Annual Report 2024

รายงานประจำปี 2567

TEI THAILAND ENVIRONMENT INSTITUTE

TEI

สถาบันสิ่งแวดล้อมไทย

Thailand Environment Institute

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Environmental Mastery, Moral Integrity, Accountable Partnerships, Down-to-earth Practicality

Chief Advisor

Dr. Wijarn Simachaya, President of Thailand Environment Institute

Advisory Board

Dr. Benjamas Chotthong, Director of Project Development and Planning Program

Ms. Wilavan Noipa, Director of Natural Resources Program

Dr. Chuttree Phurat, Director of Green Label and Environmental Label Program

Ms. Wisara Hunthanee, Director of Pollution, Energy and Environment Program

Ms. Pinyada Charoensin Senior Project Manager, Acting Director of Environment Network and Climate Change Program

Dr. Niti Yoddumnern, Human Resource Manager Acting Director of Administration Division

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Message from the President

Dr. Wijarn Simachaya
President of Thailand Environment Institute

Throughout the 2024, the environmental landscape, both globally and in Thailand, presented us with challenges that are not only more complex but also increasingly proximate to our daily lives. The climate change crisis has intensified, manifesting in widespread impacts such as extreme weather events and the increasing frequency and severity of droughts and floods. These are stark reminders that building a sustainable future is an urgent and collective mission for all sectors, driven by the continuous rise in global temperatures from greenhouse gas emissions.

Over the year, the Thailand Environment Institute (TEI) has steadfastly pursued its mission: to serve as a leading, impartial environmental organization of international standing, dedicated to advancing sustainable development. TEI has focused on a multifaceted approach to drive tangible and positive changes. We have been working closely (at local level) on the ground to build the resilience of communities and cities nationwide in adapting to climate change while simultaneously addressing the nation's persistent pollution issues. These include PM2.5 air pollution and solid waste, with a particular focus on creating models and mechanisms for managing plastic waste. These challenges demand collective action and cannot be overcome in isolation, TEI has embraced a pivotal role as a facilitator, fostering collaboration among the community, local, and regional stakeholders to tackle problems at their sources to build systematic, cooperative frameworks.

Concurrently, TEI continues to advance Sustainable Consumption and Production (SCP). We are committed to elevating the "Green Label" and other eco-labels into internationally credible tools. These serve as a key mechanism to encourage businesses to adopt environmentally friendly production processes and to empower consumers with the information needed to make sustainable choices. Furthermore, TEI has championed the Circular Economy and a low-carbon society aiming toaddress the critical issue of the waste, a primary source of environmental degradation. This includes both plastic and food waste, which directly contribute to greenhouse gas emissions and impact public well-being. At the same time, we have supported communities nationwide in their journey to become sustainable environmental models, fostering efficient natural resource management through both conservation and sustainable utilization, with the ultimate goals of achieving carbon neutrality and building a low-carbon society.

All of these achievements have been made possible through the excellent collaborative efforts of our network of partners across all sectors, including government agencies, the private sector, civil society, and international organizations. On behalf of the TEI's executives, I would like to extend my sincere gratitude to every member of the TEI team and to all our partner organizations for their collaborative efforts in co-creating these impacts. We will continue steadfast in our mission of being a leader in knowledge and expertise, dedicated to creating a better environment and a sustainable future for Thai society.

Dr. Wijarn Simachaya
President of Thailand Environment Institute

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Vision

To be a leading environmental organization with respect to international standards, adhering to be nonpartisan organization that helps promote sustainable development

Mission

Provide recommendations on national environmental policies, strategies, and directions.

Develop environmental knowledge, innovation, and standards for reference.

Enhance capability of various sectors to manage natural resources and environmental sustainably

Building partnership among key environmental organizations and strengthening environmental networks at all levels

Disseminating environmental information and knowledge to the public, and advocating environmental conservation and sustainable development

Empowering good governance in organizational management

The Foundation Board

Mr. Anand Panyarachun
▸ Honorary Chairman of Board

Dr. Piyasvasti Amranand
▸ Chairman of Board

Dr. Sanit Aksornkoae
▸ Vice Chairman of Board

Dr. Anusorn Sangnimnuan
▸ Member of Board

Mr. Prasert Bunsumpun
▸ Member of Board

Dr. Suvit Maesincee
▸ Member of Board

Dr. Pichet Durongkaveroj
▸ Member of Board

Mrs. Matana Watanalit
▸ Member of Board Member
▸ of Executive Board of Directors

Mrs. Nisakorn Kositratna
▸ Member of Board Member
▸ of Executive Board of Directors

Mr. Winai Rodjai
▸ Member of Board

Mr. Cholathorn Dumrongsak
▸ Member of Board

Dr. Wattana Opanon-amata
▸ Member of Board Member
▸ of Executive Board of Directors

Mr. Montri Chamnanrot
▸ Member and Treasurer of Board

Dr. Wijarn Simachaya
▸ President of Thailand Environment Institute Member and Secretary
▸ of Board Member and Secretary
▸ of Executive Board of Directors

Executive Board of Directors

Dr. Wattana Opanon-amata
- Chairman of Executive Board of Directors

Mrs. Matana Watanalit
- Member of Executive Board of Directors

Mrs. Nisakorn Kositratna
- Member of Executive Board of Directors

Mr. Sakol Thinagul
- Member of Executive Board of Directors

Assoc. Prof. Thumrongrut Mungcharoen, Ph.D.
- Member of Executive Board of Directors

Mrs. Ladawan Kumpa
- Member of Executive Board of Directors

Asst. Prof. Kanongnij Sribuaiam, Ph.D.
- Member of Executive Board of Directors

Ms. Duangkamon Chotana
- Member of Executive Board of Directors

Dr. Witoon Simachokedeek
- Advisor of Executive Board of Directors

Mrs. Venus Asavasitthithavorn
- Advisor of Executive Board of Directors

Dentist Krissada Raungarreerat
- Advisor of Executive Board of Directors

Dr. Wijarn Simachaya
- President of Thailand Environment Institute
- Member and Secretary of Board Member
- and Secretary of Executive Board of Directors

Dr. Benjamas Chotthong
- Director of Project Development and Planning Program
- Member and Assistant Secretary of Executive Board of Directors

Management Team

Dr. Benjamas Chotthong

▶ Director of Project Development and Planning Program

▶ Member and Assistant Secretary of Executive Board of Directors

Ms. Wilavan Noipa

▶ Director of Natural Resources Program

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Ms. Pinyada Charoensin

▶ Senior Project Manager Acting Director of Environment Network and Climate Change Program

Dr. Niti Yoddumnern

▶ Human Resource Manager

▶ Acting Director of Administration Division

Organizational Structure

Board of Thailand Environment Institute Foundation

Executive Board of Thailand Environment Institute

President of Thailand Environment Institute

Experts

Project Development and Planning Program

- Project Development, Planning and Strategy Section
- Monitoring and Evaluation Section

Natural Resources Program

- Land Resources Section
- Marine and Coastal Resources Section
- Biodiversity Section

Green Label and Environmental Label Program

- Criteria Development Section
- Certification Section
- Quality Control System Section

Pollution, Energy and Environment Program

- Urban and Community Environment Section
- Industrial Environment Section
- Energy and Agricultural Environment Section

Environmental Network and Climate Change Program

- Secretariat of the Thailand Business Council for Sustainable Development
- Climate Change Session
- Capacity Development Section
- Sustainable Consumption and Production Promotion

Administration Division

- General Administration
- Human Resources Section
- Accounting and Finance Section
- Supplies, Building and Premises Section
- Digital Technology Section
- Communication and Social Service Section

1 Climate Change and Adaptation:

Key Information Everyone Should Know!!

Climate Change Adaptation in 2024

The Thailand Environment Institute (TEI) has implemented several key projects on climate change adaptation through collaborations with international organizations, government agencies, and civil society. Prominent projects include the SUCCESS project (Strengthening Urban Climate Governance for Inclusive, Resilient, and Sustainable Societies in Thailand), in collaboration with Maastricht University, supported by the European Union (EU), which is active in six provinces. Another significant initiative is the URBAN project (Urban Resilience Building and Nature), conducted in collaboration with the International Union for Conservation of Nature (IUCN) and partner organizations in Chiang Rai and Surat Thani provinces. Additionally, TEI has undertaken a project to develop adaptation guidelines for the Bueng Boraphet wetland area in Nakhon Sawan province, in partnership with the Department of Climate Change and Environment (DCCE).

TEI's core operational approach is centered on a deep participatory process at both the community and policy levels to jointly analyze vulnerabilities and co-develop adaptation strategies. Furthermore, our projects apply Nature-based Solutions (NbS) in planning wetland development and formulating action plans to address climate change. TEI also emphasizes field data collection, the organization of public hearings, and the co-creation of knowledge with local agencies to foster a shared understanding and drive sustainable implementation.

The SUCCESS project, which has now completed its five-year term, has successfully developed community-level adaptation plans that integrated into the local development plans in six provinces. The project also implemented pilot initiatives tailored to local needs, such as the water management system in the Khuan Lang basin (Songkhla province) and the use of eco-landscape planning in the Langu Canal area (Satun province). The URBAN project conducted surveys of significant wetlands in Chiang Rai and Surat Thani provinces, including Nong Hang, Nong Thung Thong Reservoir, and Mu Ko Ang Thong National Park. Provincial-level meetings were held to design wetland management plans applying Nature-based Solutions (NbS) as a tool for climate change adaptation and natural resources conservation. For the Bueng Boraphet case in Nakhon Sawan province, TEI developed climate change adaptation guidelines for the water resources sector in collaboration with local communities and agencies. Through the process of data surveys, consultations, and stakeholder forums, concrete adaptation approaches were synthesized. These include utilizing wetlands to create livelihoods linked to carbon sequestration and strengthening cooperative mechanisms among water user organizations. Furthermore, a guidance document was developed to scale up and apply these approaches in other wetland areas.

Key lessons learned from our work in 2024 indicate that for climate change adaptation to be sustainable, it requires systematic participatory processes, the communication of knowledge in an easily understandable manner, and the design of long-term support mechanisms. It is particularly crucial to develop incentives for volunteer groups and local administrative organizations. Looking ahead, TEI aims to expand the application of these adaptation approaches to additional areas. Our future plans involve strengthening community knowledge and participation in applying Nature-based Solutions (NbS), as well as developing policy recommendations to effectively link local-level implementation with national-level strategies.

Civil Society Collaborating for Urban Change

The Civil Society Collaborating for Urban Change Project, or SUCCESS (Strengthening urban climate governance for inclusive, resilient, and sustainable societies in Thailand project), is a collaboration between TEI, Maastricht University, and partner organizations, supported by the European Union (EU). Its primary goal is to strengthen the capacity of Thailand's medium-sized cities to respond to climate change. Operating since 2019 in six pilot provinces: Khon Kaen, Udon Thani, Nong Khai, Songkhla, Phatthalung, and Satun, for a five-year period (November 2019 – October 2024).

The core process involves conducting a Climate Vulnerability Assessment in collaboration with the communities through Shared Learning Dialogues (SLDs). This approach builds a common understanding of risks related to drought, flood, and unsustainable land use, enabling the development of appropriate community-level adaptation strategies that address the specific challenges facing of each area. The pilot projects aligned with each city's strategy have been developed, such as community water management in the Khuan Lang basin (Songkhla), the use of eco-landscape-led planning in the La-ngu Canal (Satun province), and the strengthening of sustainable agricultural systems in drought-prone areas of Udon Thani province. The project has applied a community planning approach based on the "urban landscape and water resources" and has successfully promoted a “community climate change adaptation plans”, which have been integrated into local development plans. Another key achievement is the capacity building of local personnel, which has enhanced their understanding of climate change and spatial planning. In addition, various knowledge communication materials have been produced to support dissemination and replication in other cities.

Strengthening the Capacity of Cities and Nature to Adapt to the Impacts of the Climate Crisis

The Urban Resilience Building and Nature (URBAN) project is a collaboration between TEI, IUCN, and partner organizations, with financial support from the International Climate Initiative (IKI). It aims to promote the development of cities capable of responding and adapting to climate change through the application of Nature-based Solutions (NbS). The project focuses on planning and capacity building at the local and provincial levels in two areas: Chiang Rai and Surat Thani provinces. The project has a five-year implementation period, from February 2024 to October 2028.

In its inaugural year (2024), the URBAN project focused on establishing spatial and strategic foundations at the provincial and local levels. Key activities included: Surveying and collecting data on the status and utilization of wetlands, such as Nong Hang in Chiang Rai province, and Nong Thung Thong Reservoir, Mu Ko Ang Thong National Park, and mangrove areas in Surat Thani province. Consultative meetings were also held with wetland committees and relevant agencies to review the approach for developing the "Provincial Wetland Management Action Plan," using the Nature-based Solutions (NbS) concept as a guiding principle for restoration and management. Additionally, the project organized the Urban Resilience Provincial Forum 2024 in both provinces to gather proposals and recommendations from local partners, government agencies, academia, and civil society. This has led to the formulation of a wetland planning framework that is responsive to climate change, encompassing conservation, sustainable use, and the promotion of systematic participation.

Developing a Cooperation Mechanism for Climate Change Adaptation in the Water Resources Sector

This project, implemented in collaboration with the Department of Climate Change and Environment, involves studying and compiling knowledge and experiences on climate change adaptation. It synthesizes the knowledge and practices of communities and agencies in the target area of Bueng Boraphet, Nakhon Sawan province, regarding their adaptation to climate change. This is accomplished through data surveys, consultations with various groups, and the organization of public hearings to gather information for the development of adaptation guidelines that can be put into practice.

For adaptation approaches at the local level, it was found that they should be based on the principle of participation from communities and relevant agencies, achieved by synthesizing knowledge from real-world experience and the specific context of the area. In the case of Bueng Boraphet, which has clear vulnerabilities related to water resources and a distinctly changing climate. Key approaches were identified, include establishing joint agreements among various sectors to initiate a cooperation mechanism, supporting water user organizations and professional groups in a sustainable manner that does not rely solely on volunteers, and promoting the use of wetlands for livelihood development that is in harmony with the ecosystem, such as developing product brands that reflect the area's role as a carbon sink.

Furthermore, additional recommendations were proposed to enhance long-term adaptation capacity. These include the continuous implementation of projects to expand the benefits to a wider range of occupational groups and communities in parallel with studying the ecosystem and environmental quality of Bueng Boraphet swamp to ensure the efficient use of water for both consumption and ecosystem preservation. Additionally, it is crucial to accelerate the promotion of knowledge and understanding of climate change, disasters, and their various impacts to the community, particularly for vulnerable groups, so that they can prepare and plan for comprehensive adaptation.

2 Combating Lethal Air Pollution Through Collaborative Action

Transboundary Haze: Cooperation among Thailand, Lao PDR, and Myanmar to drive the CLEAR Sky Strategy Joint Action Plan for a shared breath.

When haze knows no borders, the problem of fine particulate matter (PM2.5) from open burning, forest fires, and uncontrolled agricultural activities is not confined to a single country. Instead, it drifts into Thailand, Lao PDR, and Myanmar, bringing with it impacts that no one can escape.

Compounding and Overlapping Impacts: Effects on Life, the Environment, and the Economy

The haze problem severely impacts public health, affecting the respiratory and cardiovascular systems, and can even lead to premature death. It also damages the environment, the economy, tourism, and accelerates climate change. Severe Environmental and Economic Damage. Forest burning releases greenhouse gases, including carbon dioxide (CO2) and methane (CH4), which intensifies the climate crisis. This leads to soil degradation, loss of biodiversity, and adversely affects tourism, agriculture, and economic growth.

As Thailand Takes Action, TEI Advances the CLEAR Sky Strategy: Hope for a Shared Breath and Clean Air

Thailand is not merely a victim but is also one of the sources of transboundary haze pollution. Thailand has therefore taken a leading role in actively promoting regional transboundary cooperation, including within ASEAN, the Mekong sub-region, and through trilateral cooperation with Lao PDR and Myanmar. In 2023, Thailand initiated the development of the "CLEAR Sky Strategy" framework in collaboration with the leaders of Lao PDR and Myanmar to establish a concrete system for managing the haze problem.

The Thailand Environment Institute, or TEI, has played a key role as Thailand's environmental think tank, collaborating to develop and drive the management and reduction of transboundary haze pollution. In cooperation with Thailand's national focal point, the Pollution Control Department, and the Highland Research and Development Institute (Public Organization), TEI has worked to enhance cooperation and increase capacity for target areas, which include Chiang Rai province in Thailand, Paktha District in Bokeo Province of the Lao People's Democratic Republic, and in Tachileik District? of the Republic of the Union of Myanmar. This effort fosters proactive collaboration among the three countries under the "Development of Thailand-Lao PDR-Myanmar Cooperation to Drive the Management and Reduction of Transboundary Haze Pollution" project. Initiated in 2024 and currently ongoing, the project facilitates action at both the policy and local levels through domestic and international cooperation mechanisms. The establishment of the Joint Action Plan Working Group for the CLEAR Sky Strategy (2024-2030) for the three countries will be a crucial part of driving and creating long-term collective change.

The "CLEAR Sky Strategy" framework and the "CLEAR Sky" Joint Action Plan are designed to be more than just documents, and are intended to provide a practical guideline that all sectors can participate in. It consists of five main approaches:

1. Adhering to the Hotspot Reduction Targets: Utilizing the existing 2017 Chiang Rai Provincial Plan to achieve results, with continuously monitordust levels.
2. Strengthening Border Cooperation Mechanisms: Enhancing collaboration among Thailand, Lao PDR, and Myanmar, linking the Focal Points in each country through the Border Committees.
3. Knowledge Exchange and Experience Sharing: Sharing Thailand's knowledge and experience through training and workshops to create models for neighboring countries.
4. Developing Monitoring Networks: Establishing air quality monitoring networks and haze tracking systems using satellite technology.
5. Scaling Up Policy to Practice: Translating policy into concrete action across the public, private, community, and academic sectors.

Four Good Practice Models Pilot Activities for Cooperation on Reducing Burning and Transboundary Haze

Pilot activities for haze pollution reduction in the pilot areas aim to tackle the problem at its source by increasing the utilization of agricultural materials. The use of innovations, technologies, or knowledge must be designed to be consistent with the local context, they must be diverse, easy to implement, accessible for everyone to learn, and allow for self-management. This approach must align with the context and problems of the community, enabling agencies with relevant roles and missions to promote and support practical implementation. This can lead to demonstrations and initiate management efforts within the area.

Village Fertilizer Bank The farming group of Ban Pong Klang Nam, Wawee sub-district, Mae Suai district, will promote and campaign for farmers to collect post-harvest agricultural residues that are at risk of being burned. These materials will be deposited and processed into community organic fertilizer, which will then be distributed among the members.

Cooperation to Reduce Burning and Transboundary Haze in the Pha Tang Border Area Three localities in Wiang Kaen district collaborate to prevent, campaign for the reduction and control of burning, and prevent the spread of fires to agricultural plots, while also promoting low-burn agricultural practices along the entire border area.

Post-Rice Season Japanese Pumpkin Reduces Burning: Ban Huay Thong, Paktha District, Bokeo Province The practice of cultivating crops after the rice season and the harvesting of other plants helps reduce burning in agricultural areas and promotes the utilization of post-harvest residue as ground cover instead of burning.

Community Animal Feed A pilot community in Tachileik Province promotes and campaigns for farmers to collect agricultural residue for animal feed, reducing production costs and the problem of crop residue burning.

The Path Forward: The complex challenges of transboundary haze requires time,cooperation, andsustainable solutions.

Despite nearly three decades of continuous cooperation, solving the transboundary haze problem still faces numerous challenges. These include policy diffrences, inequallity resources, and difficult-to-change traditional agricultural livelihoods. Regional agreements lack enforcement power, and domestic measures remain at the c unable to be implemented proactively. There are no specific legal instruments like those in Singapore. Open burning continues to be a way of life that is hard to change. Sustainable solutions require changes in policy, infrastructure, education, and appropriate local incentives.

Lessons learned from past operations have enabled TEI to realize that haze management is not merely a matter of law enforcement, but rather about establishing a sustainable system. The government must be seriously committed to promoting zero-burn agriculture, providing local education, and reinforcing necessary support tools. It requires driving socio-economic incentives alongside policy implementation. Most importantly, forging close and sufficiently robust international cooperation is essential for implementation to proceed effectively.

While haze may know no borders, our breaths are all connected, because the air we breathe has no borders. This problem, therefore, must also be solved with a heart and sincerity that are equally borderless.

Research funding supported by: The Agricultural Research Development Agency (Public Organization) under the P24 research program for "Solving and Responding to the Nation's Urgent Crises," Fiscal Year 2024. Collaborating Partners: The Pollution Control Department and the Highland Research and Development Institute (Public Organization).

3 Food Waste: A Pollutant Driving Global Warming

Food Waste: A Pollutant Driving Global Warming

Food is an essential factor for life. Food loss, which occurs at various stages throughout the supply chain, represents not just a loss of resources but also hunger, inequality, and subsequent pollution and environmental impacts. These impacts include global warming or climate change, primarily caused by an imbalanced accumulation of greenhouse gases in the atmosphere. One of the main greenhouse gases is methane (CH4), which originates from the anaerobic decomposition of organic matter by microorganisms. This is a link between the problems of food waste and global warming. Furthermore, the fact that the downstream waste management by most of local authorities are still inappropriate and inconsistent with consumer's waste-generating consumption behaviors.. Therefore, striving to meet greenhouse gas reduction targets to solve global warming remains a challenge for Thailand.

Each person in Thailand generates up to 146 kilograms of food waste per year (as of 2023, Thailand produces approximately 9.7 million tons of food waste annually). The world is currently facing the problem of food waste and surplus food. In 2015, the United Nations designated the reduction of food waste as one of the Sustainable Development Goals (SDGs), setting a target to halve global food waste at the retail and consumer levels by 2030. In Thailand, it is found that fresh markets discard the highest amount of food waste, followed by department stores, convenience stores, and office buildings which typically also have the food courts.

In late 2023, TEI received funding from the Thai Health Promotion Foundation (ThaiHealth) to jointly implement a project to promote the prevention and reduction of food waste at its source, focusing on food courts. The project invites food courts from the public, private, and educational sectors to participate in reducing food waste from the source. A key factor is the participation of all stakeholders, including food court owners, restaurant operators, chefs, cooks, and food court service staff. Their collaboration are essential for surveying the quantity of food waste, supporting food courts and various agencies with data to set targets for reducing food waste and surplus food, analyzing the causes of the problem, designing and implementing reduction measures, and monitoring the results of those measures. Another crucial component of the project is to encourage consumers who use the food courts to adopt behaviors that support the successful prevention and reduction of food waste.

At the societal level, the focus is on promoting knowledge and best practices among food preparers and vendors to prevent, reduce, segregate, and manage food waste. This involves developing and scaling up appropriate models and best practices for preventing and minimizing food waste in food courts, as well as managing food waste and surplus food at the source. Furthermore, it entails driving food waste and surplus food management plans through data mechanisms and regulations to ensure concrete and widespread implementation. The Thailand Environment Institute (TEI) stands ready to support collaboration among relevant sectors to achieve systematic food waste management.

Food loss refers to losses occurring during the production, transportation, storage, processing, and packaging stages. Food waste, on the other hand, refers to losses occurring from the distribution and service stages up to consumption. This stage is critical, as the distinction between edible and inedible parts plays a significant role in generating food waste a factor that varies by region, culture, and consumption values.

Ultimately, for the food waste that is unavoidably generated in cities, proper management and disposal are necessary to reduce the environmental impact.

- Redistributing Surplus Food: This is a quick management method that avoids the need for on-site storage and prevents leftovers from being discarded. It benefits groups in need by helping to reduce their food expenses and is best suited for short-distance transportation. However, it has limitations, including attitudinal barriers among some recipient groups. Furthermore, if management is inadequate, it can affect the quality of the food, making it essential to conduct inspections before distribution.
- Use as Animal Feed: This is a simple and straightforward method, for example, using it as feed for fish, ducks, chickens, and pigs, which helps reduce farmers' animal feed costs. Current limitations include the establishment of collection points and the planning of transportation routes, the problem of nuisance odors without proper control, and the risk of it becoming a breeding ground for pathogens and disease vectors.
- Processing into Compost or Soil Conditioner: This is achieved by mixing food waste with other biodegradable materials and providing appropriate moisture and aeration to accelerate decomposition, creating nutrients beneficial to plants. Composting methods range from traditional techniques to modern ones, which include commercially available, self-contained food waste decomposers. These are particularly suitable for households or residential buildings that lack the space for food waste management.
- Use as Feed for Earthworms or Black Soldier Fly Larvae to Produce Fertilizer: This method can generate more beneficial nutrients than conventional composting and yields other marketable by-products. It is a low-cost process and helps reduce animal feed costs for farmers. However, this approach is suitable only for certain types of food waste, requires a significant amount of space, and relies on a proper understanding of how to control temperature and moisture.
- The use of more sophisticated technologies to help manage food waste, such as biogas production, can reduce nuisance odors from decomposition and lower the direct release of methane into the atmosphere. The resulting biogas can be beneficially used as a source of heat to replace other fuel gases, or it can be converted into energy to produce electricity. The production of solid fuel in the form of smokeless briquettes is another alternative.

Low-Carbon City Management: A Key Mechanism for a Sustainable Future

In the 21st century, climate change is not merely an environmental issue, but a global challenge linked to the economy, security, and the quality of life for all people. This is especially true in the context of cities, which are centers of development that generate the highest levels of greenhouse gas emissions from various sectors, such as transportation, energy, and industry. Urban management is therefore a key mechanism for driving the transition towards a low-carbon society.

TEI and Toyota Motor Thailand Co., Ltd. have jointly implemented the "Toyota 60th Anniversary Sustainable Environmental Community" project. The objective is to develop good practices for urban environmental management based on the collective needs of the community and to enhance the capacity of model communities to achieve sustainable development in pursuit of becoming a Carbon Neutral Community. This aligns with the goals of the Climate Change Master Plan, B.E. 2558 – 2593 (2015-2050). The project employs a participatory approach, linking learning to practical application and building upon the concepts of sustainable development to support the effective community environmental conservation and management.

Low-Carbon City: A Comprehensive Management Approach

Urban management in the context of reducing greenhouse gases is not merely about reducing energy consumption but rather involves the management of infrastructure and citizen behavior over the long-term. Examples of the project implementation approaches that align with the goal of low-carbon growth include:

1. **Reducing Greenhouse Gas Emissions from Combustion:** Promoting the use of public transportation, walking, cycling, and solar-powered tricycles, which helps reduce emissions from internal combustion engines. Promoting the use of PM2.5 detectors for community surveillance and providing warnings to the local residents. Promoting the management of agricultural residue as an alternative to burning, such as using it as an ingredients in fertilizer production.
2. **Developing Green Infrastructure:** Increasing green spaces and urban ecosystems, such as promoting the planting of mangrove forests, urban ecological forests, and developing public parks to serve as environmental learning centers, venues for cultural traditions, and recreational areas. Establishing underground water banks and restored wetlands, solar-powered water pumping systems, and building natural weirs or increasing water storage capacity. These measures not only absorb carbon dioxide but also help mitigate urban heat and support sustainable water management.
3. **Promoting Energy-Efficient Buildings and Renewable Energy:** Encouraging the use of sustainable materials and the installation of renewable energy systems in public community buildings. Promoting the use of standardized, energy-efficient electrical appliances.
4. **Integrated Waste and Wastewater Management:** Cities should have efficient sorting and recycling systems, while also supporting technologies that reduce methane and nitrous oxide emissions from landfills and wastewater treatment systems.
5. **Public Participation:** A city's success in carbon reduction depends on the participation of all sectors, including businesses, civil society, and the public, through the use of communication and education mechanisms that are accessible and easy to understand.

As of 2024, 10 model communities have been successfully developed into sustainable environmental communities. The project is continuously developing and enhancing the capacity of an additional 10 model communities, which will be implemented in the upcoming year. Managing cities in alignment with greenhouse gas reduction targets and low-carbon growth not only helps mitigate global warming but is also an opportunity to improve the quality of life for residents, create a green economy, and sustainably increase resilience to environmental crises. Thus, cities are no longer just the source of the problem; they can be "leaders" in the transition to a climate-friendly future.

Note: The list of the 10 communities and local administrative organizations that have been successfully developed into sustainable environmental communities is as follows:

1. Samae Phoo Community, Pak Nam Prasae Subdistrict Municipality ,Rayong Province.
2. Ban Nong Sakae Kuan Community, Moo 6, Non Din Daeng Subdistrict Municipality, Buriram Province.
3. Ban Rang Plub Community, Krab Yai Subdistrict Municipality, Ratchaburi Province.
4. Ban Mae Pam Community, Ping Khong Subdistrict Municipality, Chiang Mai Province.
5. Koh Klang Community, Khlongtoei District Office, Bangkok.
6. Khuan Don Nai Community, Khuan Don Subdistrict Municipality, Satun Province.
7. Village No. 1 Community, Wang Thong Subdistrict Municipality, Phitsanulok Province.
8. Ban Muang Chum Community, Khrueng Subdistrict Municipality, Chiang Rai Province.
9. Ban Rai Community, Umong Subdistrict Municipality, Lamphun Province.
10. Ban Kham Sri Community, Sri That Subdistrict Municipality, Udon Thani Province.

4 Eco-labels: A Symbol of Your Contribution to the Planet

Green Label & Environmental Labels Annual Policy Highlights 2024

Throughout the 2024 fiscal year, TEI has systematically and significantly advanced the environmental label certification system, aiming to enhance its quality, standards, and credibility, while expanding its reach at both national and international levels. The results are as follows: Green Label certification now covers 30 product categories, encompassing over 880 models from 91 manufacturers. Meanwhile, in the service sector, 31 companies have achieved certification. This represents an overall growth of more than 10% compared to the previous year.

The Green Label program also expedited the issuance of 6 new sets of criteria (including services), while simultaneously revising 5 existing sets of criteria to align with technological advancements and practical field applications. This process was supported by technical forums and stakeholder engagement to ensure the criteria are up-to-date, practical, and achieve industry-wide acceptance.

In the area of quality systems and international recognition, one of this year's key achievements was the Thai Green Label system's attainment of certification according to the international standard **ISO/IEC 17065**. This is the formal standard for bodies operating product certification systems. This accomplishment elevates the credibility of TEI's certification system, placing it on par with organizations in Europe, Japan, and other developed nations.

Additionally, the project has expanded its technical cooperation by signing Memorandums of Understanding (MOUs) with 13 nationally accredited testing laboratories. This move is intended to support the testing demands required by the criteria and to help reduce the burden on entrepreneurs in preparing documentation for certification. Meanwhile, this year's satisfaction survey among Green Label service recipients reached a high of 97%, reflecting the quality of the system and its efficient service delivery.

In the Area of Cooperation and Policy Expansion To support the use of the Green Label in the public and private sectors, the project organized more than 5 promotional activities nationwide, including roadshows, seminars, and entrepreneur award ceremonies. These events helped build awareness and created incentives for participating in the certification system.

In terms of policy cooperation, the project collaborated with partners at both the national level such as the Thailand Institute of Scientific and Technological Research (TISTR), the Federation of Thai Industries (FTI), and various related industry associations., And the international level engagement included participating in the Global Ecolabelling Network Annual General Meeting (GEN-AGM 2024), the APEC forum, and ASEAN-level cooperation to exchange best practices in ecolabel system development and to promote the role of Thailand's system in the global arena.

Regarding the development and integration of other environmental label systems, TEI has also developed labels beyond the Green Label that serve policy-level roles and cater to specific contexts, including:

- EPD Label (Environmental Product Declaration): For displaying product LCA (Life Cycle Assessment) data, adhering to ISO 14025 and EN 15804 standards, supporting access to international markets.
- Circular Mark Label: Promotes the circular economy by certifying products that are reusable, recyclable, or designed for circularity.
- CEC Label: Focuses on promoting community products that are safe, high-quality, and environmentally conscious in their production processes.

The integration of these label systems are not only drive policy goals such as Net Zero and the BCG Economy, but also serves as a concrete tool to strengthen large-scale entrepreneurs, SMEs, and local-level community enterprises.

Eco-labels are considered a key mechanism in driving sustainable production and consumption, focusing on raising environmental awareness among both the business sector and the consumers. . There are various types of Eco-Labels, including certification based on government criteria (Type I), those displaying product life-cycle analysis data (Type III), and self-declared attributes by the manufacturer (Type II). All of these serve as tools to support the systemic transition towards a green economy.

In Thailand, the **"Green Label"** was developed by TEI to certify products that have a lesser environmental impact compared to equivalent products in the market, utilizing criteria and processes that are credible, transparent, and aligned with international standards. As a testament to its commitment to continuous quality enhancement, the Green Label has achieved certification according to the **ISO/IEC 17065** standard, a globally recognized standard for product certification bodies. This reflects its international credibility and instills confidence in both consumers and the business sector regarding the use and display of the label.

The Green Label is therefore not only a certification system, but also a tool that promotes knowledge, understanding, and environmentally friendly behavior among producers, consumers, and government agencies. Furthermore, it plays a strategic role in supporting the nation's **Net Zero** goals and the concrete implementation of the **BCG Economy** policy. Guided by the vision of Dr. Wijarn Simachaya, President of the Thailand Environment Institute, who recognizes the important role of the Green Label system as a mechanism for sustainable economic development in parallel with environmental protection. The Green Label is not only focused solely on product certification, It is being developed as a **"strategic tool"** that can be linked to the nation's structural goals, including the BCG Economy, Net Zero carbon emissions, and the creation of an ecosystem for responsible consumption in Thai society.

From a policy concept to concrete implementation, the Green Label project in fiscal year 2024 has structured its operations based onfour core strategies, encompassing quality, quantity, cooperation, and the expansion of market opportunities, as detailed below.

Strategy 1: Enhancing the Quality and Building the International Credibility of the Green Label System Throughout the 2024 fiscal year, the Green Label project accelerated the development of its environmentally friendly product certification system to be transparent, efficient, and internationally recognized. One of the key achievements was attaining ISO/IEC 17065 certification, the international standard for bodies operating product certification. In other words, organizations certified under this s tandard must have an impartial assessment process, a quality control system, and ensure traceability at every step.

Achieving ISO 17065 certification is therefore not merely a "symbol of credibility"; it also reflects that the Thai Green Label system is comparable to certification bodies in Europe, Japan, and Australia. This will serve as a significant supporting factor for Thai entrepreneurs' exports in the future. For internal preparedness, the project organized specialized training courses for assessors and technical staff to enhance their understanding of international guidelines. Furthermore, a Simulation Audit was conducted to test the system and identify areas for improvement prior to actual implementation.

Additionally, a service satisfaction survey was conducted. The feedback was used to develop a "User Guide" and systematically improve consultation channels. As a result, the Green Label application process has become more convenient, and the assessment time has been tangibly reduced.

Strategy 2: Expanding Certification Adoption and Proactive Market Creation To encourage greater participation from entrepreneurs in the Green Label system, the project has continuously developed and revised its product criteria, based on in-depth market data research, sustainable consumption trends, and the technological readiness of each industrial sector. As a result, criteria for 6 product groups were revised, and applications were officially opened within this fiscal year.

Furthermore, the project upgraded the database of certified operators and products, ensuring it is easily searchable and accessible through the Green Label website. This facilitates public and private agencies in using it as a tool for Green Procurement (GPP) more conveniently and transparently.

On the marketing aspect, the project adopted a proactive approach by providing in-depth consultations for new entrepreneurs, particularly SMEs seeking to enter the certification system. This helps reduce financial burdens and technical obstacles, making it possible to significantly expand the Green Label applicant base to better cover the small and medium-sized industry sectors.

Strategy 3: Building Partnerships to Strengthen the Certification System Throughout the past year, the Green Label project has prioritized the creation of a "cooperative network" with government agencies, the private sector, and the professional organizations to elevate the label system and concretely link it with the national environmental measurement. This includes specific collaboration with agencies such as the Thailand Institute of Scientific and Technological Research (TISTR), the Federation of Thai Industries (FTI), the Pollution Control Department (PCD), and various industry associations. One of the outstanding outcomes is the development of a "label equivalency" approach with international certification systems like the EU Ecolabel, EPD, and Carbon Footprint for Product (CFP). This helps reduce the burden of redundant assessments for entrepreneurs and opens opportunities for using the Green Label to promote international trade.

Furthermore, Public Dialogues and participatory activities for developing new criteria were organized with network partners. As a result, the product criteria issuance processes this year has been modern, comprehensive, and widely accepted by both the public and business sectors.

Strategy 4: Building Awareness and Increasing Business Opportunities In 2024, the Green Label project focused on strategic public relations, designing new activities and communication formats to more effectively reach target audiences. These included roadshows, academic seminars, and entrepreneur award ceremonies, which helped create motivation and a sense of pride for the certified recipients.

In addition, the project has updated the **Green Label website** to be "responsive" (mobile-friendly) and launched a **"Self-Service Guidance System"** for entrepreneurs who wish to learn how to apply on their own, reducing the inquiry burden and increasing user convenience.

All of these actions serve to lay an essential foundation for the "Green Label" as a brand of environmental credibility. It is not merely a certification system but a symbol of quality, social responsibility, and environmental friendliness in the eyes of the modern consumer. This, in turn, will lead to the sustainable elevation of the competitiveness of Thai entrepreneurs, both domestically and in the international arena.

Other Eco-Labels Under TEI's Operation In addition to the "Green Label," which aims to certify products with a lesser environmental impact compared to similar products in the market, the Thailand Environment Institute (TEI) also plays a significant role in developing and managing other types of environmental label systems. This is to support efficient resource utilization and promote the nation's comprehensive transition towards a circular economy. Currently, the label systems under TEI's operation are as follows:

Environmental Product Declaration (EPD) The EPD is a Type III label that provides transparent information on a product's environmental impact based on a Life Cycle Assessment (LCA). It covers the entire cycle, from production and transportation to usage and end-of-life management, adhering to international standards ISO 14025 and EN 15804. It is ideally suited for entrepreneurs in the industrial sector who aim to access international markets, such as Europe, Japan, and South Korea.

Circular Mark Label The Circular Mark is a label system that reflects a product's capacity to be reused, repaired, recycled, or to enter the circular process in accordance with Circular Economy principles. It aims to reduce the volume of landfill waste and to promote sustainable design innovation at both the product and production supply chain levels.

Community Product Label for Environmental and Consumer Protection (CEC) CEC is a label system developed to promote goods and services from local communities, emphasizing production principles that consider quality, consumer safety, and local environmental impacts. It also promotes community participation throughout the production process, builds upon local indigenous knowledge, and creates environmental awareness at the grassroots level of Thai society.

The operation of all environmental label systems under TEI's responsibility shares the common goal of creating a comprehensive certification system that covers both the industrial and community sectors. This is to support the nation's key goals, such as **Net Zero**, the **BCG Economy**, and the **Sustainable Development Goals (SDGs)**. TEI remains committed to integrating the mechanisms of each label type so that they mutually reinforce one another and is ready to expand their application to the policy and market levels to achieve tangible results in the future.

The Thai Green Label has been accepted as a member of the Global Ecolabelling Network (GEN).

The Thai Green Label has been accepted as a Full Member of the Global Ecolabelling Network (GEN), an international cooperative organization comprising ecolabelling bodies from over 30 countries worldwide. GEN membership confirms that the Thai Green Label possesses international quality and standards, operating within the framework of ISO 14024 (Type I Ecolabel), having passed the rigorous and transparent GENICES Peer Review process.

GEN membership elevates the Thai Green Label to a position of acceptance in the global arena, enabling it to exchange knowledge and best practices and to jointly drive the development of international ecolabelling standards. It also serves as a foundation for establishing Mutual Recognition Agreements (MRAs) with trading partner countries, which helps increase market opportunities and creates a competitive advantage for Thai entrepreneurs.

Furthermore, GEN plays a crucial role in **combating greenwashing** by emphasizing the use of **verifiable data** and upholding the **principle of transparency**. This allows the Thai Green Label to assure consumers and the business sector that products bearing this label have genuinely been **assessed for their environmental impact throughout their life cycle**, and that it is **not merely an advertising claim.**

The Thai Green Label's acceptance as a GEN member also reflects an **image of international excellence**, positioning it alongside the world's leading ecolabels such as the EU Ecolabel, Nordic Swan, and Eco Mark Japan. This reinforces that the "Thai Green Label" is a **symbol of credibility, responsibility, and sustainable quality** in the eyes of the international community. It also serves as a mechanism to support the **Sustainable Development Goals (SDGs)**, particularly **SDG 12 (Sustainable Consumption and Production)**, and the nation's goal of achieving **Net Zero**.

Acceptance as a member of the Global Ecolabelling Network (GEN) not only reflects the **international quality and standards** of the Thai Green Label, but it also demonstrates that Thailand plays a proactive role in the global arena of sustainable production and consumption. The Thai Green Label is therefore not merely a tool for certifying domestic environmentally friendly products; it is a **globally recognized symbol of credibility**. It supports the achievement of the Sustainable Development Goals (SDGs) and helps to steadily drive the nation's **Net Zero** and **BCG Economy** policies forward.

The Thai Green Label has been accepted as a Full Member of the Global Ecolabelling Network (GEN), an international cooperative organization uniting environmental labelling bodies from over 30 countries worldwide. GEN membership elevates Thailand's role in establishing environmentally friendly product standards that align with international norms. This includes operating in accordance with the ISO 14024 (Type I Ecolabel) standard and undergoing the GENICES Peer Review process, which transparently builds confidence.

The GEN-AGM 2024 annual meeting was held from October 15-18, 2024, in New Delhi, India. Dr. Wijarn Simachaya, President of the Thailand Environment Institute, attended the meeting in his capacity as a GEN Board Member. Key issues were discussed, including the revision of the ISO 14024 standard, the GEN 2024–2027 Strategic Plan, the exchange of experiences in ecolabel development, and the establishment of cooperation for developing sustainable building material standards. Thailand also had the opportunity to present on "Promoting Sustainability in the Building and Construction Sector in Thailand." This presentation highlighted the Thai Green Label's role in supporting Green Public Procurement (GPP) and its connection to the Sustainable Development Goals (SDGs), as well as the nation's Net Zero and BCG Economy strategies. This participation marks a significant step, reinforcing that the "Thai Green Label" is not merely a domestic environmental mechanism but also a symbol of international credibility, poised to drive global cooperation for a sustainable environment.

5 Training for Environmental Professionals

Training for Environmental Professionals

TEI has developed environmental curricula and conducts training programs for environmental professionals. The training, delivered by instructors possessing extensive knowledge and expertise, focuses on providing participants with a correct and appropriate understanding of environmental issues arising from resource utilization and pollution released into the environment.

Participants have completed courses organized by TEI, such as:

- The **"Environmental Personnel for Factories" course**, in which TEI serves as an official training unit for the Department of Industrial Works.
- Courses related to **Environmental Impact Assessment (EIA)**, serving as a training organizer in partnership with the Office of Natural Resources and Environmental Policy and Planning (ONEP).
- The **"Capacity Building for Environmental Researchers" course**, under cooperation with the National Research Council of Thailand (NRCT) and through various projects supported by the public and private sectors.
- Other environmental courses developed by TEI, offered in **Public, In-house, and Online formats**.

To date, more than 100,000 people have completed training through these programs.

In 2024, TEI conducted the following training programs:

Public Training:

1. **Environmental Personnel for Factories:** 7 courses were held, with a total of 1,395 participants.
2. **Training for Environmental Researchers:** Conducted under the "Development of Knowledge and Researcher Networks on Environment for Sustainable Development, Phase 2" project (2024-2025), supported by the National Research Council of Thailand (NRCT). In 2024, a total of 167 participants completed the training.

In-house Training:

1. **Pollution Treatment and Management for Energy Operations Course:** Conducted for officers of the Energy Regulatory Commission (ERC). 2 sessions were held, with a total of 100 participants.
2. **Environmental Management and Guidelines for Efficient Waste Management in Factories Course:** A total of 30 participants completed the training.

Courses Conducted by TEI (Up to 2024)

1.Public training			
1.1.Environmental and Health Impact Assessment (EHIA) Course	Quantity	1	Batch
1.2.Training Courses for Factory Environmental Personnel			
1.2.1. Environmental Manager	Quantity	104	Batch
1.2.2. Water Pollution Treatment System Controller	Quantity	65	Batch
1.2.3. Air Pollution Treatment System Controller	Quantity	62	Batch
1.2.4. Industrial Waste Pollution Management System Controller	Quantity	60	Batch
1.2.5. Water Pollution Treatment System Operator	Quantity	110	Batch
1.2.6. Air Pollution Treatment System Operator	Quantity	100	Batch
1.2.7. Industrial Waste Pollution Management System Operator	Quantity	96	Batch
1.3.Other Courses	Quantity	90	courses
2.inhouse training	Quantity	125	courses
3.Training Courses Under Projects	Quantity	25	projects


หลักสูตร
การประเมินผลกระทบสิ่งแวดล้อม
และสุขภาพ (EHIA)


หลักสูตร
บุคลากรด้านสิ่งแวดล้อม
ประจำโรงงาน


หลักสูตร
ผู้จัดการสิ่งแวดล้อม


หลักสูตร
ผู้ควบคุมระบบบำบัดมลพิษน้ำ


หลักสูตร
ผู้ควบคุมระบบบำบัด
มลพิษอากาศ


หลักสูตร
ผู้ควบคุมระบบการจัดการ
มลพิษกากอุตสาหกรรม


หลักสูตร
ผู้ปฏิบัติงานประจำระบบ
บำบัดมลพิษน้ำ


หลักสูตร
ผู้ปฏิบัติงานประจำระบบ
บำบัดมลพิษอากาศ


หลักสูตร
ผู้ปฏิบัติงานประจำระบบการจัดการ
มลพิษกากอุตสาหกรรม

6 Uniting Private Sector Networks Towards Net Zero

Thailand Business Council for Sustainable Development on the Path of Sustainable Development Action

As one of the country's largest Thai business networks for driving sustainable development, TBCSD has promoted business organizations and its network to jointly solve the nation's key environmental problems in order to support Thailand's move towards a low-carbon society and sustainable development.

About TBCSD

From its first steps since its establishment in 1993, the Thailand Business Council for Sustainable Development (TBCSD) has now entered its 32nd year. Throughout its journey of more than three decades on the path of sustainable development, TBCSD has played a significant role in promoting and driving the business sector, in collaboration with the government and other relevant sectors, to solve Thailand's environmental problems. It has also participated in shaping national policies in the economic, social, and environmental spheres to create fairness for all sectors. Additionally, it has supported the government's work in advancing various policies, with many projects yielding tangible results and successfully driving the country's transition towards a low-carbon society and sustainable development.

Currently, the Thailand Environment Institute (TEI), an environmental non-governmental organization that operates as an independent academic institute plays a key role in elevating environmental management across all economic, social, and environmental dimensions at both the national and regional levels, adhering to international standards with a commitment to impartiality serves as the secretariat for the Thailand Business Council for Sustainable Development. It operates through various projects and activities with its member and partner organizations, enabling TBCSD to become a business leader in elevating standards to an international level, promoting sustainable business practices that are in line with global trends, and supporting Thailand's move towards a low-carbon society and sustainable development.

TBCSD is a Southeast Asian regional network linked to the World Business Council for Sustainable Development (WBCSD). This connection provides up-to-date information on changing global trends and offers opportunities to exchange ideas on the direction of sustainable development at the global level. It also provides the knowledge and best practices that help promote sustainability for businesses in Thailand.

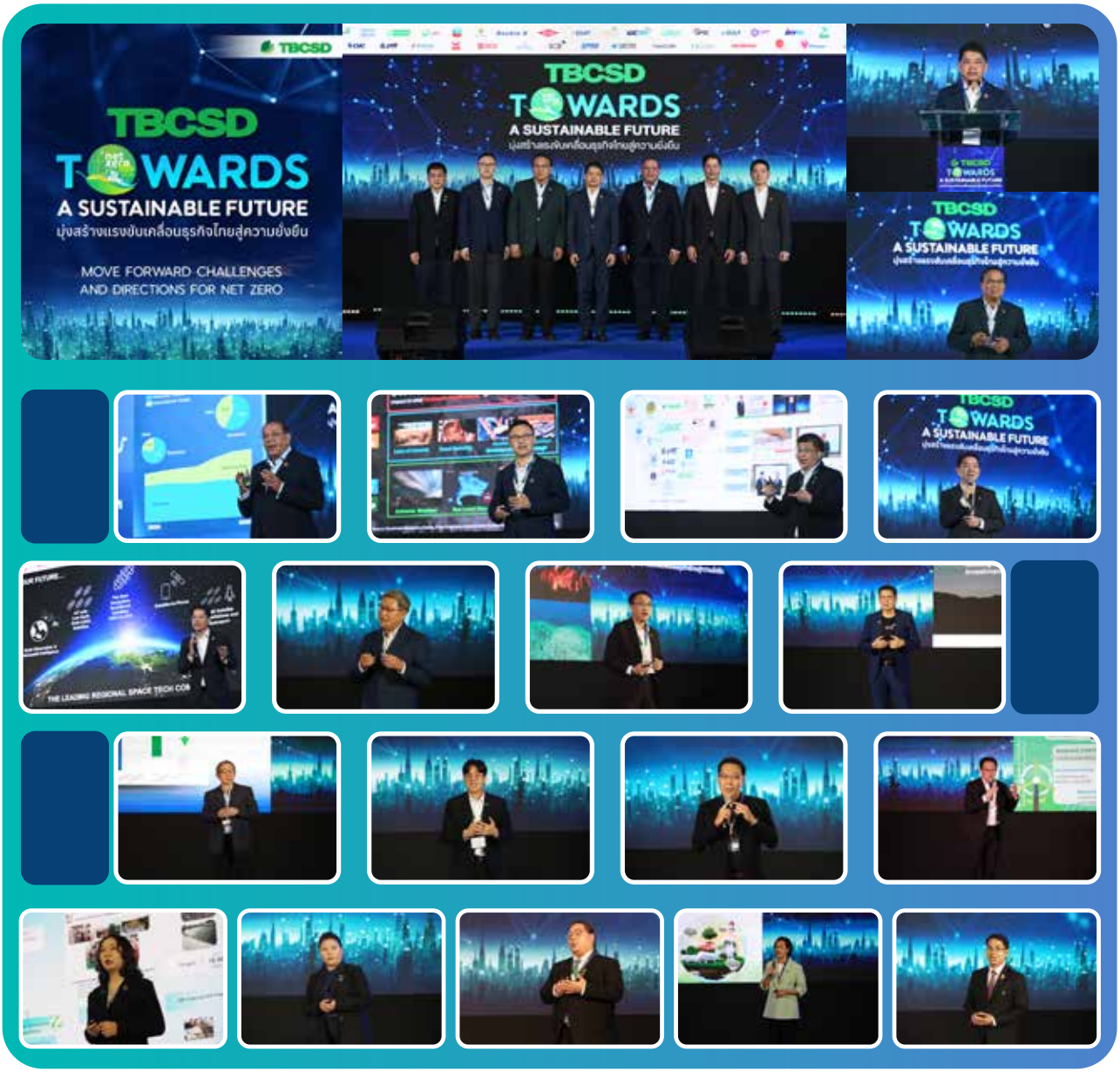
Additionally, TBCSD has entered into a major collaboration with five key national partner organizations: the Federation of Thai Industries, the Thai Chamber of Commerce and Board of Trade of Thailand, the Securities and Exchange Commission, the Stock Exchange of Thailand, and the Thailand Greenhouse Gas Management Organization (Public Organization). This partnership aims to drive the sustainable development of the business sector, support the transition to a low-carbon society, and help advance various national agendas on sustainable development.

The Thailand Business Council for Sustainable Development (TBCSD), as one of the country's largest business networks for sustainable development, is a collaboration of 45 leading Thai business organizations and state-owned enterprises that are leaders in sustainable development. These members cover all major industry sectors of the country, including Food & Beverage, Financials, Industrials, Property & Construction, Resources, Services, Technology, and others, consisting of:

1. Advanced Info Service Public Company Limited
2. AGC Vinythai Public Company Limited
3. Ajinomoto Co., (Thailand) Ltd.
4. Asia Cement Public Company Limited
5. Assetwise Public Company Limited
6. Bangchak Corporation Public Company Limited
7. Bangchak Sriracha Public Company Limited
8. Chevron Thailand Exploration and Production, Ltd.
9. Doi Kham Food Products Co.,Ltd.
10. Double A (1991) Public Company Limited
11. Dow Thailand Group
12. Electricity Generating Authority of Thailand
13. Electricity Generating Public Company Limited
14. GC Maintenance and Engineering Company Limited
15. Global Green Chemicals Public Company Limited
16. Global Power Synergy Company Public Limited
17. Gulf Development Public Company Limited
18. Industrial Estate Authority of Thailand
19. IRPC Public Company Limited
20. Jorakay Corporation Co., Ltd.
21. Kasikorn Bank Public Company Limited
22. Krung Thai Bank Public Company Limited
23. MCOT Public Company Limited
24. Origin Property Public Company Limited
25. Provincial Electricity Authority
26. PTT Exploration and Production Public Company Limited
27. PTT Global Chemical Public Company Limited
28. PTT Oil and Retail Business Public Company Limited

29. PTT Public Company Limited
30. RATCH Group Public Company Limited
31. Sahaviriya Steel Industries Public Company Limited
32. The Siam Cement Public Company Limited
33. Saint-Gobain (Thailand) Co.,Ltd.
34. SCBX Public Company Limited
35. Star Petroleum Refining Public Company Limited
36. Sumitomo Rubber (Thailand) Co.,Ltd.
37. Thaicom Public Company Limited
38. Thailand Environment Institute Foundation
39. Thai Honda Co.,Ltd.
40. ThaiNamthip Corporation.,Ltd.
41. Thai Oil Public Company Limited
42. Thoresen Thai Agencies Public Company Limited
43. Toyota Motor Thailand Co., Ltd.
44. Unilever Thai Trading Limited.
45. Zubb Steel Co., Ltd.

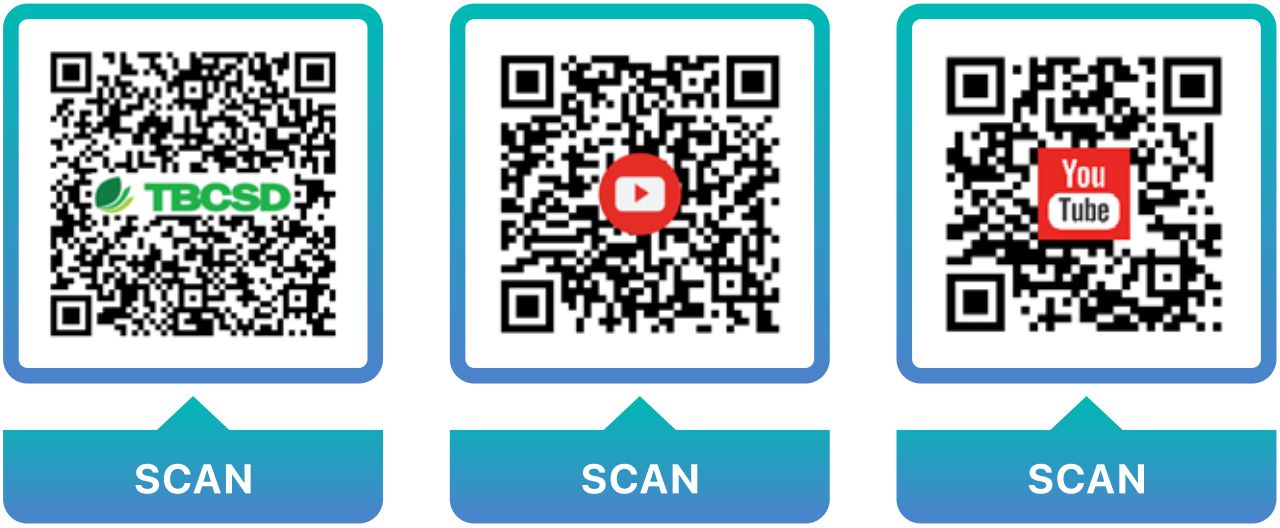
TBCSD Drives Thai Businesses Towards a Low-Carbon and Sustainable Society



TBCSD is committed to elevating the standards of Thai business organizations to become models of low-carbon and sustainable businesses. It collaborates with partner organizations from all sectors to establish targets, measures, and frameworks for joint activities that the business sector can undertake.This demonstrates the collective power of the business sector in driving the transition to a low-carbon and sustainable society, aligning with both national and international goals. This elevates the country towards an environmentally friendly economy and society, aiming to achieve net-zero greenhouse gas emissions in line with the nation's targets.

The Path Forward for TBCSD As one of the country's largest business networks for sustainable development, TBCSD is committed to elevating the standards of Thai business organizations to become models of low-carbon and sustainable businesses. This is to jointly drive sustainable development goals in various dimensions, in alignment with Thailand's policy of achieving Carbon Neutrality by 2050 and Net Zero GHG Emissions by 2065. By integrating cooperation from all sectors, the aim is to collectively elevate the country towards a sustainable, environmentally friendly economy and society, in line with national targets.

You can view detailed information on how TBCSD member organizations across Thailand's major industry sectors are elevating their standards to become models of low-carbon and sustainable businesses by scanning the QR Code below.



TBCSD Builds a Business Network for Sustainable Biodiversity

Climate Change is a significant environmental issue at the national, regional, and global levels. The world is currently experiencing diverse impacts from climate change. The key environmental issue that follows is the crisis of Biodiversity Loss, which is considered one of the three global environmental emergency crises, alongside climate change and pollution.

Climate change and biodiversity are critical environmental crises at the national, regional, and global levels that all relevant sectors must urgently work together to address, as these issues have interconnected impacts. While climate change contributes to biodiversity loss, biodiversity and ecosystems, in turn, help in adapting to and mitigating the impacts of climate change. They serve as carbon sinks and help maintain global temperatures at a level conducive to the survival of living things.

Thai business organizations now play a significant role in driving the Sustainable Development Goals, in alignment with the country's key policies. In this context, biodiversity has become a new issue that TBCSD has discussed with its member organizations in order to jointly drive the "Business for Biodiversity" agenda. To this end, TBCSD has joined with its network partners, the Biodiversity-Based Economy Development Office (Public Organization) (BEDO), the Office of Natural Resources and Environmental Policy and Planning (ONEP), the Securities and Exchange Commission (SEC), and the Stock Exchange of Thailand (SET), to announce the "Biodiversity Action is Solution" declaration. This aims to jointly drive and promote participation in the conservation and sustainable use of biodiversity to achieve the "Nature Positive" goal by 2030.

Through the strong cooperation of its member organizations and collaboration with partner organizations and networks both domestically and internationally, TBCSD is a leader in elevating sustainable business practices on a broad scale and truly supporting Thailand in its move towards a low-carbon society and sustainable development. **"TBCSD Towards a Sustainable Future: Driving Thai Business Towards Sustainability"**

Because this... is what TBCSD considers:

"Act" Today, "for" tomorrow, "towards" a sustainable future...

Public Private Partnership for Sustainable Plastic and Waste Management (PPP Plastics)

The Public Private Partnership for Sustainable Plastic and Waste Management Project, or PPP Plastics, was initiated in 2018 with a commitment to being a central organization coordinating cooperation from all sectors to manage the plastic waste problem concretely and sustainably based on the principles of the Circular Economy. It operates under the leadership of the Thailand Business Council for Sustainable Development (TBCSD) and the Plastics Industry Group of the Federation of Thai Industries, as well as network partners from all sectors that are leaders in policymaking and activities related to plastic management in Thailand. Currently, PPP Plastics has been registered as the "Public Private Partnership for Sustainable Plastic and Waste Management Association" to join forces in driving solutions to the plastic waste problem. This is to achieve the goals of the Roadmap to reduce the amount of country's plastic waste, based on participatory and sustainable waste management according to the Circular Economy principles. Currently, Dr. Wijarn Simachaya, in his capacity as the Secretary-General of the Thailand Business Council for Sustainable Development (TBCSD), serves as the President of the PPP Plastics Association.

ดร.วิจารย์ สิมาฉายา
ผู้อำนวยการสถาบันสิ่งแวดล้อมไทย
เลขาธิการองค์กรธุรกิจเพื่อการพัฒนาอย่างยั่งยืน
(TBCSD) และนายกสมาคม PPP Plastics

PPP Plastics has been continuously operating for over 7 years to promote sustainable waste management using circular economy principles, at both the policy level and through concrete on-the-ground implementation. This is to help promote Thailand's transition towards an environmentally friendly economy and society and to support the achievement of the goal to reduce marine plastic debris by at least 50% by 2027.

Key Activity Pillars of PPP Plastics

Development of Circular Economy Models (Infrastructure) Promoting integrated plastic management by developing and implementing projects to enhance infrastructure capacity and create circular economy models from plastic and other recyclable materials. Examples include circular economy models for waste management in large cities and at the provincial level, such as the **Khlong Toei Model** and the **Rayong Model**, as well as the creation of the **"Recycle Market Place Application"** to serve as a database for trading recyclable materials.

Policy & Legislation Development Participation in formulating policies and measures related to plastic waste management with network partner organizations from all sectors. This includes supporting the implementation of Thailand's Plastic Waste Management Roadmap and participating in activities under the Roadmap's Action Plan for both Phase 1 and Phase 2. It also involves jointly studying the Sustainable Packaging Management Act (EPR Act) and driving the Circular Economy according to the national BCG Model agenda.

Plastic Waste Database Development (Database) Establishing a national plastic database based on Material Flow Analysis principles, while also conducting Life Cycle Assessments (LCA) of plastic and studying its economic value. This aims to survey data on the types and quantities of plastic waste within Thailand, to be used as a key national reference and as data for international presentations.

Education & Communication Building knowledge and understanding of proper waste management, compiling knowledge and experience from operations to develop teaching curricula and manuals on the circular economy for plastics. This also includes sharing experiences from policy-to-practice implementation and the lessons learned from driving the country's circular economy through the PPP Plastics cooperation.

Industrial Innovation Development (Innovation) Promoting the use of innovation and technology in managing plastic waste sustainably and safely, to meet the challenge of promoting proper waste management and the efficient use of resources.

PPP Plastics will continue to tangibly establish a circular economy for plastics in Thailand, while also responding to relevant policy directions at both the national and global levels. These include the Sustainable Packaging Act (EPR), circular economy legislation, PCR standards, and international agreements. It will also participate in integrated cooperation to build a "Circularity Ecosystem" for plastics that can be practically established within the country. This aims to drive the plastic management system from the source to the end-of-life, in alignment with EPR policies for integrated packaging waste management. Furthermore, PPP Plastics will continue to tangibly establish a circular economy for plastics in Thailand, responding to the country's policy direction in line with the measures on plastic pollution (the Global Plastic Treaty), which is key to ending plastic pollution. This helps promote the country's transition towards an environmentally friendly economy and society.

PPP Plastics unites its partner network to build a Plastics Circularity Ecosystem, aiming to elevate waste management operations both at the policy level and through concrete, sustainable on-the-ground



7 Social Service

Social Service

As an environmental non-governmental organization, another of the Thailand Environment Institute's (TEI) key missions driving the institute is to support projects and activities in environmental campaigning, research, and development for the benefit of the public and the nation. This is achieved through collaboration with a network of public and private partners who consistently focus on and prioritize environmental issues. With a team of researchers, academics, and experts experienced in multiple dimensions of the environmental field, TEI through past collaborations, has conducted environmental activities with the Plook Ton Mai Plook Dhamma Foundation (Tree Planting, Dhamma Planting Foundation). These activities promote and invite partners and the Thai people to uphold important Buddhist holy days through the "Wian Tian Ton Mai" (Tree Circumambulation) activity, aimed at reducing $PM_{2.5}$ generation.

Furthermore, TEI promotes and drives coordination and collaboration among various sectors for the conservation and sustainable use of natural resources, with support from the private sector. For example, TEI collaborated with Western Digital (Thailand) Co., Ltd. to organize a mangrove planting activity to restore the coastal ecosystem, marking World Environment Day week at the Ban Bang Bo Mangrove Forest Nature School, Bang Kaeo Sub-district, Mueang District, Samut Songkhram Province.




8 List of Projects and Donors

(Domestic and International) 2023–2024

Public sector

A Study and Analysis of Alternatives to Single-Use Plastics and Proposal of Implementation Mechanisms in Accordance with the National Plastic Waste Management Roadmap

To analyze and assess the phase-out of target plastics according to the Roadmap; to study and analyze the various impacts, and to propose alternatives for using materials or products to substitute the target plastics, while preparing practical recommendations for driving the smart use of plastics in accordance with Circular Economy principles.

Supporting Organization: Program Management Unit for Competitiveness (PMUC)

Promotion of Food Waste Prevention and Reduction and Management of Food Waste from the Source: A Case Study of Food Courts

To prevent and reduce food waste at the source, change consumer behavior, and connect a network between food waste generators and food waste processors through appropriate utilization methods, in order to reduce the amount of food waste sent to landfills. The project will monitor the volume of food waste reduced, assess GHG emission reductions, and produce a manual for food courts, communication materials, and policy recommendations.

Supporting Organization: Thai Health Promotion Foundation (ThaiHealth)

Development of Thailand-Lao PDR-Myanmar Cooperation to Drive the Management and Reduction of Transboundary Haze

To develop a strategic roadmap and an action plan for managing and reducing transboundary haze pollution jointly among the three countries; to promote and implement demonstrations of technology and innovation for reducing haze pollution in pilot areas in the Lao People's Democratic Republic and the Republic of the Union of Myanmar within 2 years. Also, to learn and draw lessons from the development and enforcement of effective laws for reducing transboundary haze pollution.

Supporting Organization: Agricultural Research Development Agency (Public Organization)

Project on the Preparation of the State of Environment Report, B.E. 2567 (2024)

To study, compile, and analyze data on the economy, society, policies, and measures related to operations at the global and regional levels, as well as the state of natural resources and the environment occurring between 2023-2024 in 11 sectors. The project also includes forecasting and developing policy recommendations.

Supporting Organization: Office of Natural Resources and Environmental Policy and Planning (ONEP)

Project on Driving and Expanding Happy Organizations in the Civil Society Sector

To create a cooperation mechanism between the public sector and civil society networks for the continuous and sustainable advancement of the happy organization agenda within the civil society sector; to support the development of criteria or models for promoting organizational wellbeing in order to establish and scale up the impact of happy organizations in the civil society sector; and to promote good wellbeing among the working-age population in civil society organizations according to the Happy 8 guidelines, prioritizing issues in line with the 10-year goals of the Thai Health Promotion Foundation (ThaiHealt)

Supporting Organization: Thai Health Promotion Foundation (ThaiHealth)

Project on the Development of Knowledge and Researcher Networks on Environment for Sustainable Development, Phase 2

To develop curricula and train environmental researchers, building knowledge and understanding of national and global environmental problems, as well as development and research trends aimed at solving various environmental issues, in order to apply this knowledge toward developing relevant research proposals.

Supporting Organization: National Research Council of Thailand

Project on Developing a Cooperation Mechanism for Climate Change Adaptation

To study and compile knowledge and experiences on climate change adaptation. to synthesize the knowledge and practices of communities and agencies in the target area of Bueng Boraphet, Nakhon Sawan Province, regarding climate change adaptation, as well as to propose appropriate local-level climate change adaptation guidelines and prepare materials disseminating the knowledge and appropriate local-level adaptation guidelines.

Supporting Organization: Department of Climate Change and Environment (DCCE)

Development of a Network of Communities and Vocational Farmers Towards Sustainable Management of Waste and Agricultural Residues. Case Study: Maha Sarakham and Khon Kaen Provinces

To develop a network of vocational farmers for rural development and a network of local communities that can serve as models to accelerate solutions to the problems of burning agricultural residues and household waste in communities. This is achieved through a participatory research process, as well as by expanding the network of activities for sustainable waste management and burning reduction.

Supporting Organization: National Research Council of Thailand

Community Product Label for Environmental and Consumer Protection (CEC) Project, Year 2

To promote the upgrading of entrepreneurs' products and enhance their knowledge regarding the reduction of waste and pollution impacting the environment and health, including knowledge that helps create added value and increase market access. The project also involves the development of criteria for processed food products using the Community Product Label for Environmental and Consumer Protection (CEC) certification tool.

Supporting Organization: Thai Health Promotion Foundation (ThaiHealth)

Development of Policy Recommendations for Climate-Responsive Social Protection

To establish an operational framework for implementing policies and measures for climate change adaptation related to human security, and to develop climate-responsive social protection policies for vulnerable groups.

Supporting Organization: Office of the Permanent Secretary, Ministry of Social Development and Human Security (OPS M-Society)

Project on Conservation and Development of Cooperation for Sustainable Forest Management by Communities and Youth in the Area: A Case Study of Ban Kwang Ngoy Phatthana Forest

To study and assess forest health resources and biodiversity to enable participatory planning and implementation of forest and community management; to develop and enhance capacity for forest and community management covering economic, social, and environmental dimensions in line with sustainable development policy; and to promote the development of mechanisms and extract lessons learned from participatory management by various sectors in appropriate forest management.

Supporting Organization: The Environmental Fund

The "Green" Red Cross Project

To build an understanding of environmentally friendly operations for the staff of the Thai Red Cross Society, in order to manage greenhouse gases arising from the implementation of the Thai Red Cross Society's mission.

Supporting Organization: Thai Red Cross Society

Project on Capacity Building for Personnel in Zero Waste Management Towards a Low-Carbon Society

To build the capacity of personnel, providing them with knowledge and understanding of waste management concepts according to the Circular Economy towards a low-carbon society; to foster knowledge and understanding of climate change concepts and greenhouse gas reduction, aiming for Carbon Neutrality goals; and to strengthen cooperation and operational networks for solid waste management in the area. The Department of Climate Change and Environment (DCCE) therefore assigned TEI to be responsible for developing curricula and organizing training for relevant agencies and the Natural Resources and Environmental Protection Volunteer Network (NEV) nationwide. A total of 2 courses were conducted for a combined target audience of 600 people.

Supporting Organization: Department of Climate Change and Environment (DCCE)

Project on Knowledge Exchange Meetings within the Country and with Relevant Countries

To exchange experiences for government officials and policymakers at the national and provincial levels; to share best practices in integrating biodiversity conservation into tourism policy and biotourism development; to exchange knowledge and experiences between domestic government officials and policymakers at the national and provincial levels and those from relevant countries; to exchange best practices in integrating operations into tourism policy and biotourism development; and to disseminate experiences and operational guidelines for biotourism development to national and provincial natural resource and biodiversity conservation organizations, developing countries, and related agencies.

Supporting Organization: Biodiversity-Based Economy Development Office (Public Organization) (BEDO)

Project on the Preparation of a Handbook for Green Procurement of Goods and Services and Environmental Impact Assessment of Procurement for the Metropolitan Electricity Authority (MEA), 2022-2023

To prepare a handbook of criteria for the green procurement of goods and services and to assess the environmental impact of procurement activities under the operations of the Metropolitan Electricity Authority (MEA).

Supporting Organization: Metropolitan Electricity Authority (MEA)

Chumchon label for the protection of the environment and consumers

To develop certification criteria for the product label for environmental and consumer protection; to support entrepreneurs in adopting environmentally friendly production and undergoing the environmental label certification process; as well as to establish communication channels via the Community Product Label's Facebook page.

Supporting Organization: Thai Health Promotion Foundation (ThaiHealth)

Development of an Empowerment Mechanism for Driving and Enhancing the Capacity of Climate Change Cooperation Partners Towards Net Zero, 2023

To study and compile knowledge and operations related to GHG reduction and climate change adaptation, and to conduct empowerment activities for cooperation, as well as to assess the level of climate change awareness and establish a baseline. The project involves studying and analyzing successful case studies and connecting cooperation partners to drive policy implementation in order to prepare for climate change.

Supporting Organization: Department of Climate Change and Environment (DCCE)

Project on Developing a Value Chain Cooperation Model for Waste and Plastic Waste Management using a Circular Economy Approach in Thailand's Island Areas: A Case Study of Koh Lanta

To study and analyze the quantity and value of various types of plastic waste; to foster stakeholder engagement and develop good practices for waste and plastic management based on the shared needs of stakeholders; as well as to develop a value chain cooperation model for the area's community waste and plastic management using a Circular Economy approach.

Supporting Organization: Program Management Unit for Competitiveness (PMUC)

Project on Extracting Success Lessons from the Rayong Less Waste Project: A Case Study of Rayong Province

To extract lessons learned from the implementation of the Rayong Less Waste project in the Rayong province area at the levels of local administrative organizations, communities, and schools; and to analyze and summarize the success factors in managing waste and used plastics under the Rayong Less Waste project.

Supporting Organization: The Federation of Thai Industries (FTI)

Project on Promoting the Enhancement of Environmentally Friendly Goods and Services for the Civil Society Network

To promote and enhance environmentally friendly goods and services for the civil society network.

Supporting Organization: Pollution Control Department (PCD)

Capacity Building for the Provincial Office of Natural Resources and Environment (Phra Nakhon Si Ayutthaya Province) to Develop a Provincial Climate Change Action Plan

To prepare a provincial greenhouse gas (GHG) inventory and a provincial GHG mitigation plan, along with a climate change Risk Profile for the province, following the guidelines of the National Adaptation Plan (NAP), and to formulate a local-level action plan.

Supporting Organization: Phra Nakhon Si Ayutthaya Provincial Office of Natural Resources and Environment

Preparation of the Assessment Manual for the ASEAN Environmentally Sustainable Cities (ESC) Award

To disseminate and build understanding of the project, indicators, and assessment process for the ASEAN Environmentally Sustainable Cities (ESC) Award, and to develop a manual to support urban environmental management for local administrative organizations.

ทSupporting Organization: Department of Climate Change and Environment (DCCE)

Capacity Building for Local Leaders

To develop a capacity-building curriculum for local leaders on "Food Waste Management towards a Low-Carbon City" and to conduct a 6-hour training session for at least 100 participants.

Supporting Organization: Department of Climate Change and Environment (DCCE)

Training to Promote Green Procurement for the Port Authority of Thailand

To build knowledge and understanding of Green Procurement for the procurement (supply) department of the Port Authority of Thailand (PAT), as well as to conduct a workshop to jointly analyze, select, and define the characteristics of green products, to be used as guidelines for PAT's future procurement.

Supporting Organization: Port Authority of Thailand (PAT)

Capacity Building for Personnel in Environmentally Friendly Production, Services, and Consumption

To develop a capacity-building curriculum for personnel in environmentally friendly production, services, and consumption on the topic of Carbon-Neutral Tourism Management, and to conduct a 9-hour training session for at least 150 participants.

Supporting Organization: Department of Climate Change and Environment (DCCE)

Performance Test Evaluation for the "High-Efficiency Onsite Wastewater Treatment Tank Label"

To prepare the performance test evaluation manual for the "High-Efficiency Onsite Wastewater Treatment Tank Label."

Supporting Organization: Pollution Control Department (PCD)

Project on Documenting the Knowledge and Success of Outstanding NEVs and NEV Networks

To document the body of knowledge and successful outcomes of outstanding NEVs (Natural Resources and Environmental Protection Volunteers) and NEV networks, leading to guidelines for development and enhancing the mobilization of the NEV network for the sustainable management of natural resources and the environment. The project also includes disseminating and publicizing the lessons, knowledge, and operational successes to the NEV network, relevant agencies, and partner networks.

Supporting Organization: Department of Climate Change and Environment (DCCE)

Project on the Study and Data Collection of Food Waste and Packaging in the Southern Region

To design methodologies and conduct surveys on the quantity of food waste and packaging in the Southern region, classified by the source of "Out of Home" consumption from the food service business, specifically the hotel and accommodation sector in rural communities, urban communities, and tourist areas in the South. This ensures coverage of 4-5 star hotels, mid-range hotels, and resorts, homestays, and hostels. The project also includes the management of the waste generated, in order to analyze the situation, the factors affecting the generation of food waste and packaging, and future trends in their generation.

Supporting Organization: National Science and Technology Development Agency (NSTDA)

Private Sector

Cooling Our Cities with Our Hands: Climate Learning Centers

Established and provided advisory services for the operation of 3 climate learning centers: Thung Song Climate Action Hub, Climate Action Tunnel, and Muang Klaeng Climate Healing Hall, with the municipalities serving as the managers of the learning centers.

Supporting Organization: Toyota Motor Thailand Co., Ltd.

The Public Private Partnership for Sustainable Plastics and Waste Management (PPP Plastics) Project

To join forces in driving the project to achieve the goal of reducing marine plastic waste by at least 50% by 2027; to increase the recycling rate; to advocate at the policy level; and to disseminate knowledge to the public and foster proper waste disposal and segregation behaviors.

Supporting Organization: Private Sector

TOYOTA 60th Anniversary Sustainable Environmental Community (CN Community) Year 1-2

To support communities and local administrative organizations within the network of the "Cooling Our Cities" and "Changing the World" projects, in developing and expanding activities that can serve as learning centers for moving towards a sustainable Carbon Neutrality society.

Supporting Organization: Toyota Motor Thailand Co., Ltd.

Changing the World" Community Project, Year 2

To promote communities and local administrative organizations to jointly implement environmental activities aimed at carbon neutrality; to present awards to communities with outstanding performance based on their local context that can be expanded into developing environmentally friendly products or services; and to cover the promotion of development in multiple dimensions, including the environment, society, and the community economy.

Supporting Organization: Toyota Motor Thailand Co., Ltd.

EARTH JUMP 2024: The Edge Action

Organized environmental activities funded through the donations from Kasikornbank, with the goal of conducting activities to build awareness, create participation, and sustainably restore the environment.

Supporting Organization: KASIKORNBANK Public Company Limited

KKP Tree and Sea

To increase green spaces in community areas, supporting participatory work with communities and localities towards sustainable environmental management. This includes protecting and jointly conserving marine resources, restoring coastal ecosystems which serve as habitats for marine animals and various organisms, and building awareness among the employees of Kiatnakin Phatra Bank Public Company Limited (KKP) regarding natural resource conservation and participation in solving and mitigating environmental impacts.

Supporting Organization: Kiatnakin Phatra Bank Public Company Limited

Lessons Learned and Social Impact Assessment of the Red Cross-Dow Clean Drinking Water Project

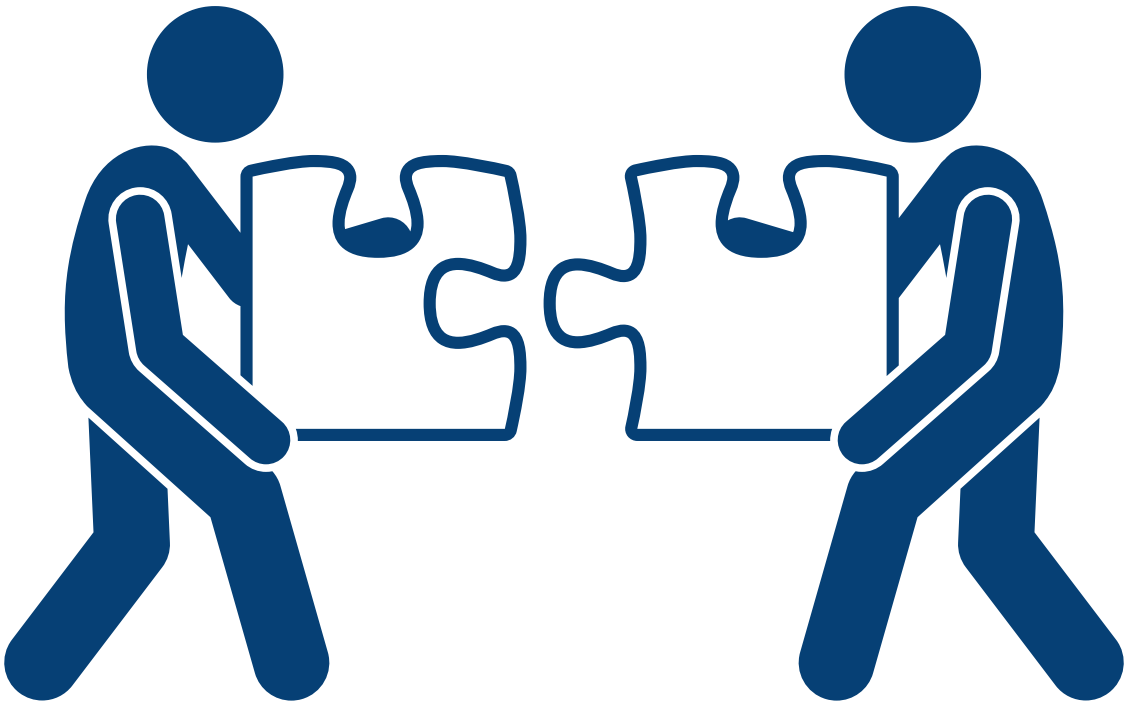
To document the overall success of the Red Cross-Dow Clean Drinking Water Project for students in Phra Nakhon Si Ayutthaya Province; to analyze data from the Social Impact Assessment (SIA); and to provide recommendations for project guidelines that can be used to develop future project operations. This also includes the creation of a handbook documenting the lessons learned, summarizing information from the study in a digital file format.

Supporting Organization: Dow Thailand Group

WD Mangrove Restoration 2024

An environmental action project for employees of Western Digital Storage Technologies (Thailand) Co., Ltd., or WD. The project aims to provide participants with knowledge and understanding of the benefits of the mangrove forest ecosystem. It also allows them to participate in the conservation of the mangrove ecosystem alongside local communities, based on academic principles and continuous monitoring and evaluation in the areas of Mueang District, Samut Songkhram Province, and Bang Pakong District, Chachoengsao Province.

Supporting Organization: WESTERN DIGITAL STORAGE TECHNOLOGIES (THAILAND) Limited



International Organization

Civil Society Collaborating for Urban Change

Strengthening implementation mechanisms to achieve sustainable urban development, taking into account climate change response and inclusive urban development for all, through the capacity building of civil society.

Supporting Organizations : European Union (EU)

Green Label Criteria and Roadmap Development to Support SPP in Thailand

To revise and develop Green Label criteria for 10 product groups identified through market demand analysis and in support of environmentally friendly public procurement. This also includes expanding awareness of these products to producers and consumers, as well as surveying producer and consumer needs to develop a strategic (3-5 year) roadmap for cultivating the Thai Green Label in alignment with Sustainable Consumption and Production goals.

Supporting Organization: Deutsche Gesellschaft fÜr Internationale Zusammenarbeit (Thailand) **(GIZ)**

Mekong Think Tanks

To strengthen national and regional cooperation among organizations that support knowledge-based and data-driven policymaking, focusing on water-energy security, as well as climate change mitigation and adaptation.

Supporting Organization: Stockholm Environment Institute (Asia) (SEI-Asia)

Country data collection, policy analysis, and stakeholder network support for marine plastic debris

To collect and analyze data on the roles and responsibilities of agencies related to marine plastic debris management in Thailand, in order to support the operations of the Regional Knowledge Centre for Marine Plastic Debris, and to support the private sector network in managing marine plastic debris.

Supporting Organization: Economic Research Institute for ASEAN and East Asia (ERIA)

URBAN: Urban Resilience Building and Nature

To develop a provincial wetland management action plan in collaboration with relevant agencies in the area; to formulate local and provincial development plans by integrating NbS measures; and to develop national policy recommendations. This also includes enhancing capacity building and knowledge exchange for the development of climate-resilient cities with partner organizations and relevant agencies in the target areas (Chiang Rai and Surat Thani provinces).

Supporting Organization: International Union for Conservation of Nature (IUCN)

Plastics Innovation Hub – Thailand

To develop knowledge and build a network for business entrepreneurs in solving the plastic waste problem through the Indo-Pacific Plastics Innovation Network. The project is part of CSIRO's Ending Plastic Waste Mission, which aims to reduce plastic waste entering Australia's environment by 80% by 2030.

Supporting Organization: Commonwealth Scientific and Industrial Research Organization (CSIRO)

Urban Heat Resilience: Bridging Science, Policy, and Sustainable Design

To utilize innovative heat models to understand urban heat risks and leverage existing natural resources to strengthen Bangkok's heat resilience, and to compile the study's findings to develop policy recommendations that help reduce urban heat impacts on vulnerable communities.

Supporting Organization: Stockholm Environment Institute (Asia) (SEI-Asia), Asian Disaster Preparedness Center (ADPC), Department of Foreign Affairs and Trade, Australia (DFAT)

Greening Supply and demand of Construction materials: Advancing Eco-Labels and Sustainable Public Procurement for climate and biodiversity

To promote more sustainable consumption and production patterns by using the Green Label and Sustainable Public Procurement (SPP) as measures. The project also emphasizes supporting SME entrepreneurs, specifically focusing on the construction sector in the cement and steel product groups, to apply Green Label criteria in order to transform production practices towards a green economy and regional sustainability.

Supporting Organization: United Nations Environment Programme (Thailand) (UNEP)

Right to Repair Policy White Paper (Thailand): Value Chain of Smartphone

To study and review relevant data and policies; to collect opinions from electronics (mobile phone) repair service providers, in order to analyze and propose guidelines for improving the efficiency of the equipment repair management system and reducing the environmental impacts from repairs; as well as to develop policies regarding the "Right to Repair" for equipment, which will help promote sustainability in the use of electronic devices.

Supporting Organization: European Space Agency (ESA), Southeast Asia Public Policy Institute (SEAPPI)

Research on Sound International Resource Circulation in ASEAN Region: Thailand (ET Remaining Balance)

To study information related to the management of Electrical and Electronic Equipment (EEE), covering 5 key areas: 1. Analysis of material flow between Thailand and Japan; 2. A survey of domestic recycling and disposal technologies; 3. Identification of alternative materials for EEE; 4. A study of relevant legal frameworks; and 5. A discussion on the concept of Urban Mining.

Supporting Organization: Economic Research Institute for ASEAN and East Asia (ERIA)

Preparation phase URBAN: Urban Resilience Building and Nature

To collaborate with partner agencies in studying data and building an understanding of climate change, complete with demonstrations of using ecosystem-based solutions to reduce the resulting risks, in order to develop policy recommendations and promote wide-scale implementation.

Supporting Organization: International Union for Conservation of Nature (IUCN)

Provision of Consultancy Services South Asia Water Security Initiative – Regional Workshop Facilitation and Logistics

To support Alluvium, Australia and the Department of Foreign Affairs and Trade (DFAT), Australia in organizing the South Asian Water Security Initiative (SAWASI) International Workshop.

Supporting Organization: Alluvium Consulting Australia Pty Ltd (Alluvium)

Mekong Climate Resilience Partnership (MCRP)

To strengthen regional networks and cooperation in driving the implementation of equitable and inclusive climate change preparedness for all groups of people; and to jointly build knowledge and transform the knowledge base for developing cities effectively and in alignment with climate change.

Supporting Organization: Stockholm Environment Institute (Asia) (SEI-Asia)

Consultancy service to organize a forum on finance for biodiversity

To provide consultation and coordinate with stakeholders, including the policy sector, the financial sector, and the business sector, in jointly establishing policy agreements on finance for biodiversity. This also includes organizing a seminar to announce the agreements and preparing a summary report of these agreements for future scaling-up and dissemination.

Supporting Organization: French Development Agency (AFD)

Capacity development on Ecolabel establishment for Lao PDR, Cambodia and Bhutan

To provide technical consultation for the establishment of Type 1 Environmental Label certification bodies in Lao PDR, Cambodia, and Bhutan, along with providing recommendations to their executive boards, technical committees, and in-country consultants. This also includes providing comments to the consultant on the draft Roadmap development report for Cambodia.

Supporting Organization: Deutsche Gesellschaft fÜr Internationale Zusammenarbeit (Thailand) **(GIZ)**

Technical service for estimation of mitigation potential from the energy sectors of TGC-EMC project's interventions

To assess the greenhouse gas emission reduction potential of activities within the TGC-EMC project in the energy sector, and to design methodologies and tools for monitoring and evaluation (M&E) for reporting to BMWK throughout the project duration.

Supporting Organization: Deutsche Gesellschaft fÜr Internationale Zusammenarbeit (Thailand) **(GIZ)**

Forests for Life-Preparation Grant

To enhance the effectiveness of landscape-level forest protection in four areas of Thailand: the Phanom Dong Rak Forest Complex, the Western Forest Complex, the Inthanon Forest Complex, and the Omkoi Forest Complex, through the participation of all relevant sectors and by improving the quality of life for communities living in and around the forest areas.

Supporting Organization: Food and Agriculture Organization of the United Nations (FAO), (GEF8)

Facilitation and Coordination Services – Australia Awards Myanmar: Responding to the Climate Change Challenge

To facilitate the organization of a short training course on climate change adaptation for participants from Myanmar, held on May 7-19, 2024; and to monitor and provide feedback on the participants' climate change adaptation projects developed after the training course.

Supporting Organization: University of Queensland (UQ)

Civil Society

Model School Development by the Toyota Thailand Foundation and the Thailand Environment Institute, Year 1–2

To promote solutions for youth malnutrition and environmental problems in schools, aiming to enhance quality of life and establish food security. This is achieved through sustainable agriculture based on the principles of the Sufficiency Economy Philosophy, standardized public utility systems, and the promotion of clean energy technology, alongside participatory school environmental management.

Supporting Organizations : Toyota Thailand Foundation

9 รายงานการเงิน ประจำปี 2567

Independent Auditor's Report

To The Board of Directors of Thailand Environment Institute Foundation

I have audited the financial statements of Thailand Environment Institute Foundation (the Foundation), which comprise the statement of financial position as at 31 December 2022, the related statement of revenues and expenditures and statement of changes in fund balances for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In my opinion, the accompanying financial statements present fairly, in all material respects, the financial position of Thailand Environment Institute Foundation as at 31 December 2022, the financial performance and changes in fund balances for the year then ended in accordance with Thai Financial Reporting Standards for Non-Publicly Accountable Entities.

Basis for Opinion

I conducted my audit in accordance with Thai Standards on Auditing. My responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of my report. I am independent of the Foundation in accordance with the Federation of Accounting Professions' Code of Ethics for Professional Accountants together with the ethical requirements that are relevant to my audit of the financial statements, and I have fulfilled my other ethical responsibilities in accordance with these requirements. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Thai Financial Reporting Standards for Non-Publicly Accountable Entities, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Foundation's ability to continue as a going concern, disclosing matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Foundation or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with Thai Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Thai Standards on Auditing, I exercise professional judgment and maintain professional skepticism throughout the audit. I also :

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Foundation's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Foundation's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention to my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Foundation to cease to continue as a going concern.

- Evaluate the overall presentation, structure, and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

I communicate with management regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

The engagement partner responsible for the audit resulting in this independent auditor's report is Miss Sulalit Ardsawang.

(Miss Sulalit Ardsawang)

Certified Public Accountant, Registration No. 7517

Dharmniti Auditing Co.,Ltd.

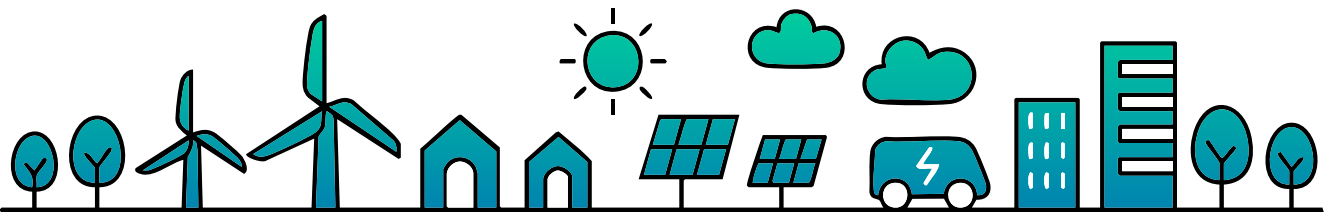
Bangkok

10th April 2025

Thailand Environment Institute
Foundation Statement of Financial Position
As at 31st December 2024

Asset

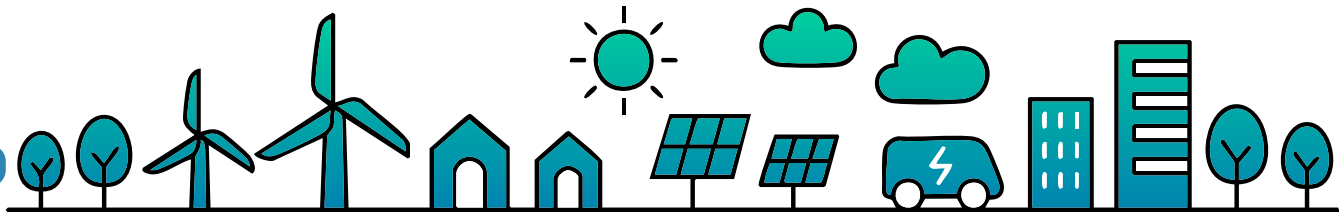
	Note	Baht 2024	Baht 2023
Current assets			
Cash and cash equivalents	3	49,065,713	40,229,006
Short-term investments	4	11,500,000	101,996,139
Trades and other receivable	5	13,061,496	11,162,274
Total current assets		73,627,209	153,387,419
Non-current assets			
Long-term investments	6	250,479,410	158,965,844
Restricted cash	7	5,664,288	6,095,148
Property, plants and equipment	8	16,115,575	16,004,862
Computer software	9	867,187	494,729
Total non-current assets		273,126,460	181,560,583
Total asset		346,753,669	334,948,002



Thailand Environment Institute
Foundation Statement of Financial Position
As at 31st December 2024 (Continue)

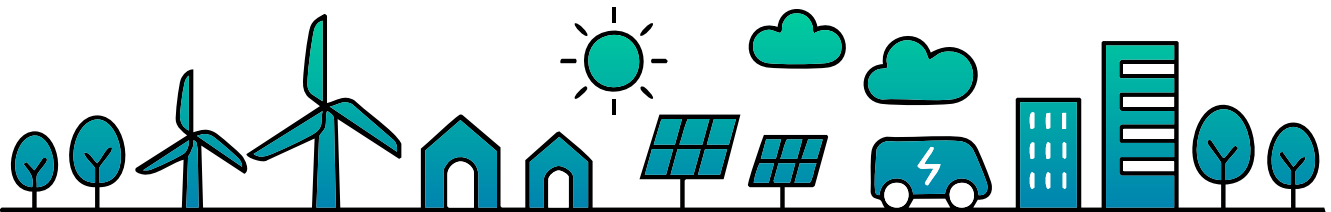
Liabilities and Fund balances

	Note	Baht 2024	Baht 2023
Current liabilities			
Trade and other payables	10	28,224,663	23,168,773
Total current liabilities		28,224,663	23,168,773
Non-current liabilities			
Employee benefits obligations	11	4,619,509	5,062,273
Total non-current liabilities		4,619,509	5,062,273
Total liabilities		32,844,172	28,231,046
Fund balances	12		
Unrestricted funds		93,761,151	93,038,899
Restricted funds			
Sponsored program fund		33,731,120	30,772,527
Capital and reserve fund		186,417,226	182,905,530
		220,148,346	213,678,057
Total fund balances		313,909,497	306,716,956
Total liabilities and fund balances		346,753,669	334,948,002



Thailand Environment Institute
Foundation Statement of Income and Expenses
As at 31st December 2024

	Note	Baht 2024	Baht 2023
Revenues			
Sponsorships for research activities		70,916,333	64,592,741
Membership fee income		10,750,000	10,750,000
Other income	13	6,641,025	5,955,408
Total revenues		88,307,358	81,298,149
Expenditures	14		
Salaries and related staff costs		34,534,706	32,734,286
Sub-contracts for research		8,504,947	10,895,905
Rental expenses		1,755,243	1,598,613
Utility expenses		932,784	988,775
Communication expenses		818,414	899,710
Traveling and related costs		6,499,879	4,681,409
Meeting and seminar expenses		12,046,652	7,728,230
Publication expenses		1,916,125	2,185,590
Promotional materials		2,039,188	2,312,471
Library expenses		139,450	140,110
Stationery supplies		2,685,876	1,907,660
Computer system development cost		985,226	1,068,045
Bank charges and duty stamp		151,153	78,222
Professional consulting and audit fees		371,836	414,600
Depreciation and amortization	8, 9	2,066,970	4,816,422
Contributions for project activities		3,673,826	5,856,810
Miscellaneous expenses		1,422,895	1,754,200
Total expenditures		80,545,170	80,061,058
Excess of revenues over (under) expenditures		7,762,188	1,237,091

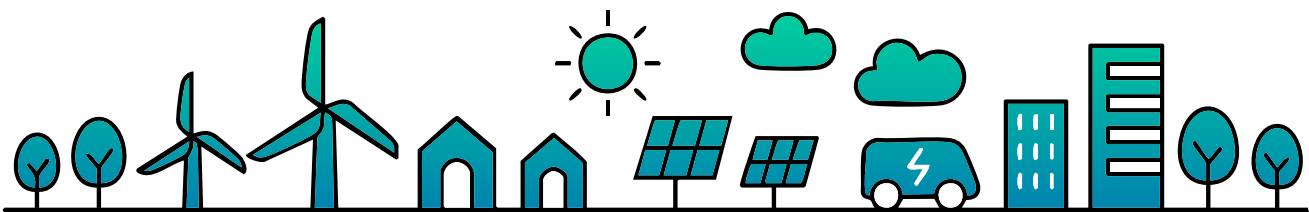


Thailand Environment Institute
Foundation Statement of Changes in Fund Balances for the year ending 31 December 2024

	Note	Baht	
		2024	2023
Fund Balances brought forward		306,716,956	305,479,865
Adjustment to Beginning Fund Balance	12	(569,647)	-
Excess of Revenue Over Expenditures		7,762,188	1,237,091
Fund balance carried forward		313,909,497	306,716,956

to access the financial report for the year ended 31 December 2024.

If you have any questions, please contact info@tei.or.th



16/151 Muang Thong Thani, Bond Street, Bangpood, Pakkred, Nonthaburi THAILAND 11120

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