minutes and materials from the Technical Advisory Panel meetings and the public hearing—in the “New National Carbon Reduction Targets” webpage of the Climate Change Administration’s website and on the Climate Information Disclosure Platform to ensure full transparency and public access to the information.

IV. Phase 3 Greenhouse Gas Periodic Regulatory Goals

1. National Periodic Regulatory Goal: By 2030, the national net GHG emissions will be reduced by $28\% \pm 2\%$ compared to the 2025 base year, resulting in a target range of 198.980 to 188.225 MtCO_{2e}.
2. Sectoral Greenhouse Gas Emissions Targets for 2030:
 - (1) Energy sector: 27.300 MtCO_{2e}
 - (2) Manufacturing sector: 117.377 MtCO_{2e}
 - (3) Residential and Commercial sector: 37.331 MtCO_{2e}
 - (4) Transportation sector: 30.373 MtCO_{2e}
 - (5) Agriculture sector: 5.226 MtCO_{2e}
 - (6) Environment sector: 2.596 MtCO_{2e}
3. Target Electricity Emission Factor for 2030: 0.319 kgCO_{2e}/kWh

Attachment: Taiwan’s Action Plan on Comprehensive Carbon Reduction by the National Development Council (January 23, 2025)