



Thaioil Group's Net Zero Transition Plan

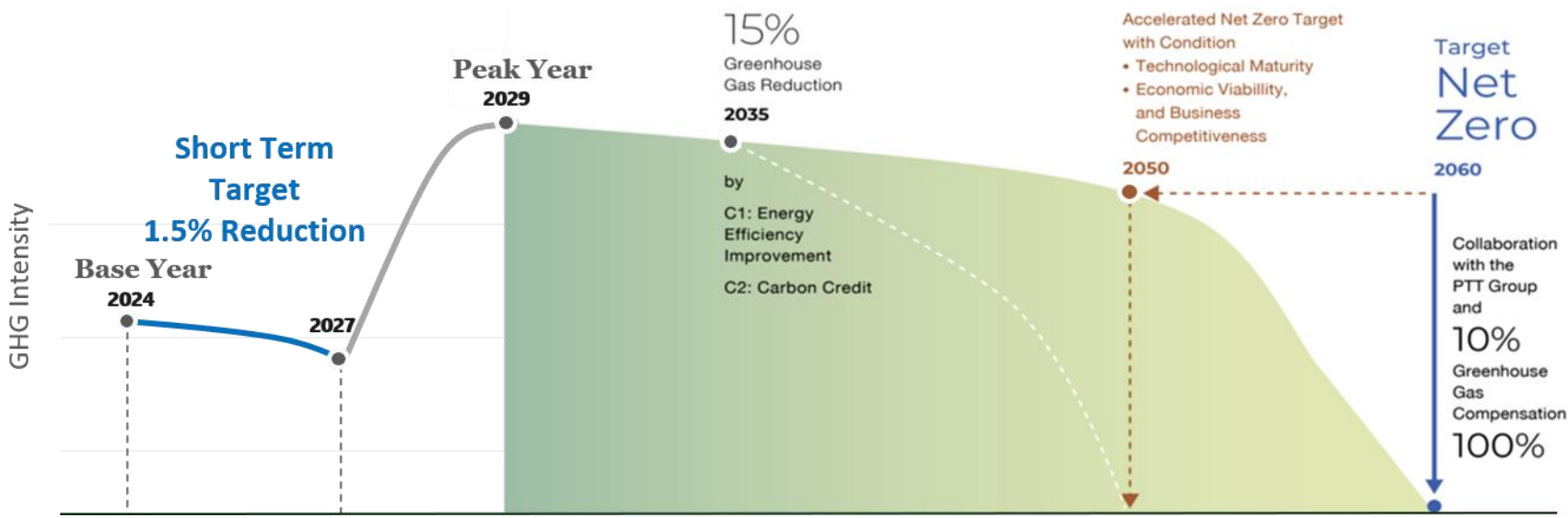
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Thaioil Group Net Zero Transition Pathway



Thaioil Group commit to a GHG emissions reduction pathway using 2024 as the base year, with emissions projected to peak by 2029, followed by a sustained decline trajectory.

- **Short-term Target:** Achieve a 1.5% reduction by 2027 from the 2024 baseline
- **Medium-term (Interim) Target:** Achieve a 15% reduction by 2035 relative to the projected peak emissions level in 2029
- **Long-term Target:** Achieve net zero GHG emissions by 2050, accelerated from the original 2060 timeline subject to technological advancement, economic feasibility, and business competitiveness



	Key Actions for Scope 1	Key Actions for Scope 2	Key Actions for Scope 3
Key Decarbonization initiatives	• Enhance energy efficiency with internal carbon price • Execute low carbon technology, feedstock, and material • Eliminate remaining emissions through carbon capture, utilization, and storage (CCUS) • Compensate residual GHG via carbon credits offset	• Advance energy transformation (Green Electricity) • Compensate residual GHG via carbon credits offset	• Sustainable Refinery Transition to reduce GHG Scope 3 towards lower-carbon energy and fuel sources to reduce upstream emissions from fuel and energy-related activities • Adopt alternative feedstock for co-processing e.g. bio-based feedstock, circular feedstock) to reduce reliance on fossil crude • Expand low-carbon products certified to international standards such as ISCC EU, ISCC PLUS, ISCC CORSIA for sustainable aviation fuel etc. to unlock low-carbon markets • Select alternative materials to replace fossil fuels in production such as biogas, renewable gas, flare gas recovery etc.

Thaioil Group discloses time-bound, quantified abatement costs for the key decarbonization levers under its Net Zero Transition Pathway over the 2030–2060 horizon, ranging CapEx and OpEx from US\$50–160/tCO₂e, for example, Carbon Offset, SMR, Electric Furnace + SMR and CCS. These abatement costs represent the planned capital and operating expenditures required to fund and implement each initiative in the transition plan. In addition, investments are prioritized on a least-cost basis across these levers to achieve the most effective decarbonization outcome while maintaining business competitiveness and readiness. The figures are derived from a collaborative study conducted with internal teams and PTT Group and remain subject to review and adjustment in line with technology readiness, regulatory developments, and business conditions.

Assessment of Social Implications of the Transition Plan and Corresponding Actions



Thaioil Group assesses the social implications of its transition plan and implements corresponding actions to support a just transition – ensuring fairness, equity and the protection of human rights for workers, communities, suppliers and consumers.



Workforce

The transition to Net Zero may create a skills gap in climate literacy, which requires reskilling and upskilling workforce to address the skill gap on climate literacy toward climate transition.



Communities

New project developments may affect community quality of life and local livelihoods around operating areas.



Value Chain

Shifting procurement standards are assessed to affect suppliers unable to meet ESG requirements



Consumers

Consumer affordability and energy access are assessed to show no material impact from the transition plan to date

Impact	Corresponding Actions
Workforce displacement: Impact from skills gap climate literacy toward climate transition.	Reskilling & internal mobility programs Thaioil Group enhances employees’ knowledge of environmental management in alignment with its sustainability and environmental policies, including training on carbon taxes, Net Zero GHG emissions, and Carbon Footprint of Organization and Products, as well as statutory training for environmental managers and pollution treatment practitioners (113 participants) in 2025. The Company is committed to providing such training on an annual basis to continuously enhance employees’ environmental and low-carbon capabilities.
Community: Impact on quality of life and local livelihoods.	Vocational infrastructure & support: Thaioil Group conducts comprehensive community impact assessments to identify potential negative Safety, Health and Environment impacts and analyze communities’ needs. By considering the impact assessment result, the Company proactively implements preventive measures and proactive solutions to address potential impacts on the communities. To systematically response to existing community’s concerns and uplift their quality of life, Thaioil is currently encouraging the community to participate in community relations activities and projects in five aspects: health and sports, the local economy of the Laem Chabang community, environmental promotion, education, and social and cultural initiatives. In 2025, the Company provided Supplementary Occupation for Increased Income Project for community members and organized 4 community flea markets.
Value Chain: Supplier dependency towards ESG.	Supplier transition support: In alignment with the “2S1P” strategy, Thaioil Group’s portfolio is shifting toward new, high-value, low-carbon businesses. The Group therefore strives to develop and enhance supplier capacity in sustainability management, covering ESG aspects, across its supply chain. Therefore, to support suppliers with transition and enhance the supplier capacity in sustainability management, Thaioil group had initiated an in-depth technical support program, which systematically improves suppliers’ operational approaches and ESG performance through training, initial assessments, joint system development and performance evaluation in which 93.2% of significant supplier joined the capacity building programs, which exceeded the set target at 80% in 2025.

Thaioil Group’s Public Policy Engagement Activities

To align its corporate strategy with Thailand’s national climate agenda and evolving global standards, Thaioil Group actively engages in policy dialogues and technical working groups led by key government and association authorities. Through these platforms, the company provides industry insights and technical input to support the development of policies on greenhouse gas reduction, climate and energy transition, and carbon pricing mechanisms. In 2025, Thaioil has reviewed and assessed our trade associations and lobbying activities with climate-related objectives. Thaioil, as the flagship of PTT Group, takes a critical part in leading policy development with Thai government agencies, and operating with compliance to national policy and commitments on climate-related issues.

Association name	Stakeholder Group	Topic for engagement	Climate Engagement Activities
Thailand Carbon Neutral Network (TCNN)	Associations	Support the promotion of sustainable development topics in line with international standards	- Cooperate with UNFCCC on Climate Action in Thailand. Members of the Thailand Carbon Neutral Network are also participants in Climate Neutral Now (aligned with Paris Agreement) - Promote cooperation among private sector, government, and local/community sectors to reduce greenhouse gases, fostering sustainable growth in a climate-friendly society. Aim for net zero emissions in line with the Paris Agreement goals. - Promote a knowledge exchange platform among network organizations for managing and reducing greenhouse gas emissions, aiming to achieve corporate-level carbon neutrality. - Advocate for government incentives and promotional measures, including access to capital and various forms of support, to encourage participation in initiatives aimed at reducing greenhouse gas emissions.
Thailand Business Council for Sustainable Development (TBCSD)	Associations		- Promote environmental awareness within the business sector under the concept of “sustainable development”. - Accelerate the transition to a sustainable world by making more sustainable businesses in Thailand more successful. - Host a meeting to discuss Climate Change actions in collaboration with the Thailand Greenhouse Gas Management Organization (TGO) and private sector members from Thai Listed Companies. - Offering Carbon Reduction Certification services, such as Carbon Label Projects for buildings , to encourage energy-saving measures in the building sector. This certification reflects adoption of practices reducing greenhouse gas emissions.
Global Compact Network Thailand	Associations		- Act as the local network of the United Nations Global Compact (UNGC). Provide peer-to-peer support and cooperation in order to meet the global standards for corporate responsibility. - Supports member companies of all sizes, from all sectors, in cutting through complexity throughout their sustainability journey. - Supports the companies to do business responsibly by aligning their strategies and operations with Ten Principles and take strategic actions to advance broader societal goals, such as the UN Sustainable Development Goals. - Implementing activities aligned with 10 Principles of the United Nations Global Compact in the areas of human rights, labour, environment and anti-corruption which include SDG 13. Climate action.
Petroleum and Energy Institute Of Thailand (PEIT) / Petroleum Institute of Thailand (PTIT)	Associations	Support the enhancement of competitiveness with peer industry groups through operational excellence	- Foster better understanding of the petroleum, petrochemical, and related industries in Thailand with emphasis on human resources development, information services, technical services, public policy and regulatory support, to ensure sustainable development and competitiveness of the industry and the country. - One of the missions to facilitate and promote open dialogue among the government, industry and academia for sound and practical public policies and regulations as well as prudent industry standards and best practices.

Thaioil Group's Public Policy Engagement Activities

Association name	Stakeholder Group	Topic for engagement	Climate Engagement Activities
Department of Alternative Energy Development and Efficiency (DEDE), Ministry of Energy	Government	Support the promotion of renewable energy development and energy security, in line with national Net Zero targets	- Signed a Memorandum of Understanding (MOU) with DEDE on cooperation to develop, improve, and promote the use of solar renewable energy for public health facilities and state educational institutions in remote and underserved areas, supporting Thailand's drive toward net zero greenhouse gas emissions. - Promote a public-private cooperation model in which DEDE provides technical/academic support, baseline data, and engineering standards, while Thaioil contributes resources, technology, and solar system design and installation expertise. - Transfer knowledge and technical skills in solar system maintenance to local personnel and communities, building long-term self-reliant energy management capacity in remote areas. - Support Thaioil's target of achieving Net Zero through systematic reduction, offset, and control of greenhouse gas emissions, in which aligned with Thailand's national and international climate goals.
Thailand Mangrove Alliance (in cooperation with the Department of Marine and Coastal Resources (DMCR), Ministry of Natural Resources and Environment)	Government	Support mangrove ecosystem restoration, biodiversity conservation, and sustainable coastal community development to support the national Net Zero target	- Signed a Memorandum of Understanding (MOU) with the Department of Marine and Coastal Resources (DMCR) as a member of the Thailand Mangrove Alliance, supporting cross-sector partnership to drive transformative change in environmental sustainability. - Promote biodiversity conservation and ecosystem restoration in coastal and mangrove areas through collaboration with government agencies, industry peers, and community networks. - Support the Alliance's goal to expand and restore mangrove forests by 30% by 2030, contributing to national carbon sink capacity and climate change mitigation, in which aligned with Thailand's national and international climate goals - Support community empowerment and sustainable livelihoods for coastal communities, integrating pollution reduction and sustainable economic development into mangrove conservation efforts.
Royal Forest Department (RFD), Ministry of Natural Resources and Environment	Government	Support forest restoration, reforestation, and ecosystem rehabilitation in national reserved forest areas, in line with national carbon neutrality and Net Zero targets	- Thaioil Group and PTT Group (of which Thaioil is a member company) signed a Memorandum of Understanding (MOU) with the Royal Forest Department on cooperation to develop, maintain, and restore forest plantation areas and forest ecosystems. - Committed to plant new forest and maintain/restore previously planted forest areas totaling 2 million rai by 2030, within national reserved forest areas under the Royal Forest Department's jurisdiction. - Support ecosystem restoration and forest/environmental abundance recovery, contributing to Thailand's carbon sink capacity and progress toward Carbon Neutrality and Net Zero Emissions goals, consistent with national government policy. - Promote improved quality of life, economic, and social conditions for communities surrounding the forest plantation areas. - Encourage local community participation in conservation of forest resources, wildlife, and biodiversity, while helping to mitigate global warming.
Thaioil Group's Customers	Value Chain	Provide customers with carbon footprint product (CFP) data to support their emissions reduction planning and transition to net zero	- Obtained Carbon Footprint of Product (CFP) certification from TGO for Thaioil, Thai Lube Base, Thai Paraxylene, and LABIX, extending CFP coverage across the entire Thaioil Group's petroleum and petrochemical product lines. - Enable customers to quantify the embedded carbon in the products they purchase, giving them the data needed to know how much they must reduce to meet their own net zero targets across their value chain (Scope 3 downstream). - Support customer decarbonization planning by providing verified, third-party-certified emissions data that can be incorporated into customers' own carbon accounting and supply chain disclosure requirements.