



Biodiversity Management 2026

Standard and Guideline

The company collects data, assesses biodiversity risks, and develops measures using **GRI standard-304** biodiversity which is a standard for reporting requirements on the topic of biodiversity. Topic-specific disclosures including ;

Disclosure 304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas

Disclosure 304-2 Significant impacts of activities, products, and services on biodiversity

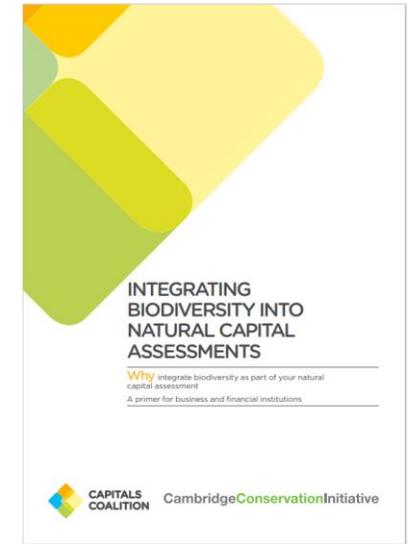
Disclosure 304-3 Habitats protected or restored

Disclosure 304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations

Furthermore, the company is employing the "**Integrating Biodiversity into Natural Capital Assessments**" framework, which was developed as a guideline for the private sector by the Cambridge Conservation Initiative and the Capitals Coalition. This framework helps companies develop biodiversity strategies, aiming to minimize impacts and effectively manage dependencies on nature.



<https://www.globalreporting.org/standards/media/1011/gri-304-biodiversity-2016.pdf>

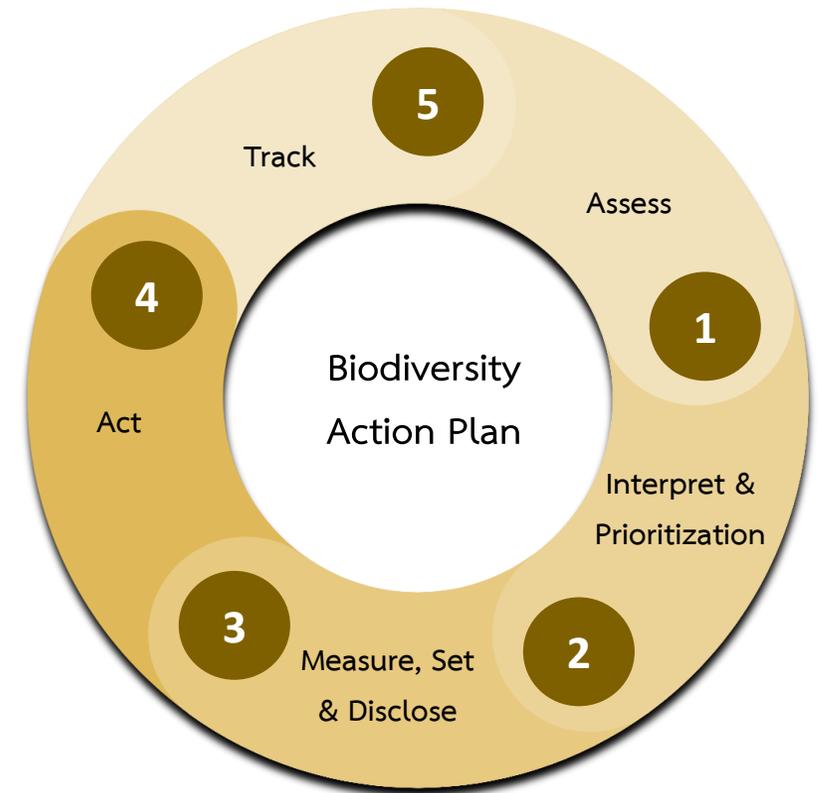


https://capitalscoalition.org/wp-content/uploads/2020/10/Biodiversity-Guidance_COMBINED_single-page.pdf

Biodiversity Action Plan (BAP)

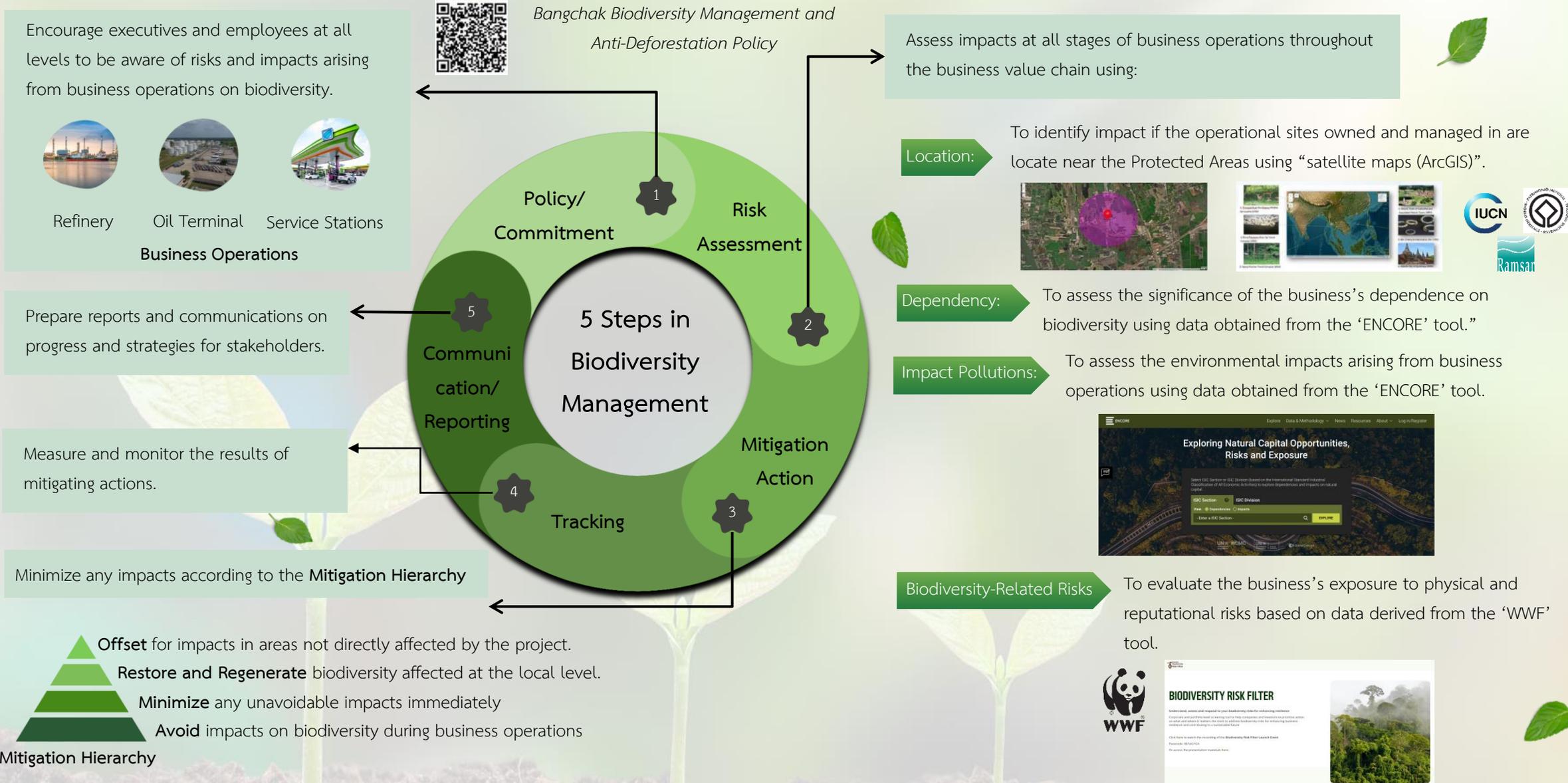
In addition, the Company has applied the process for developing a Biodiversity Action Plan (BAP) for the business sector, with details as follows.

- 1. Assess:** Collect existing data to estimate impacts and dependencies on nature across the value chain, in order to identify issue areas and positions within the value chain for target setting.
- 2. Interpret & Prioritization:** Prioritize key issues and critical positions for action.
- 3. Measure, Set & Disclose:** Subsequently collect baseline data on current environmental conditions to be used as a reference for comparison and future progress measurement, and establish clear targets.
- 4. Act:** Implement actions using the Avoid, Reduce, Regenerate, Restore, and Transform operational framework.
- 5. Track:** Monitor progress and performance outcomes and adjust the plan as necessary.



Biodiversity Management

Bangchak Group recognizes the importance of balancing the ecosystem and biodiversity to ensure sustainable business operations, allowing all stakeholders to utilize ecosystems and biodiversity fairly and equitably.



Biodiversity Management and Anti-Deforestation Policy and Commitment

Biodiversity Management and Anti-Deforestation Objectives;

1. Avoid operating business at UNESCO World Heritage sites, Ramsar Convention wetlands and conservation areas designated by the International Union for Conservation of Nature (IUCN).
2. Avoid causing negative impacts on the environment and biodiversity as a result of business activity.
3. Avoid causing impacts on forests and, wherever impacts occur, strive to rehabilitate or replant forests to compensate for deforestation (No Net Deforestation).

Practice Guidelines

1. **Assess impacts** in every stage of business that affects biodiversity and forest areas throughout the entire business value chain (biodiversity risk assessment).
2. **Monitor** to check for biodiversity and forest risks covering every area (due diligence process) and set in place corrective measures for when there are actions or participation in actions that cause negative impacts on biodiversity and forests (access to remedies) and adopt practice guidelines to “**hierarchically mitigate impacts**” covering avoidance of severe impacts, minimizing impacts and making improvements to restore and offset losses that occur.
3. **Monitor and report** the results of activities and seek opportunities to continuously make improvements.
4. **Promote** the engagement of communities and key stakeholders, including trade partners and business allies, and work with external parties to promote biodiversity value.
5. **Create communications channels** consistent with every stakeholder and channels for whistleblowing or filing complaints related to biodiversity and forest impacts stemming from the company’s business operations. Inspect impacts according to the whistleblowing process and set in place remediating measures while maintaining data confidentiality.
6. **Monitor, report and disseminate information** to the public about impact assessments and performance in biodiversity and forests in order to ensure transparency.

Biodiversity Management and Anti-Deforestation Policy



The image shows a thumbnail of the Biodiversity Management and Anti-Deforestation Policy document. The document is titled "Biodiversity Management and Anti-Deforestation Policy" and features the Bangchak logo. It outlines the company's commitment to biodiversity and anti-deforestation, detailing objectives and practice guidelines. The document is signed by Mr. Chaiwat Kovavisarath, Group Chief Executive Officer and President, on 15 August 2023. The document is reviewed and approved by the Sustainability and Corporate Governance Committee (SCGC) on 20 July 2023.

Biodiversity Management and Anti-Deforestation Policy

Bangchak Group recognizes the importance of operating business while paying attention to promoting ecological balance and biodiversity in order to ensure sustainable business operations and that every party has the capability to make use of ecosystems and biodiversity in a fair and equitable manner.

Bangchak Corporation Public Company Limited prepared the “Biodiversity Management and Anti-Deforestation Policy” with firm commitments to the UN Convention on Biological Diversity, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on the Conservation of Migratory Species of Wild Animals, the Convention on Wetlands (Ramsar), the World Heritage Convention (WHC) and the International Treaty on Plant Genetic Resources for Food in order to demonstrate its responsibility to and boost business confidence in operating with mindfulness toward biodiversity and forests. Thus, the following objectives and practice guidelines were set:

Biodiversity Management and Anti-Deforestation Objectives

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6. Monitor, report and disseminate information to the public about impact assessments and performance in biodiversity and forests in order to ensure transparency.

The board of directors, executives, and employees of Bangchak Public Company Limited and affiliated companies must engage and recognize the importance of biodiversity and forests. Executives must conduct themselves as good role models to be followed by employees who must understand and practice in line with set objectives in order to become a model organization for sustainable business growth while creating positive impacts for society and the environment.

Mr. Chaiwat Kovavisarath
Group Chief Executive Officer and President,
Executive Director, Director with Authorized Signature
(15 August 2023)

Reviewed and approved by Sustainability and Corporate Governance Committee (SCGC) on 20 July 2023

Link to Biodiversity Policy :

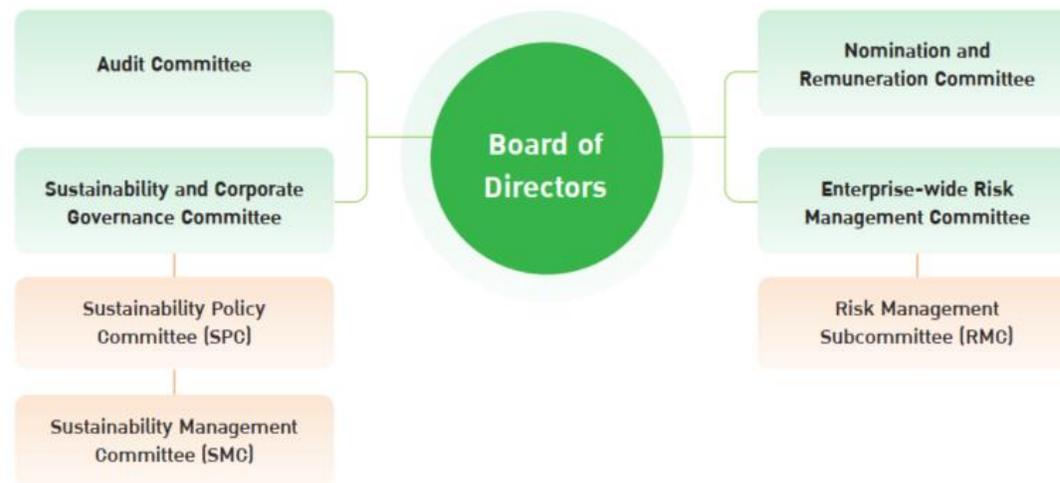
<https://www.bangchak.co.th/storage/document/biodiversity/2023/biodiversity-management-policy-en.pdf>

Management Structure

The Biodiversity Management and Anti-Deforestation Policy has received endorsement from the Board of Directors.

It undergoes preliminary approval by the **Sustainability Management Committee (SMC)** acts as a main coordinator to monitor, collect, evaluate and report on progress and performance outcomes to the Sustainability Policy and subsequently by the **Sustainability Policy Committee (SPC)**. The SPC is chaired by Bangchak Group's Chief Executive Officer and President, with executives of business groups and functions working as committee members. The Sustainability Policy Committee is responsible for establishing goals, directions, policies, and strategies for sustainability development within Bangchak Group. The final approval is granted by the **Board of Directors through the Sustainability and Corporate Governance Committee (SCGC)** as illustrate in the management structure.

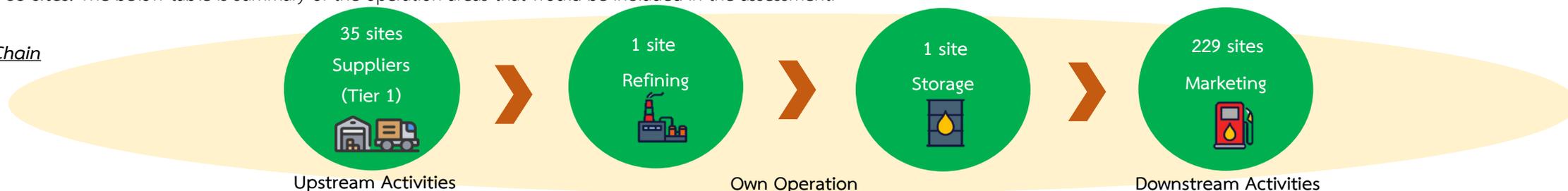
Management Structure



Scope of Assessment

In 2025, the Company evaluated biodiversity impacts and dependencies across its entire value chain at 266 sites. These assessments covered **1 site of the Bangchak Phra Khanong oil refinery and oil depot, 1 site of Bang Pa-in oil depots, and 229 sites of Company-Owned, Company-Operated (COCO) service stations**. Among these, 9 new sites were assessed this year. **The total area of the Company's own operations, where it conducts its primary activities, is 211.7 hectares**. Additionally, the company has expanded risk assessment to suppliers, **Tier 1 suppliers** have undergone initial biodiversity risk assessments totaling 35 sites. The below table is summary of the operation areas that would be included in the assessment.

Value Chain



Type of Business	Number of Sites	Site's Name	Location	Total Areas (Hectares)
Upstream Activities /Suppliers	35	Significant Suppliers (Tier 1)	Thailand	-
Own Operation /Oil Refinery & Oil Depot	1	Bangchak Phra Khanong Oil Refinery & Oil Depot	Phra Khanong, Bangkok, Thailand	76.8
Own Operation /Oil Depot	1	Bang Pa-in Depot	Bang Pa-in, Ayutthaya, Thailand	25.0
Downstream Activities /Service Stations	229 (Data as of 31.12.2024)	COCO service stations	Central Region: Bangkok, Pathum Thani, Samut Prakan, Nonthaburi, Lopburi, Saraburi, Singburi, Suphanburi, Nakhon Pathom, Ayutthaya, Phitsanulok, Kamphaeng Phet, Samut Sakhon Northern Region: Uttaradit, Chiang Mai, Tak Northeastern Region: Nakhon Ratchasima, Maha Sarakham, Surin, Chaiyaphum, Udon Thani, Khon Kaen, Roi Et, Buriram Eastern Region: Chachoengsao, Chonburi, Rayong, Chanthaburi, Sa Kaeo Western Region: Kanchanaburi, Phetchaburi, Prachuap Khiri Khan, Ratchaburi Southern Region: Phuket, Nakhon Si Thammarat, Songkhla, Surat Thani, Chumphon, Krabi	109.9
Total	266			211.7

Risk assessments are conducted across the following areas:

1. **Assessment of distance from locations with high biodiversity areas:** This assessment evaluates location-related impacts of business operating sites in conjunction with environmental considerations. It considers the distance between the locations of business operations and surrounding locations with high biodiversity areas, including UNESCO World Heritage Sites, Ramsar Convention wetlands, and protected locations designated by the International Union for Conservation of Nature (IUCN), within a radius of 5 kilometers for refineries and oil depots, or 2 kilometers for service stations. A Geographic Information System (GIS) is used to screen and identify business operation locations situated close to locations with high biodiversity areas. These locations are referred to as Significant Locations (SLs).
2. **Dependence on nature in business operations:** This assessment focuses on key issues relating to the adequacy of natural resources used for production, risks arising from changes in natural conditions such as water quantity and quality, increasing severity of natural disasters including floods and droughts, as well as ecosystem services that support business operations, such as carbon sequestration and climate regulation, and natural water and air filtration.
3. **Assessment of impacts on nature:** This assessment evaluates impacts from business activities on nature, including emissions of pollutants to air, water, and soil, greenhouse gas emissions, and the introduction of invasive alien species into operational locations.
4. **Biodiversity risks:** This assessment considers both the Company's physical risks and factors that may affect the Company's reputation.

Following the assessment, the Company prioritizes the identified issues and defines mitigation measures and targets for each location.

The Areas of High Biodiversity Value

Area to Consider

1. **The International Union for Conservation of Nature (IUCN).** The definition of six management categories are summarized below.

Ia Strict nature reserve	Strictly protected for biodiversity and also possibly geological/ geomorphological features, where human visitation, use and impacts are controlled and limited to ensure protection of the conservation values
Ib Wilderness area	Usually large unmodified or slightly modified areas, retaining their natural character and influence, without permanent or significant human habitation, protected and managed to preserve their natural condition
II National park	Large natural or near-natural areas protecting large-scale ecological processes with characteristic species and ecosystems, which also have environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities
III Natural monument or feature	Areas set aside to protect a specific natural monument, which can be a landform, sea mount, marine cavern, geological feature such as a cave, or a living feature such as an ancient grove
IV Habitat/species management area	Areas to protect particular species or habitats, where management reflects this priority. Many will need regular, active interventions to meet the needs of particular species or habitats, but this is not a requirement of the category
V Protected landscape or seascape	Where the interaction of people and nature over time has produced a distinct character with significant ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values
VI Protected areas with sustainable use of natural resources	Areas which conserve ecosystems, together with associated cultural values and traditional natural resource management systems. Generally large, mainly in a natural condition, with a proportion under sustainable natural resource management and where low-level non-industrial natural resource use compatible with nature conservation is seen as one of the main aims

The Areas of High Biodiversity Value

Area to Consider

2. **UNESCO World Heritage sites** is a natural or cultural site that demonstrates influence or significance in a global context and has been inscribed on the World Heritage List by the United Nations Educational, Scientific, and Cultural Organization's (UNESCO) World Heritage Committee. In 2024, the World Heritage Committee (WHC) inscribed the "Phu Phrabat, a testimony to the Sīma stone tradition of the Dvaravati period " as the eight World Heritage site in Thailand, bringing the total number of sites in the country to eight.



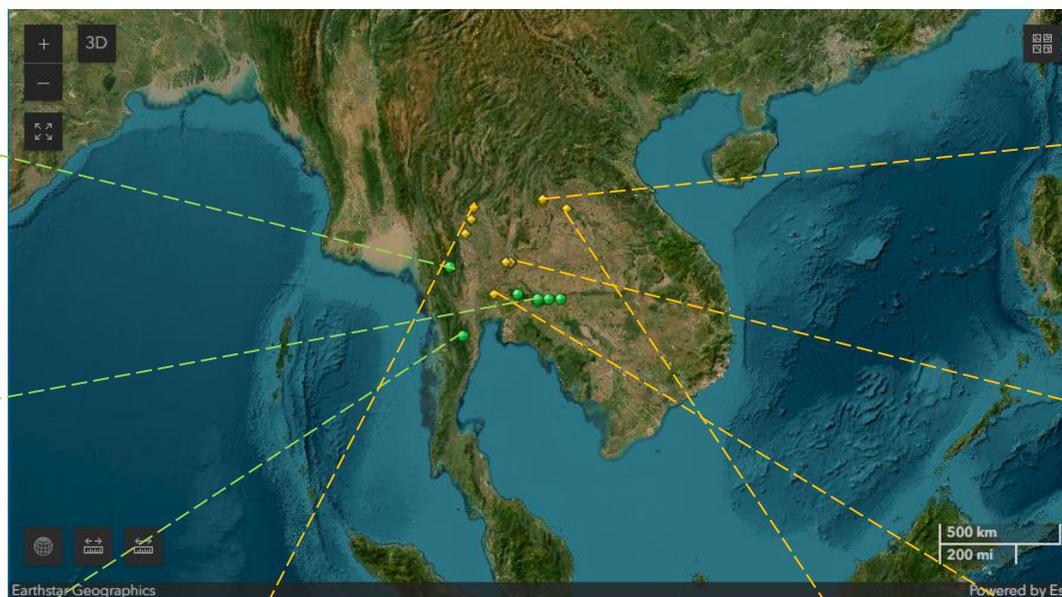
1. Thungyai-Huai Kha Khaeng Wildlife Sanctuaries (1991)



2. Dong Phrayayen-Khao Yai Forest Complex (2005)



3. Kaeng Krachan Forest Complex (2021)



8. Phu Phrabat, a testimony to the Sīma stone tradition of the Dvaravati period(2024)



7. The Ancient Town of Si Thep and its Associated Dvaravati Monuments (2023)



4. Historic Town of Sukhothai and Associated Historic Towns (1991)



5. Ban Chiang Archaeological Site (1992)



6. Historic City of Ayutthaya (1991)

The Areas of High Biodiversity Value

Area to Consider

3. Ramsar Convention wetlands. The government of Thailand signed the Ramsar Convention in 1998, promising to work toward wetland conservation. Today, there are 15 Ramsar Sites.

1. Kuan Ki Sian of the Thale Noi Non-Hunting Area



2. Bueng Khong Long Non-hunting Area



3. Don Hoi Lot



4. Krabi River Estuary



5. Nong Bong Kai Non-hunting Area



6. Princess Sirindhorn Wildlife Sanctuary (Pru To Daeng Wildlife Sanctuary)



7. Hat Chao Mai Marine National Park -Ko Libong Non-8. Kaper Estuary - Laem Son National Park - Kraburi Estuary



9. Mu Ko Ang Thong Marine National Park



10. Ao Phang Nga National Park



11. Khao Sam Roi Yot National Park



12. Kut Ting Marshland



13. Ko Kra Archipelago



14. Ko Ra-Ko Phra Thong Archipelago



15. Lower Songkhram River

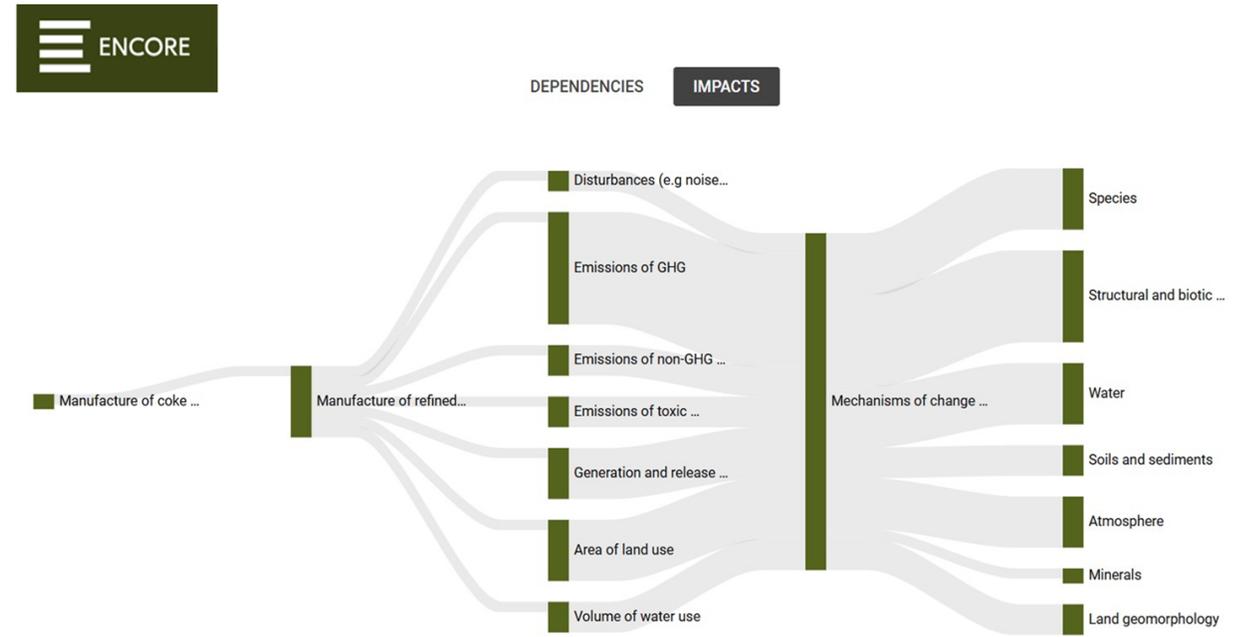
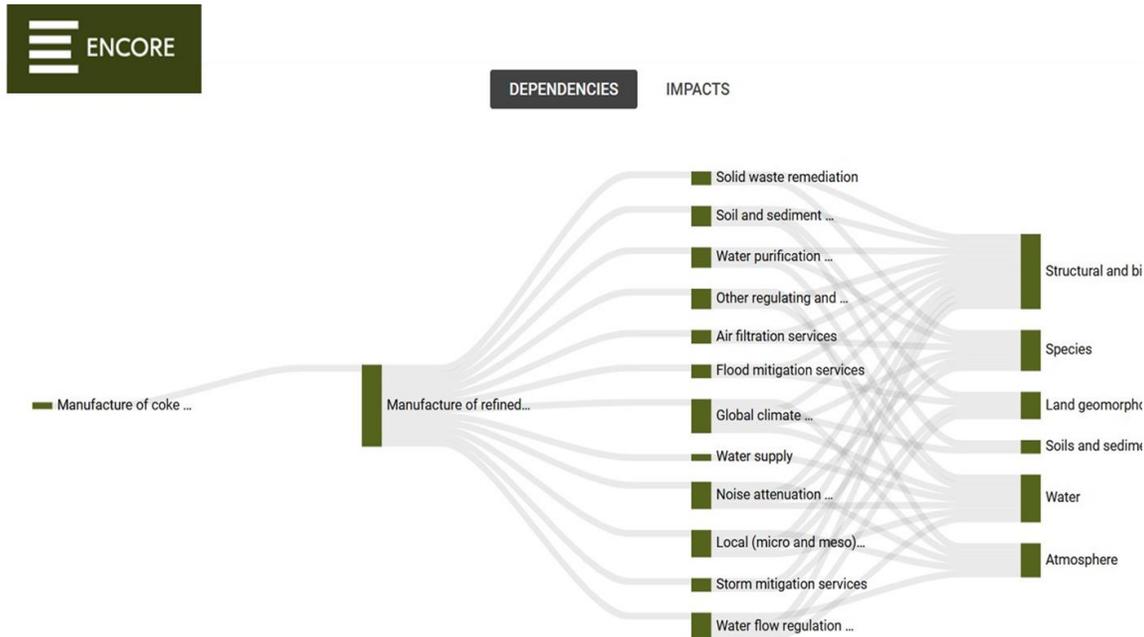


Assessment of Dependence on Nature in Business Operations and Impacts from Business Activities

Dependence on nature: This aspect considers reliance on and use of ecosystem services in business operations, including physical characteristics such as the use of groundwater or surface water, as well as regulation and protection functions in various areas, such as climate regulation, climate change, flood and storm protection, and prevention of soil degradation.

Impacts from business activities: This aspect considers the generation of environmental impacts arising from business activities, such as activities causing noise or light pollution, greenhouse gas emissions, and land use.

Both aspects are assessed using the Exploring Natural Capital Opportunities, Risks and Exposure (Encore) tool.



This assessment focuses on biodiversity risks, considering both physical risks and reputational risks, as follows:

1. Physical risks, comprising four aspects:

- Provisioning services, such as the supply of water, food, and natural resources.
- Regulating and supporting services, such as the maintenance of soil, water, air, and ecosystems.
- Cultural services, such as natural and cultural values.
- Pressures on biodiversity, such as changes in land use, water use, and marine use.

2. Reputational factors, comprising three aspects:

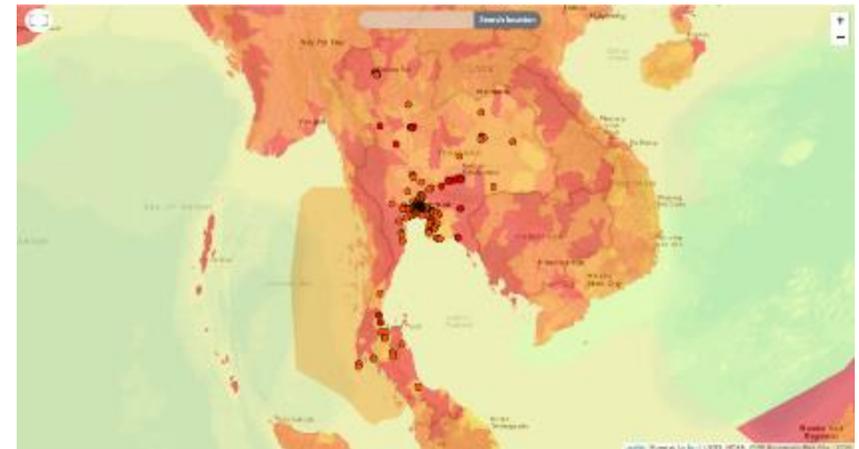
- Environmental factors, such as proximity to protected areas conservation areas and important biodiversity locations.
- Economic and social factors, such as labor rights and human rights.
- Additional reputational factors, such as media scrutiny and political situations.

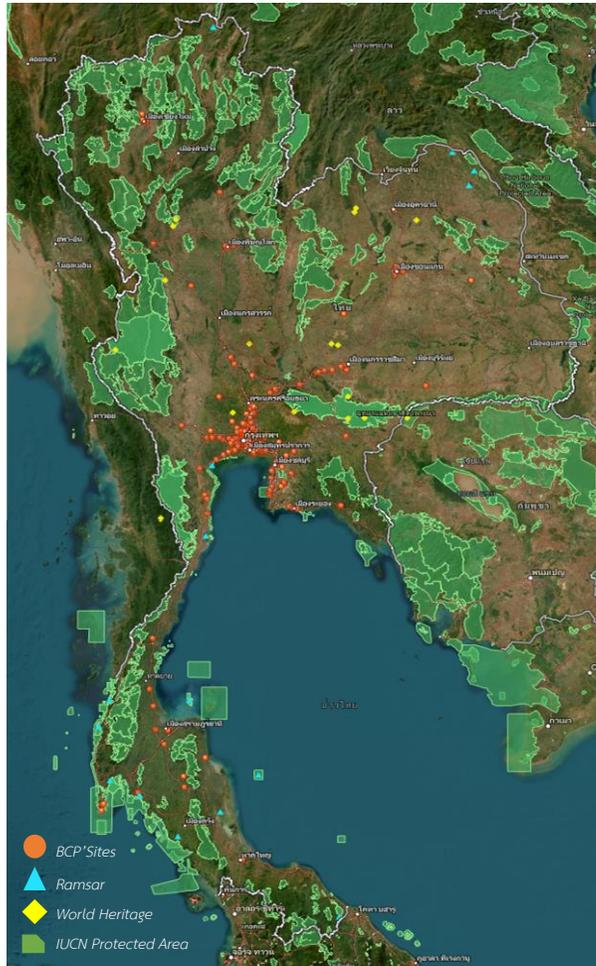
The WWF Biodiversity Risk Filter is used as a tool to support the biodiversity risk assessment.

Physical risks



Reputational risks



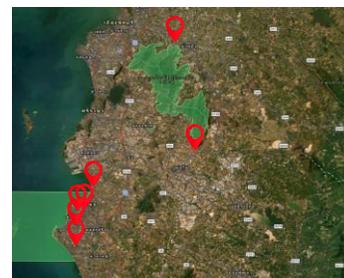


Map showing the locations of areas with high biodiversity in Thailand, including IUCN protected areas, UNESCO World Heritage Sites, and Ramsar Convention wetlands.

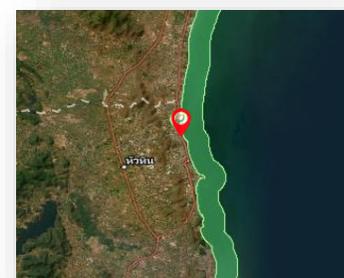
1. Results of the assessment of distance from locations with high biodiversity

The assessment of the distance between business operation locations and surrounding locations with high biodiversity found that 11 service station locations (6.32 hectares) are located within a radius of less than 2 kilometers from locations with high biodiversity. These locations are therefore considered Significant Locations (SLs). The Significant Locations are distributed across several regions, including the Eastern Region with seven locations in Chonburi Province covering a total area of 4.11 hectares, the Western Region with one location in Prachuap Khiri Khan Province covering 1.13 hectares, the Northern Region with two locations in Chiang Mai Province covering 0.80 hectares, and the Southern Region with one location in Phuket Province covering 0.28 hectares. Details are illustrated in the map.

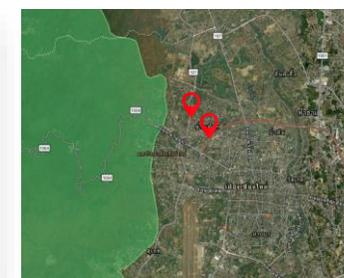
Locations	Number (locations)
Total locations assessed	231
Significant Locations (SLs)	11



Eastern Region



Western Region



Northern Region



Southern Region

Risk Assessment Results

2. Results of the Assessment of Dependence on Nature in Business Operations and Impacts from Business Activities

The results of the assessment of dependence on nature indicate that all business operation locations rely on nature at varying levels. Overall, the level of dependence is predominantly Low (L) and Very Low (VL). However, certain ecosystem services are of greater importance in specific locations, where a Moderate (M) level of dependence is identified. These include water supply at refinery (RF) location and soil and sediment retention services at the Bang Pa-In depot (BPI) location.

The results of the assessment of impacts from business activities indicate that all business operation locations generate impacts on nature at varying levels. Overall, the impacts are predominantly assessed as Low (L) and Very Low (VL). However, in certain locations, Moderate (M) levels of impact are identified in specific areas, including greenhouse gas (GHG) emissions at refinery locations and service stations (SS), as well as emissions of non-GHG air pollutants and emissions of toxic pollutants to water and soil at refinery locations.

Dependencies	RF	BPI	SS
<i>Provisioning Service</i>			
Water supply	M	VL	VL
<i>Regulating and maintenance services</i>			
Global climate regulation services	VL	VL	VL
Local (micro and meso) climate regulation services	L	L	L
Air filtration services	VL	VL	L
Soil and sediment retention services	L	M	L
Solid waste remediation	VL		
Water purification services	L		
Water flow regulation services	L	VL	
Flood mitigation services	L	VL	VL
Storm mitigation services	L	L	VL
Noise attenuation services	L		
Other regulating and maintenance service - Dilution by atmosphere and ecosystems	VL		
<i>Impacts</i>			
Disturbances (e.g. noise, light)	L	VL	L
Emission of GHG	M	L	M
Emissions of non-GHG air pollutants	M	L	L
Generation and releases solid waste	L	L	L
Area of land use	VL	L	VL
Emission of toxic pollutants to water and soil	M	VL	L
Volume of water use	L	L	L
Introduction of invasive species		VL	

3. Results of the Biodiversity Risk Assessment

The top three physical and reputational biodiversity risks for each location are presented in the table below.

Refinery	Bang Pa-In Depot	Service Stations
<p><u>Physical</u></p> <ol style="list-style-type: none"> 1. Land, Freshwater and Sea Use Change 2. Extreme Heat 3. Pollution 	<p><u>Physical</u></p> <ol style="list-style-type: none"> 1. Land, Freshwater and Sea Use Change 2. Extreme Heat 3. Pollution 	<p><u>Physical</u></p> <ol style="list-style-type: none"> 1. Pollution 2. Extreme Heat 3. Land, Freshwater and Sea Use Change
<p><u>Reputational</u></p> <ol style="list-style-type: none"> 1. Media Scrutiny 2. Key Biodiversity Area 3. Labor/Human Right 	<p><u>Reputational</u></p> <ol style="list-style-type: none"> 1. Media Scrutiny 2. Key Biodiversity Area 3. Labor/Human Right 	<p><u>Reputational</u></p> <ol style="list-style-type: none"> 1. Media Scrutiny 2. Labor/Human Right 3. Indigenous People/Local Community

Based on the results of the assessment of impacts and biodiversity risks, the Company has therefore applied the mitigation hierarchy principle in defining measures for each location, in order to mitigate impacts on nature as well as to reduce risks to the Company. These actions will be further described in the section on Mitigation Measures and Monitoring.

Assessment of Suppliers on Biodiversity

Supplier Code of Conduct (SCOC)

Bangchak Corporation Public Company Limited has been managing its supply chain sustainability from upstream to downstream, incorporating the principles of the UN Global Compact framework to guide its operations with partners and considering sustainable business practices in terms of the Environmental, Social, and Governance (ESG) aspects. Every new registered supplier must adhere to the SCOC, and continuous adherence to ethical business practices is emphasized with the goal to integrate procurement processes into the Company’s business strategy, aligning with international standards for sustainable procurement to mitigate business disruptions and delays caused by unforeseen circumstances. One aspect in SCOC which related to the Biodiversity is **4.2 Efficient resource allocation and environmental-friendly management** and **4.3 Development of strategies to mitigate and prevent environmental impacts**.

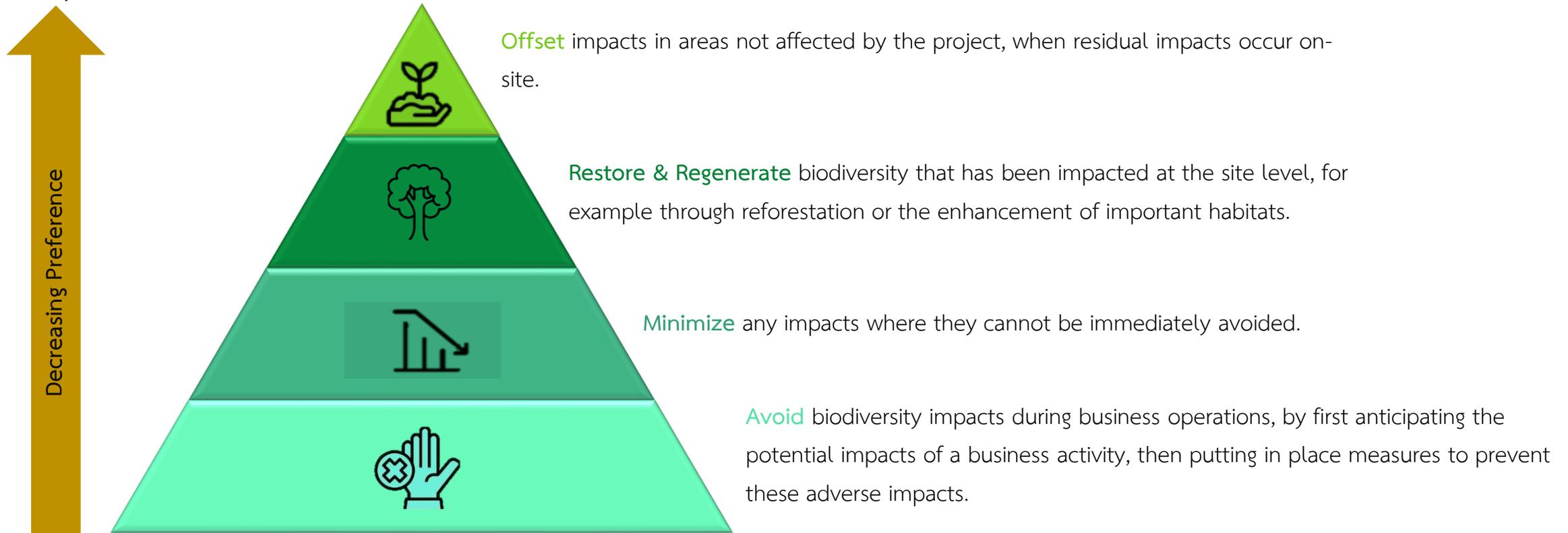
The company collaborated with suppliers to conduct an initial biodiversity assessment through the Suppliers Code of Conduct Assessment, focusing on significant suppliers by evaluating their operational areas and adjacent areas surrounding their operation areas within a radius of 5 kilometers. The initial phase of the biodiversity assessment aims to enhance the company's understanding of biodiversity practices among its suppliers. This effort is crucial for advocating and advancing future biodiversity project initiatives.



Please see BCP’s SCOC for more detail : <https://www.bangchak.co.th/storage/document/sustainability/2023/bcp-supplier-code-conduct-en.pdf>

Mitigation Action

Mitigation action - the management plan are relied on the mitigation hierarchy that mention in the Integrating Biodiversity into Natural Capital Assessments framework. The mitigation hierarchy consist of 4 stages compromising a sequence of actions, in order of priority, to anticipate and mitigate impacts on biodiversity



Tracking - Monitor and report the results of operations, and identify opportunities for continuous improvement and development.

Mitigation Measures and Monitoring

Based on the risk assessment results for each location, the Company has applied **the mitigation hierarchy principle** in developing the following measures :

Risks			Mitigation Measures	Monitoring
Physical / Pollution	Avoid	Bangchak Phra Khanong Refinery	<ul style="list-style-type: none"> Safety, Security, Occupational Health, Environment, and Energy Policy (SHEE) Environmental Impact Assessment ISO 14001, ISO 45001, ISO 50001 	<ul style="list-style-type: none"> Comply with legal requirements <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>SHEE Policy</p> </div> <div style="text-align: center;">  <p>SHEE-MK Policy</p> </div> </div>
		Bang Pa-In Oil Depot	<ul style="list-style-type: none"> Safety, Security, Occupational Health, Environment, and Energy Policy (SHEE) ISO 14001, ISO 45001, ISO 50001 	
		Oil Service Stations	<ul style="list-style-type: none"> Safety, Security, Occupational Health, Environment, and Energy Policy for the Marketing Business Group (SHEE-MK) Notification of the Ministry of Natural Resources and Environment on wastewater discharge control standards, as regulated by the Pollution Control Department 	
Physical / Changes in land use, freshwater, and marine environments	Avoid	Bangchak Phra Khanong Refinery	<ul style="list-style-type: none"> Biodiversity Management and No Deforestation Policy 	<ul style="list-style-type: none"> No biodiversity-related complaints arising from changes in the use of land, freshwater, and marine environments.
Bang Pa-In Oil Depot				
Oil Service Stations				

Mitigation Measures and Monitoring

Risks		Mitigation Measures		Monitoring
Dependence / Water supply	Reduce Impacts	Bangchak Phra Khanong Refinery	<ul style="list-style-type: none"> Apply the 3Rs principle (Reduce, Reuse, and Recycle) to enhance water-use efficiency, reduce water consumption, reuse water, and improve wastewater treatment systems for water reuse. Analyze organizational water-related risks across multiple dimensions, including both water quantity and water quality. 	<ul style="list-style-type: none"> Control water consumption per production capacity in line with the target.
Impacts / Greenhouse gas emissions	Reduce Impacts	Bangchak Phra Khanong Refinery	<ul style="list-style-type: none"> Set a target to achieve Net Zero greenhouse gas emissions by 2050 under the BCP316NET strategy framework. Enhance production process capability through the adoption of technologies and fuels that reduce carbon emissions. Implement projects to develop natural carbon dioxide sinks and sequestration, in collaboration with partners from the public sector, private sector, and local communities. Focus on investment and development of new businesses that can reduce greenhouse gas emissions. 	<ul style="list-style-type: none"> Greenhouse gas emissions were within the targets set by the Company.
		Oil Service Stations	<ul style="list-style-type: none"> Collect Scope 3 greenhouse gas emissions data from service station operators within the Company's network. Participate in greenhouse gas emission reduction within Scope 1 and Scope 2. 	

Mitigation Measures and Monitoring

Risks		Mitigation Measures		Monitoring
Impacts / Air pollutant emissions	Reduce Impacts	Bangchak Phra Khanong Refinery	<ul style="list-style-type: none"> Air quality monitored by third parties meets all regulatory standards, accounting for 100 percent compliance. Use clean fuel (Natural Gas) throughout the entire production process. Monitor air quality through Continuous Emission Monitoring Systems (CEMs), with seven units providing real-time air quality measurements and reporting data to the Department of Industrial Works. Continuously control and monitor leaks from production processes. Install high-efficiency Vapor Recovery Units (VRUs) to reduce evaporation of volatile organic compounds during product loading and unloading. 	<ul style="list-style-type: none"> Zero complaints related to air pollution. Emissions discharged from stacks were within the defined targets.
Impacts / Emissions of pollutants to water and soil	Reduce Impacts	Bangchak Phra Khanong Refinery	<ul style="list-style-type: none"> Reduce wastewater volumes using the 3Rs principle Regularly analyze treated water quality through the Company's analytical laboratory. Control wastewater quality from wastewater treatment units to ensure compliance with control standards. Analyze soil quality by testing for organic substances and heavy metals every 3 years. 	<ul style="list-style-type: none"> No incidents of non-compliance with permit conditions, standards, or regulations. EIA monitoring results were within acceptable regulatory standards.

Biodiversity Supporting Projects in the Company's Operation Area

The company support the projects to restore and regenerate of biodiversity and ecosystem in own operation area as follow :

Green Areas and Birdwatching Activities at Bangchak Phra Khanong Refinery

The Company prioritizes green space conservation and carries out tree planting projects to maintain biodiversity within its operational areas continuously. Besides, the refinery area includes large gardens, ponds, trees, and flowers. There are initiatives to plant additional trees in suitable areas or replace dried-up trees. In terms of air quality, continuous monitoring and transparent reporting are conducted in accordance with acceptable standards. This has made the Bangchak Phra Khanong refinery a safe area for both resident and migratory birds. Thus, the refinery area is not only used for business operations but also serves as a small ecosystem that supports both people involved and small living creatures. The refinery is considered an excellent bird-watching spot in the heart of the city. Additionally, bird-watching activities are related to the survey of bird populations, which is part of the biodiversity index in the area. The Company plans to conduct annual bird surveys to monitor biodiversity changes and raise environmental awareness among employees and the surrounding community.



Green Areas and Birdwatching Activities at Bangchak Phra Khanong Refinery

Operating Results :

- Maintained green space at approximately 72.21 rai or about 15.63% of the total area (462 rai) by planting a variety of tree species, which helps conserve biodiversity and promotes ecological balance in the area.
- From the survey of bird species and population in the operational area in January 2024, a total of 42 bird species were found, with a total of more than 336 birds, including resident and migratory birds, as listed below.

- Red List Category:** It was found that 37 bird species out of a total of 42 species were classified in the Red List and categorized as “Least Concern.” The remaining species are not listed in the Red List.

The bird species found at Bangchak Oil Refinery in Phra Khanong		
<i>Little Cormorant</i>	<i>Yellow-vented Bulbul</i>	<i>Brown-throated Sunbird</i>
<i>Chinese Pond-Heron</i>	<i>Streak-eared Bulbul</i>	<i>Olive-backed Sunbird</i>
<i>Little Egret</i>	<i>Ashy Drongo</i>	<i>Scarlet-Backed Flowerpecker</i>
<i>Little Heron</i>	<i>Black-naped Oriole</i>	<i>Eurasian Tree-Sparrow</i>
<i>Asian Openbill</i>	<i>Large-billed Crow</i>	<i>House Sparrow</i>
<i>Peregrine Falcon</i>	<i>Arctic Warbler</i>	<i>Scaly-breasted Munia</i>
<i>Pink-necked Pigeon</i>	<i>Inornate Warbler</i>	<i>Blue Rock-Thrush</i>
<i>Rock Pigeon</i>	<i>Plain Prinia</i>	<i>Vinous-breasted Starling</i>
<i>Red Turtle-Dove</i>	<i>Common Tailorbird</i>	<i>Common Myna</i>
<i>Spotted Dove</i>	<i>Oriental Magpie-Robin</i>	<i>White-vented Myna</i>
<i>Zebra Dove</i>	<i>Asian Brown Flycatcher</i>	<i>Asian Palm-Swift</i>
<i>Common Koel</i>	<i>Red-throated Flycatcher</i>	<i>Common Iora</i>
<i>Blue-tailed Bee-eater</i>	<i>Pied Fantail</i>	<i>Black-collared Starling</i>
<i>Indian Roller</i>	<i>Brown Shrike</i>	<i>Coppersmith Barbet</i>

Listed in Red List Category

37 Speci



Least Concern (LC)

A taxon is **Least Concern (LC)** when it has been evaluated against the Red List criteria and does not qualify for **Critically Endangered, Endangered, Vulnerable** or **Near Threatened**.

Species categorized as Least Concern (LC)

The number of bird species found in the area classified according to the Red List status.

CR	EN	VU	NT	LC
0	0	0	0	37



Source : <https://www.iucnredlist.org/>

Biodiversity Promotion Projects Outside Operational Areas

The Company has supported projects aimed at the restoration and rehabilitation of biodiversity and ecosystems outside its operational areas, as follows:

The Path of Fireflies Conservation Project

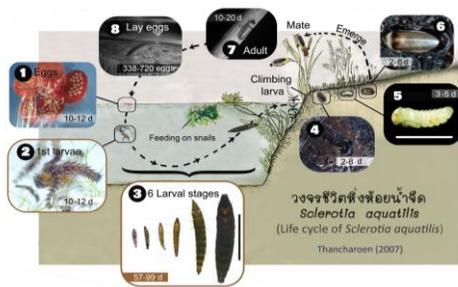
The project has been implemented in the Khung Bang Kachao community, Phra Pradaeng District, Samut Prakan Province, covering six sub-districts: Bang Nam Phueng, Bang Kachao, Bang Krasop, Bang Yo, Bang Ko Bua, and Song Khanong, from 2013 to the present. The area is a fertile green space with high biodiversity and is located in close proximity to the Company's operations. The project focuses on ecosystem restoration and the conservation of fireflies inhabiting the area, enabling them to continue to thrive naturally and sustainably. Activities include studying the firefly life cycle and, in collaboration with experts and local community members, conducting annual surveys of firefly populations and species in the area.

Targets

1. Conserve firefly habitats and populations across the six subdistricts of Khung Bang Kachao
2. Restore ecosystems in the Khung Bang Kachao area to serve as designated firefly conservation areas
3. Build accurate knowledge and understanding of firefly conservation
4. Establish and strengthen local conservation networks dedicated to firefly protection
5. Encourage employee participation in delivering environmental benefits to the community

Strategies

1. Establish a committee to drive conservation initiatives and jointly plan activities with the Company, comprising representatives from all six sub-districts
2. Develop community and youth leaders to foster participation and environmental awareness in caring for local ecosystems, including implementation activities, capacity building, and support for academic research related to conservation
3. Organize projects and activities for environmental restoration, conservation, and landscape improvement, as well as other appropriate and continuous initiatives



The main threats to firefly populations



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Firefly Species Found in the Khung Bang Kachao Area



- a. Pyrocoelia : terrestrial firefly (larval stage)
- b. Pteroptyx : brackish-water firefly (larval stage)
- c. Pyrocoelia praetexta : terrestrial firefly (adult stage)
- d. Pteroptyx malaccae : brackish-water firefly (adult stage)
- e. Pteroptyx valida : brackish-water firefly (adult stage)

The Path of Fireflies Conservation Project at Kung Bang Kachao

Operating Results:

- Establish a committee comprising 39 members from all six sub-districts, and convene working group meetings on the annual work plan and the organization of World Firefly Day.
- Establish a survey and counting team for fireflies, consisting of local residents or citizen scientists, totaling 60 participants from all six sub-districts. The survey recorded an average of approximately 54,723 fireflies (2025).
- Organize various projects and activities with the participation of approximately 19 youths.
- Produce communication materials and signage, and organize World Firefly Day 2025.
- Support researchers both within and outside the operational area in conducting academic research on firefly conservation and breeding, totaling 3 research projects.



Supporting Project for the Bang Nam Phueng Large Farm

Stingless Beekeeper Group

Implement activities to support, promote, develop, and sustainably maintain stingless bee raising on the basis of environmental conservation and biodiversity, closely linked with the promotion of community-based economic development through active and close participation. The Company has implemented this project jointly with the large-plot farmer group of stingless bee raisers in Bang Nam Phueng Subdistrict, Phra Pradaeng District, Samut Prakan Province, since year 2019 to present. Stingless bees are regarded as indicators of environmental integrity in the area and are also considered beneficial to the local community economy.

Targets

1. Establish systematic and standardized stingless bee raising operations in Bang Nam Phueng Subdistrict that are recognized and contribute to environmental integrity in the area
2. Develop standardized knowledge on stingless bee raising and other related matters that is appropriate to the local area
3. Establish a community network and groups of people working on stingless bees both within and outside the area
4. Develop honey products and other products from stingless bees with quality and standards consistent with market demand, and upgrade toward becoming a stingless bee community enterprise of Bang Nam Phueng Subdistrict
5. Generate and maintain stable, sustainable, and continuous income for group members and the community
6. Maintain sustainability in stingless bee-related operations in the area

Strategies

1. Support the establishment of the large-plot farmer group of stingless bee raisers.
2. Expand and increase the number of stingless bee farmers, the number of stingless bees, and the number of hives.
3. Develop community leaders and establish local committees to drive implementation in the area.
4. Organize projects, activities, trainings, and other related initiatives.
5. Support education and the expansion of planting plant and flower species that serve as food sources for stingless bees, in alignment with and promoting local ecosystems and biodiversity.
6. Create and support participation and collaboration among communities, the public, and relevant local agencies, such as the Phra Pradaeng District Agricultural Office, the Department of Agricultural Extension, the Bang Nam Phueng Subdistrict Administrative Organization, the District Livestock Office, the Provincial Livestock Office, and the Department of Livestock Development, Ministry of Agriculture and Cooperatives.
7. Support operations, education, and research in collaboration with relevant external networks.
8. Establish community enterprises and community shops, and develop community brands and products.



Supporting Project for the Bang Nam Phueng Large Farm Stingless Beekeeper Group

Project Results:

- Estimated stingless bee population in the area (estimated) under cultivation of \geq 480,000 bees, with 900 hives.
- Products from stingless bee honey and other related products totaling 17 types, namely 1) Honey 2) Propolis extract 3) Beehives (empty hives) 4) Beehives (with bees) 5) Gac fruit soap 6) Gac fruit shower cream 7) Butterfly pea shampoo 8) Herbal mosquito repellent spray 9) Stingless bee honey lotion 10) Herbal balm 11) Toothbrush tree (khoy) herbal mouthwash 12) Stingless bee honey dessert cups 13) Pad Thai 14) Dried mango 15) Sweet shrimp 16) Crispy noodles 17) Dried bananas.
- Support for external collaboration in development and research, such as participation in the Big Brothers stingless bee network in cooperation with the National Research Council of Thailand, the Department of Industrial Promotion, the Ministry of Industry, and other network partners.
- Members receiving Good Agricultural Practices (GAP) certification for stingless bee farms totaling 15 members.
- Income generated for the group / community enterprise from operational activities in year 2025 totaling THB 689,428.
- Support for the construction of a stingless bee honey packaging room to meet Thai FDA standards with a budget of THB 420,000.



Punsook Urban Greenery Project

The Company implements the Punsook Urban Greenery Project to enhance and increase green spaces, which constitute an important part in leading toward biodiversity. In year 2025, the Company has continuously carried out activities at the community engagement level through supplementary tree planting in areas surrounding the Bangchak Oil Refinery, in cooperation with the Bangkok Metropolitan Administration through Phra Khanong District Office, Bang Na District Office, and Khlong Toei District Office, the Expressway Authority of Thailand, local communities, and schools in the area, as well as in the Khung Bang Kachao area, Bang Nam Phueng Subdistrict, Phra Pradaeng District, Samut Prakan Province, in cooperation with the Royal Forest Department, the Nakhon Khuean Khan Ecological Green Space Management Center, the Bang Nam Phueng Subdistrict Administrative Organization, and the Bang Nam Phueng community, in parallel with activities implemented under the Our Khung Bangkok Project.

Targets

1. Green spaces in the project implementation areas that are abundant and aligned with local conditions and the environment, promoting biodiversity.
2. A increase green spaces at the community and public level.
3. Sustainability in green space operations to support biodiversity in the area.

Strategies

1. Develop, enhance, and expand green spaces to support biodiversity through tree planting in areas adjacent to the Company's operational areas, community engagement areas, and external areas.
2. Promote and select plant species for planting and project implementation by emphasizing suitability, benefits, and alignment with local conditions, including participation in the conservation of plant genetic resources and rare plant species, in order to achieve sustainable development based on biodiversity.
3. Build cooperation and participation with network partners both within and outside the project implementation areas, such as the Phra Khanong District Office, the Bang Na District Office, the Khlong Toei District Office, the Bang Nam Phueng Subdistrict Administrative Organization, the Royal Forest Department, the Expressway Authority of Thailand, and local schools, among others.



Punsook Urban Greenery Project

Project Results:

- Support the Bangkok Metropolitan Administration’s “15-Minute Park” policy to increase shade and green spaces for a more livable city, promote biodiversity, and enable public use, as follows.
- In cooperation with the Bangkok Metropolitan Administration, through the Khlong Toei District Office, and the Expressway Authority of Thailand, improve the area along the Chaloem Maha Nakhon Expressway, adjacent to the expressway exit on Sukhumvit Road Soi 50, and develop it into a public park under the project “72nd Birthday Anniversary Commemorative Park – Bangchak Fulfilling Societal Happiness,” with green space of approximately 4,956.55 square meters (shrub area), comprising 66 trees and 50 saplings
- In cooperation with the Phra Khanong District Office, develop a 15-Minute Park at Wachiratham Sathit Soi 35, Phra Khanong District, as a green learning center for organic agriculture and community learning.
- In cooperation with the Bang Na District Office, plant Lumnamphu trees in the area of the pier at Wat Bang Na Nok to restore mangrove forests along the Chao Phraya River.



Our Khung Bang Kachao Project

The Company has participated as a network partner supporting the Our Khung BangKachao Project of the Chaipattana Foundation, together with government agencies and more than 34 other private sector organizations, to jointly drive the development of the Khung Bang Kachao area, in continuation of the royal initiatives and royal aspirations of King Bhumibol Adulyadej and Princess Maha Chakri Sirindhorn, as well as the operational approach of the Chaipattana Foundation in conserving and developing Khung Bang Kachao into a rich green area, while improving livelihoods and enhancing the economic growth of local communities. Under a total of seven shared objectives, the Company has joined the working group and supported implementation in three areas / shared objectives, namely green space development / expansion of green spaces, sustainable tourism, and youth development, education, and culture.

Targets

Promote and develop green spaces within the Khung Bang Kachao area toward sustainable, environmentally friendly growth (Green Growth).



Strategies

1. Increase green spaces through joint development of state-owned land under the supervision of the Royal Forest Department, covering an area of 400 rai across 95 plots (including Phase 1 implementation), with Bangchak's area totaling 19.71 rai across 11 plots.
2. Select plant species for planting based on suitability, benefits, and alignment with local conditions.
3. Build cooperation and participation with network partners both within and outside the area, such as local communities and schools, the Bang Nam Phueng Subdistrict Administrative Organization, the Chaipattana Foundation, and the Royal Forest Department, among others.
4. Promote participation of customers and employees in project and community activities related to reforestation and plant trees through various Company channels, such as Bangchak membership programs, bicycle clubs, and the Company's CSR activities, among others.

Our Khung Bang Kachao Project

Project Results:

- Reforestation / planting of 1,570 trees across 19.71 rai in 11 plots (100%), using a mix of native and suitable tree species such as mangrove apple, mangrove, grey mangrove, yellow flame tree, merawan, white meranti, coral tree, and makha tree, among others.
- Tree planting under the “Bangchak Fulfilling Societal Happiness” project, aimed at enhancing green areas in Khung Bang Kachao.
- Conservation of plant genetic resources, including rare and near-threatened mangrove species and economically valuable tree species, at Bang Nam Phueng Community Forest Park (Rong Khwai Forest Park) on 4 August 2025, on approximately 5 rai of public land, comprising: 84 freshwater red mangrove trees, 52 sea-shore barringtonia trees, 70 red flowered assak trees, 176 yang na trees, 255 golden teak trees, 159 makha trees, 55 Siamese rosewood trees, 16 white meranti trees, and 140 white assak trees, totaling 1,007 trees.
- Organization of five on-site tree-planting activities involving executives and employees, with 525 participants in total (since project inception).
- Support for the improvement, development, and maintenance of forests, gardens, and assigned plots through local employment, generating over THB 390,000 in income for community members.



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