

ก้าวสู่ทศวรรษที่ 5



Regenerative
Happiness
ส่งต่อ...ความสุขไม่สิ้นสุด



Integrated Sustainability Report 2024

Bangchak Corporation Public Company Limited



Vision



วิสัยทัศน์โลกแห่งนวัตกรรมสีเขียว
Crafting a Sustainable World
with Evolving Greenovation

Mission

We commit to accelerate **sustainable energy transition**, while **balancing energy security**.
We are energizing lives through Greenovative solution and promoting ESG for all.

Core Values



Corporate Culture

Sustainable Innovative Business
Development in Harmony with
the Environment and Society



Employee Culture

To be virtuous, knowledgeable,
and contributive to others

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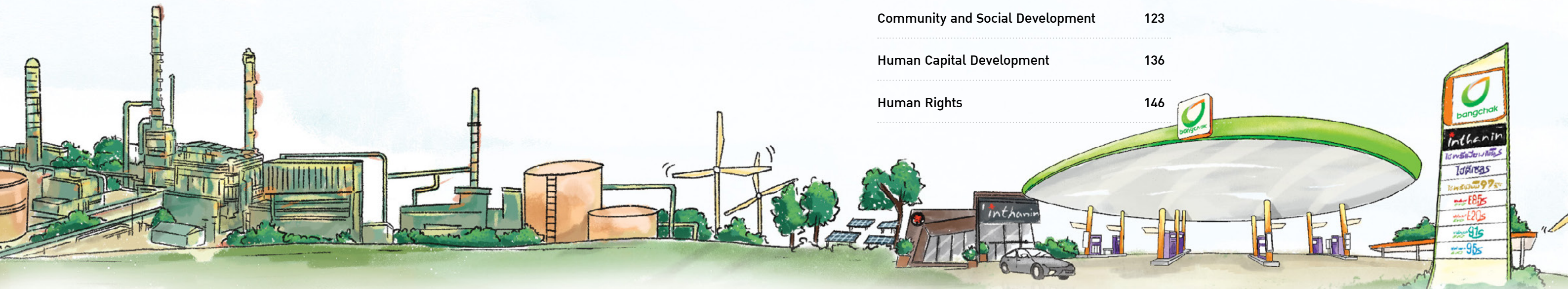
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Overview

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Message from Group Chief Executive Officer and President

“

The year 2024 marked Bangchak's 40th anniversary and our entry into the 5th decade. From humble beginnings with a small oil refinery, we have grown into a leading energy business group in the Asia-Pacific region. Not only have we been recognized as leaders in refining and marketing, but we have also excelled on the global ESG stage - ranked in the world's top 1% for ESG performance in the Oil & Gas Refinery and Marketing sector by S&P Global 2024, which is part of the Dow Jones Sustainability Indices (DJSI). This achievement reflects our international leadership in sustainable energy.

”



Moreover, we have been recognized by the Financial Times as one of the Asia-Pacific Climate Leaders 2024, underscoring Bangchak's role in driving a low carbon society and advancing international ESG policies. We remain steadfast in implementing our BCP316NET strategy, which targets Carbon Neutrality by 2030 and Net Zero by 2050, and we are expanding this strategy across our affiliates in Bangchak Group to ensure that carbon reduction becomes an integral part of our sustainable business approach.

Bangchak is a market leader that prioritizes innovation. We are currently constructing Thailand's first sustainable aviation fuel (SAF) production unit, utilizing world-class manufacturing technology, at Bangchak Phra Khanong Refinery, which is scheduled to begin operations in the second quarter of 2025. This initiative will bolster the circular economy and reduce greenhouse gas emissions

from the aviation sector. Additionally, we have developed high-quality fuels, Bangchak Hi Premium 97 and Hi Premium Diesel S, which deliver both outstanding performance and environmental friendliness to meet evolving market demands and consumer behaviors.

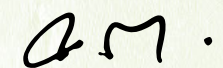
Over the past three years, Bangchak has pioneered the Carbon Markets Club (CMC), Thailand's first initiative to bridge the private and public sectors in promoting carbon credits trading and the adoption of renewable energy, alongside raising awareness about the climate crisis. With over 1,300 members to date, CMC has also elevated its mission internationally by being among the signatories of the ASEAN Common Carbon Framework with four carbon market associations in ASEAN at COP29 in Azerbaijan, aiming to secure global acceptance for the regional carbon market.

We recognize that the strength of our organization lies in our people. By fostering a corporate culture where every employee grows together, Bangchak has earned the title of “Kincentric Best Employer Thailand 2024,” making us the first and only oil company to receive this award. Moreover, in early 2025, we were ranked as the 6th most desirable employer among the younger generation - a rise from 10th place in 2024, according to a survey of over 12,000 young people by WorkVenture Technologies.

In terms of social responsibility, Bangchak undertakes a wide range of community initiatives spanning environmental projects, grassroots economic empowerment through collaboration with diverse business stakeholders, and education and youth development. We have introduced new programs such as “Genwit - New Generation Geniuses Presented by Bangchak Group,” a platform for high school-level academic competitions that offers young people the opportunity to hone their creative skills in STEM

education. Additionally, on the occasion of the celebration of His Majesty the King's 72nd Birthday in 2024, the company launched the “Fulfilling Societal Happiness” project to honor His Majesty through various community initiatives and projects promoting green spaces and innovation.

In 2024, Bangchak embarked on its 5th decade with the vision, “Crafting a Sustainable World with Evolving Greenovation.” We are determined to be recognized at a global level in energy and ESG while creating new business opportunities. Despite challenges such as stringent environmental regulations, economic volatility, and technological changes, we continue to build a resilient energy system and expand partnerships both domestically and internationally, driving the transition to a low carbon economy and generating sustainable, positive impact on the future of global energy.



(Mr. Chaiwat Kovavisarach)

Group Chief Executive Officer and President
Bangchak Corporation Public Company Limited

Bangchak at a Glance in 2024



Economic Growth

Revenue from selling of goods and services
589,877 million baht

EBITDA
40,409 million baht

Profit (loss) for the year
4,040 million baht

Dividend payment per share
2.10 baht/share

Realized benefits
6,071 million baht
from Bangchak group synergy projects

The excellent ranking (five emblems) under the CGR (Corporate Governance Report) survey of listed companies



Percentage of executives and employees acknowledging the Anti-Corruption Policy and passing the test **100%**

Percentage of tier-1 suppliers and critical nontier-1 suppliers participating in ESG risks assessment **100%**

Customer satisfaction score **4.51**



In Harmony with the Environment

Total GHG emissions (Scope 1 and 2)
0.98 MtCO₂eq

Zero wastes to landfills

Reduce tap water and groundwater usage by **53%**
compared to the water requirements proportional to the quantity of crude oil in the base year 2019

No complaints regarding biodiversity impacts



Creating Values for Society

Thailand Best Employer **2024**

Safety
Loss-Time Injury Frequency Rate (LTIFR)

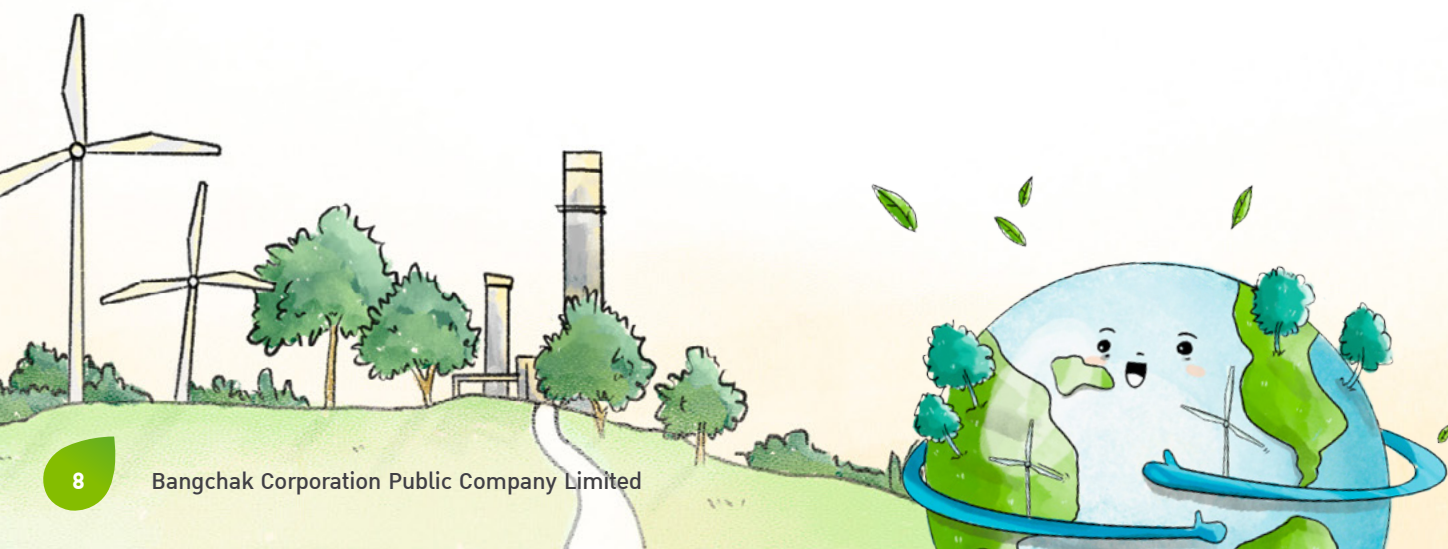
Employee engagement scores **82%**

Employees **0**

No significant human rights complaints

Contractors **0.17**

Community engagement scores **89%**



Sustainability Awards and Recognitions

“Awards and recognition serve as powerful motivators, encouraging improvement and **fostering continuous development.**”

Bangchak strives to create energy and related business based upon environmental consideration, societal improvement, and adherence to the principles of corporate governance for sustainable development. We would like to thank all those involved in forwarding “Bangchak” into a strong Thai company, championing the common good into our 5th decade.

International Level

Top 1% S&P Global

World’s Highest Sustainability Assessment in Oil & Gas Refinery and Marketing Industry

MSCI ESG Rating “AA” (ESG Leader)

The highest for Thai companies in the Oil & Gas Refining, Marketing, Transportation & Storage

HR Asia 2024

- HR Asia The Best Companies to Work for in Asia 2024 as the third consecutive year of recognition
- HR Asia Most Caring Company Award 2024 for the second year
- HR Asia Sustainable Workplace Awards 2024 for the first time, in recognition of their creation of a sustainable work environment. This achievement is part of their goal to grow sustainably for 100 years as part of the Bangchak100X initiative

ESG Risk Rating of 25.3 (Medium Risk)

In Dec 2024, Bangchak received an ESG Risk Rating of 25.3 and was assessed by Morningstar Sustainalytics to be at Medium Risk of experiencing material financial impacts from ESG factors.

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UN Women 2024 Thailand WEPs Awards

- Winner for Innovative Financing
- Honorable Mention for Gender-Inclusive Workplace

Financial Times and Statista

Bangchak has been ranked among Asia-Pacific Climate Leaders 2024 as the first and only Thai company in the energy and utilities sector.

National Level

Sustainability Awards of Honor

The highest honor in the Sustainability Excellence category for the fifth consecutive year. This award is presented to companies who have received the Best Sustainability Awards for at least three consecutive years. Bangchak has received the Best Sustainability Awards for the eighth consecutive year.

Sustainable Development Excellence Distinguished Awards 2024

Distinguished Awards in the category of Sustainable Development Excellence from Thailand Corporate Excellence Awards 2024

Climate Action Leading Organization (CALO)

“Outstanding” level Climate Action Leading Organization (CALO), received Gold-level results for the measurement assessment criteria.

Best Employer Thailand 2024

The first and only company in Thailand’s Oil sector to be named “Thailand’s Best Employer of 2024”

Human Rights Awards 2024

Human Rights 2024 for Second Consecutive Year

Corporate Governance Report (CGR)

An “Excellent” five-star rating in the Corporate Governance Report of Thai Listed Companies (CGR) 2024 for the 18th consecutive year conducted by the Thai Institute of Directors Association (IOD) with the support of The Stock Exchange of Thailand and The Securities and Exchange Commission (SEC), with over 800 listed companies participating in the evaluation.





Bangchak Overview

Company name :

Bangchak Corporation
Public Company Limited

Stock Market Name : BCP

Date of establishment : 8 November 1984

Headquarters :

No. 2098 M Tower, 8th Floor, Sukhumvit Road,
Phra Khanong Tai, Phra Khanong, Bangkok 10260, Thailand

Chief Executive Officer : Mr. Chaiwat Kovavisarach Group Chief Executive Officer and President

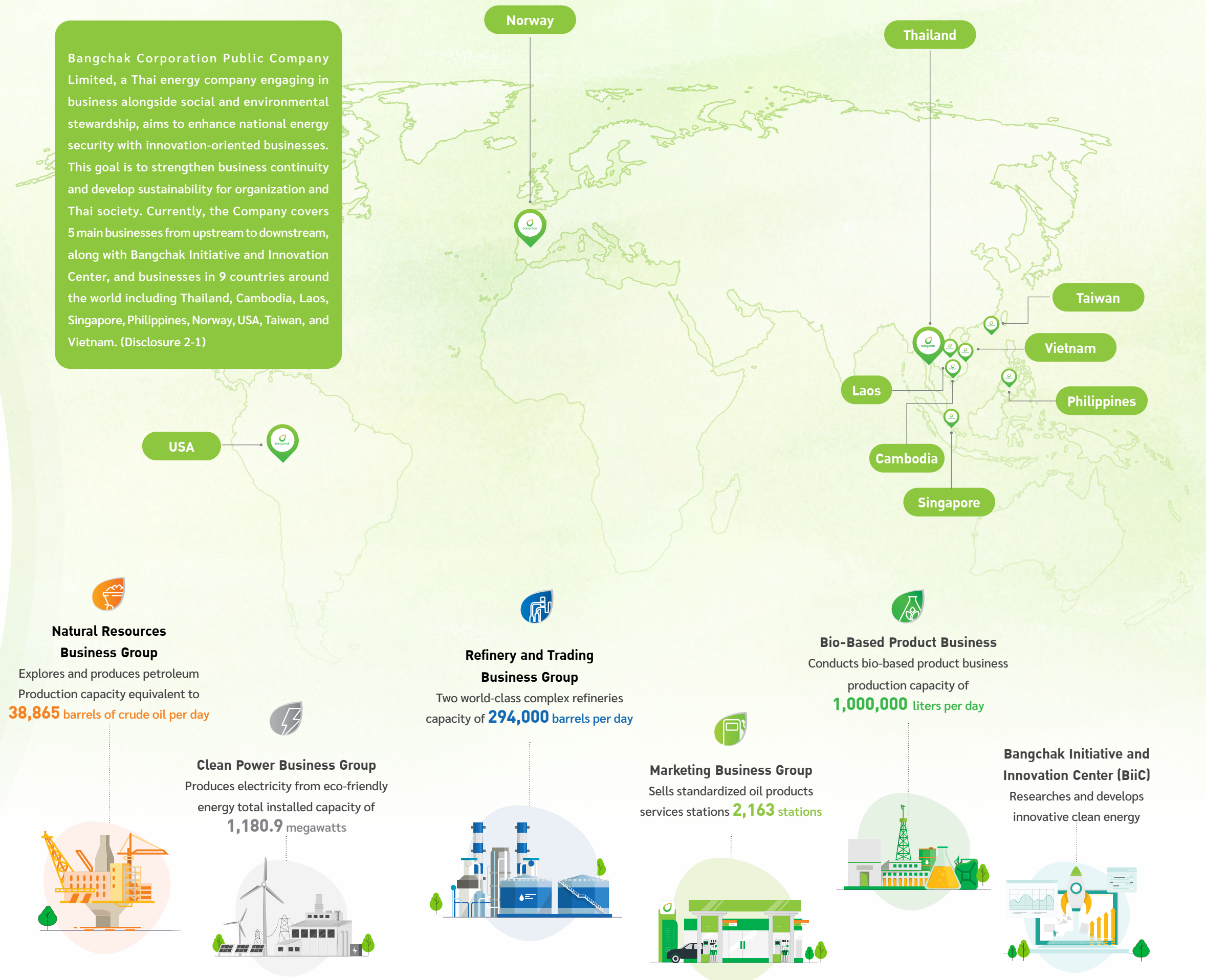
Paid-Up registered capital : THB 1,376,923,157

Business type : Oil & Gas Refining & Marketing

Membership of association :



Bangchak Corporation Public Company Limited, a Thai energy company engaging in business alongside social and environmental stewardship, aims to enhance national energy security with innovation-oriented businesses. This goal is to strengthen business continuity and develop sustainability for organization and Thai society. Currently, the Company covers 5 main businesses from upstream to downstream, along with Bangchak Initiative and Innovation Center, and businesses in 9 countries around the world including Thailand, Cambodia, Laos, Singapore, Philippines, Norway, USA, Taiwan, and Vietnam. (Disclosure 2-1)



Bangchak Value Creation



Inputs

Financial

- Cost of sales and services **560,039** million baht
- Investments in affiliates and joint ventures **31,568** million baht
- Equity attributable to owners of the parent company **59,745** million baht

Manufactured

- Total assets **316,542** million baht
- Local purchases of goods and services **3,355** million baht

Natural resources

- Raw materials used **10.57** million tonnes
- Net energy consumption **13,605.10** terajoules
- Total water consumption **2.78** million cubic meters (excluding brine water from crude oil extraction)

Human

- **1,368** Employees
- Average training hours of employees **38,728** hour
- Average amount spent per person **44.93** million baht

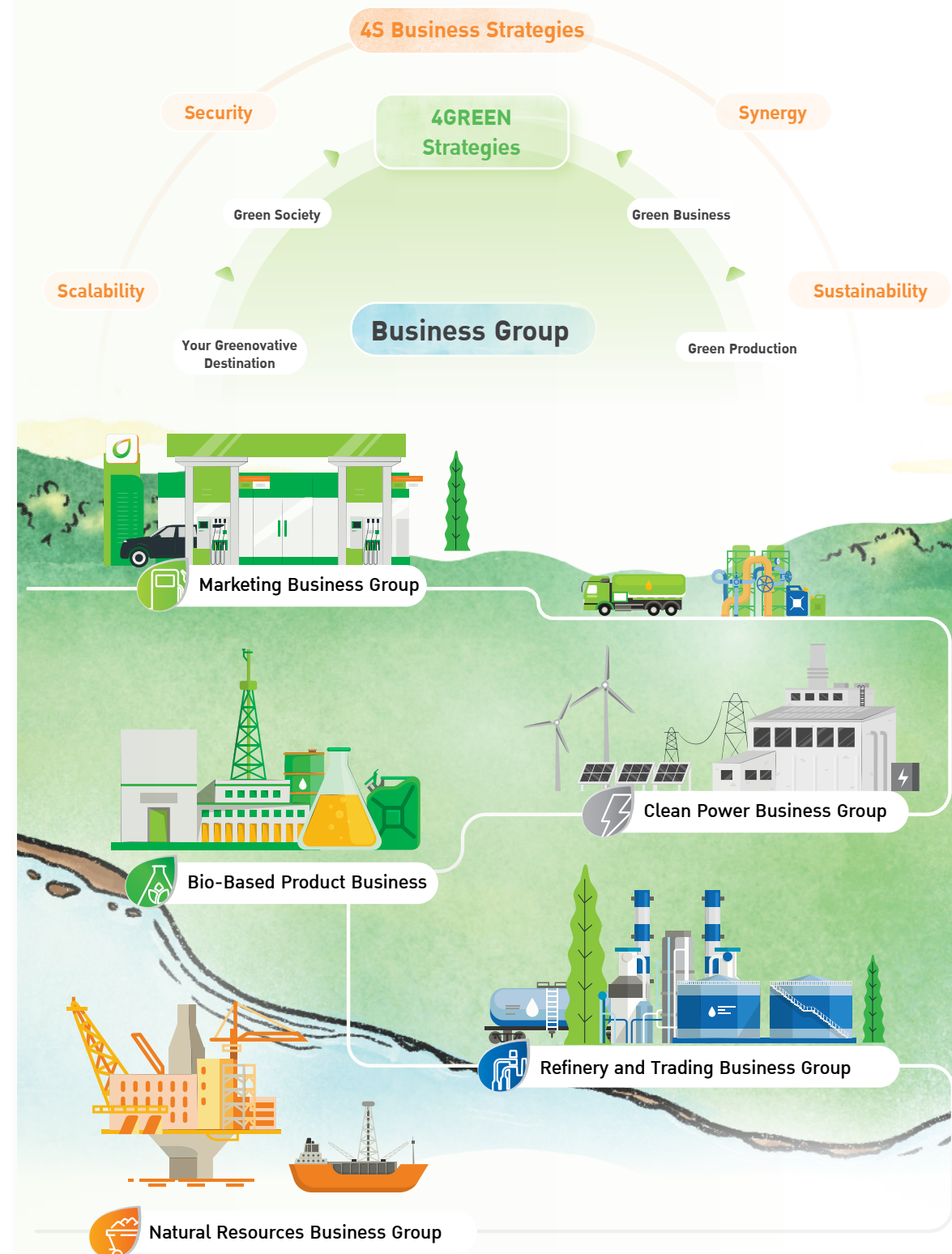
Social and Community relations

- Community and social development **249.5** million baht
- Total volunteer hours of employees **11,985** hours

Innovation and technology

- Expenditure on research and development of technology and innovation amounted to **8,500** million baht

Activities



Value outputs

Creating value for all stakeholders

Financial

- Sales and service revenue **589,877** million baht
- EBITDA **40,409** million baht
- Net profit attributable to owners of the parent company **4,040** million baht
- Earnings per share **1.30** baht

Manufactured

- Average Crude Run **120.22** kilo barrels/day
- Average GRM of USD **4.05** barrels
- Sales Volume **17,222** million Liters

Natural resources

- Total GHG emission (scope 1&2) **0.98** M tCO₂eq
- Total water discharge **0.98** million cubic meters
- Total waste generated **5,915** tonne

Human

- Employee engagement score **82%**
- Employee turnover rate **2.83%**
- Ratio of basic salary (women : men) **1.12**
- No Harassment and discrimination complaints

Social and Community relations

- Community engagement score **89%**
- Process safety events **0** event
- No accidents that lead to a major widespread complaint

Innovation and technology

- The production of Astaxanthin
- The investment in expanding the production and distribution of Sustainable Aviation Fuel (SAF) from used cooking oil, the first and only in Thailand, involves the construction of a production unit and the selection of modern technology. Additionally, it takes advantage of an integrated value chain from Bangchak gas stations nationwide and a network of partners to collect used cooking oil **across all 77 provinces**

Financial

- Dividend payment to shareholders **2.10** baht/share
- Tax payment to government and local authorities **35,836** million baht
- Market capitalization **49,569.23** million baht

Manufactured

- The production system is secure, with no complaints regarding air pollution, oil or chemical leaks.
- EURO 5 standard oil products can effectively help reduce PM 2.5 emissions

Natural resources

- Ratio of EBITDA and GHG emissions **7.74** thousand baht/tCO₂eq
- Complaints about air pollution **0** case
- Reduce new water usage from 3Rs by **1,521,285** million cubic meters Water saving in household equivalent **4,366** households
- Waste management under 3Rs principle **100%** and zero wastes to landfill

Human

- Human capital return on investment **11.37**
- Share of native (Thai) employees on manager and above level **100%**
- Share of women in all management positions **39.28%**
- Share of workforce on minority group-people with disability **1%**
- Lost-Time Injury Frequency Rate (LTIFR) of employee **0** case
- High-Consequence Work-Related Injuries of employee **0** case

Social and Community relations

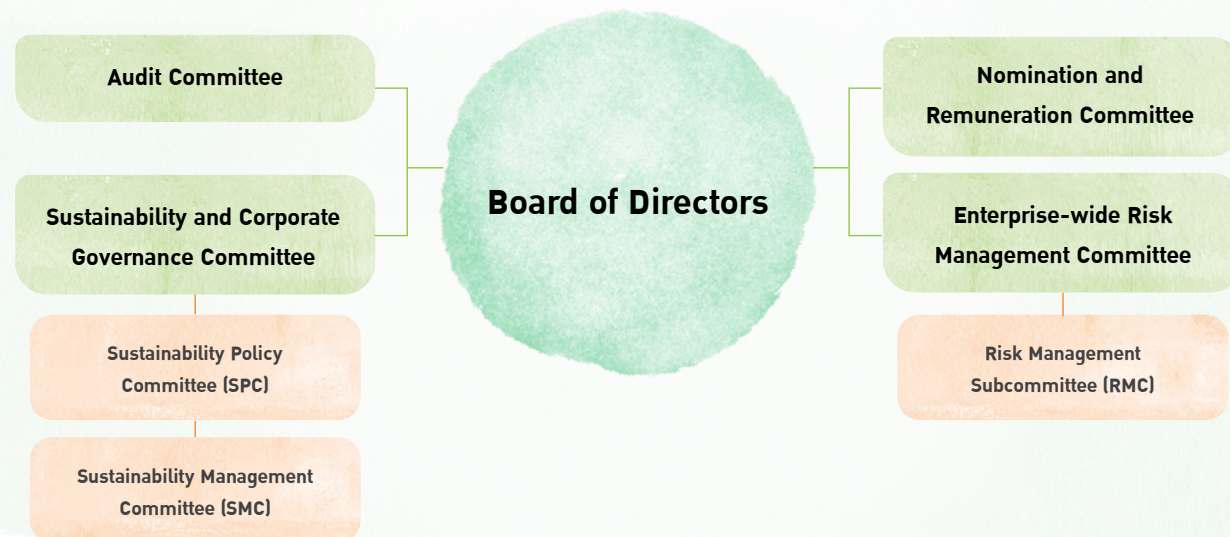
- Community engagement score **89%**
- Promoting the grassroots economy has generated over **12** million baht in community income.

Innovation and technology

- Bio products from Astaxanthin help promote health and reduce imports from abroad
- Network of over **800** locations nationwide collecting used cooking oil, contributing to the creation of a low-carbon society by reintroducing the waste into the recycling process and promoting the BCG ECONOMY model

Sustainability at Bangchak

The company places strong emphasis on sustainability development, with a Sustainability and Corporate Governance Committee working alongside the Enterprise-wide Risk Management Committee to supervise, review, and establish sustainability and corporate governance policies. The company also has a Sustainability Policy Committee (SPC), chaired by the Group Chief Executive Officer and President with business group executives and functional group managers acting as committee members. This committee is responsible for setting sustainability goals, direction, policies, and strategies in line with the Sustainable Development Goals (SDGs), the target of becoming a Net Zero GHG Emissions organization by 2050.



The company is committed to responding to the needs and expectations of all stakeholders, also the SDGs. It also considers sustainability assessment criteria both at the national and international levels, covering aspects of governance, economy, environment, and society, to mitigate risks and business impacts. In doing so, the company seeks opportunities to improve working processes and operations in a comprehensive and sustainable manner, aligning with international sustainability goals and approaches. This allows the company to operate proactively and adapt to global changes and emerging risks with resilience.

The Bangchak group's operations sustainability assessments and stakeholder expectations are regularly reviewed, with meetings held at least twice a year to determine direction, strategies, and progress reports.

Additionally, at the operational level, the Sustainability Management Committee (SMC) coordinates, tracks, collects, evaluates, and reports on progress and performance to various committees, including the Risk Management Sub-Committee, Enterprise-wide Risk Management Committee, and the Sustainability and Corporate Governance Committee. (Disclosure 2-9, 2-13)

Furthermore, in 2024, the company became the major shareholder of Bangchak Sriracha Public Company Limited, leading to the establishment of the Transformation and Synergy Realization Steering Committee to drive business synergies. This collaboration merges the strengths of both organizations to enhance performance and maximize sustainable benefits. The business cooperation between the two companies spans across several taskforces, including: 1) Refining, transportation, and trading business; 2) Marketing business; 3) Shared services; and 4) IT, organizational development, and procurement. Additionally, the company has communicated its sustainability goals, including Net Zero GHG Emissions, as well as policies and management approaches to employees, encouraging them to understand, learn, and exchange experiences to work together harmoniously.

Sustainable Development Goals



Sustainability Principles and Frameworks

The Company's "Sustainability Policy" is based on the integration of Sufficiency Economy Philosophy, global criteria and standards in sustainability and social responsibility including the UN Global Compact (UNGC), the S&P Global Corporate Sustainability Assessment (S&P Global CSA), Sustainable Development Goals (SDGs), Sustainability Rating by Morgan Stanley Capital International (MSCI), International Organization for Standardization (ISO), and the expectations of stakeholders. It aligns with the Company's vision, direction, and business strategy, and provides the foundation for sustainability initiatives at the organizational level. The Company measures and reports on its performance following the guidelines of the Global Reporting Initiative (GRI) to demonstrate its commitment to sustainable business development throughout the value chain.

The Company has established a sustainability policy that covers all dimensions of business sustainability based on current operations of the Company, new businesses domestically and internationally, emerging risks, and global sustainability direction. It covers a total of 8 dimensions as follows:

1. Good Corporate Governance
2. Fair business operating practices
3. Responsible Production and Services and Promoting Sustainable Society
4. Sustainability Due-Diligence Assessment for New Businesses
5. New Innovative Business Investment for Sustainability
6. Worthwhile Resources and Environmental Management
7. Human Rights Support for Sustainable Economic Prosperity
8. Sustainable Social Development



More Information Available in
[Sustainability Policy Framework](#)



Sustainable Strategy

With the vision of **“Crafting a Sustainable World with Evolving Greenovation,”** the company is dedicated to driving the sustainable energy transition while maintaining a balance in energy security that enhances the quality of life and well-being of Thai society.

In addition to its business operations, the company drives growth through the strategic **“4S”** framework, a key mechanism for advancing Bangchak’s development. This strategy focuses on creating energy security (Security), fostering collaboration (Synergy), advancing sustainable business practices (Sustainability), and seeking new opportunities (Scalability).



More Information Available in
[Annual Registration Statement /](#)
[Annual Report 2024 \(Form 56-1 One Report\)](#)

4 GREEN (4G) Sustainability Strategy

The company continues to reinforce and guide its business direction through the “4 Green Strategies,” ensuring that the company’s operations and investments align with its vision and mission.



1. GREEN Business

Bangchak focuses on investment in businesses that foster sustainable values. Besides growing revenue from new undertakings, this strategy represents green initiatives applied to businesses, including high-value bio-based products derived from agricultural produce via biotechnological innovation extended from biofuel production and sales. The Company also values Energy and Climate Technology and energy management, Biotechnology among others, involving BiiC, which incubates startups to further Bangchak’s businesses in the future.



2. GREEN Production

Bangchak focuses on environmentally friendly and safe operations with optimal efficiency in utilization of water and energy resources. To achieve these goals, Bangchak has adopted the operating systems certified by ISO 14001, ISO 50001, and Green Industry (Green Network) Level 5 of the Ministry of Industry standards in addition to Eco Factory from the Federation of Thai Industries, the occupational health and safety standard of ISO 45001, and advanced operating systems under Process Safety Management (PSM).



3. Your GREENovative Destination

Bangchak strives to be a creative and sustainable destination of all age groups, focusing on leadership in developing greenovation through varied goods and services and non-oil businesses at “Bangchak” service stations, which serve as a destination that fulfills customers’ needs while exercising sustainable stewardship.



4. GREEN Society

Bangchak strives to maintain a balance between ‘value’ and ‘virtue’ to address the Energy Trilemma, while also upholding its commitment to ethics, environmental and social responsibility, corporate governance, and operations through the BCG Economy Model.



More Information Available in
[Annual Registration Statement/Annual Report 2024 \(Form 56-1 One Report\)](#)

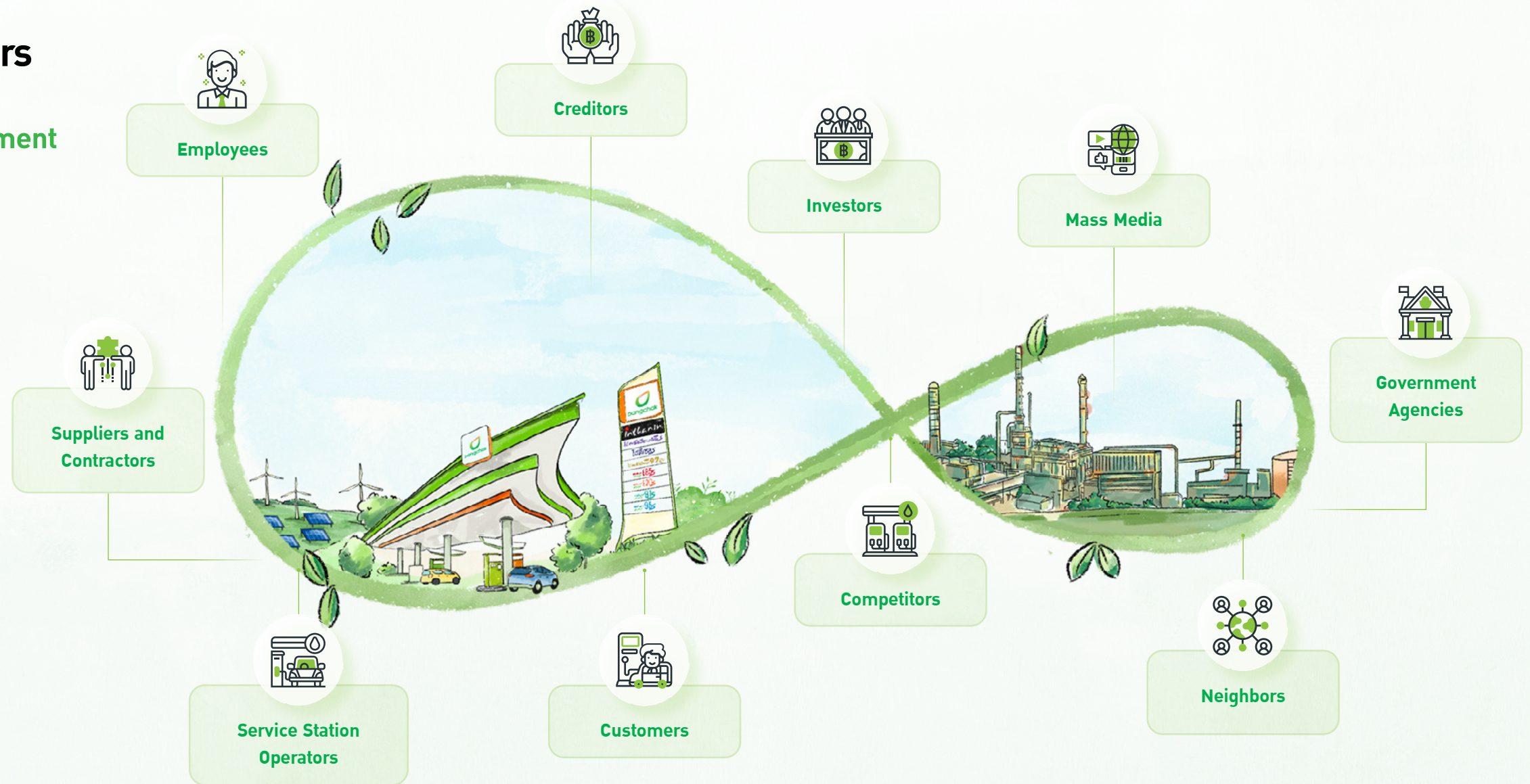


Bangchak and Stakeholders

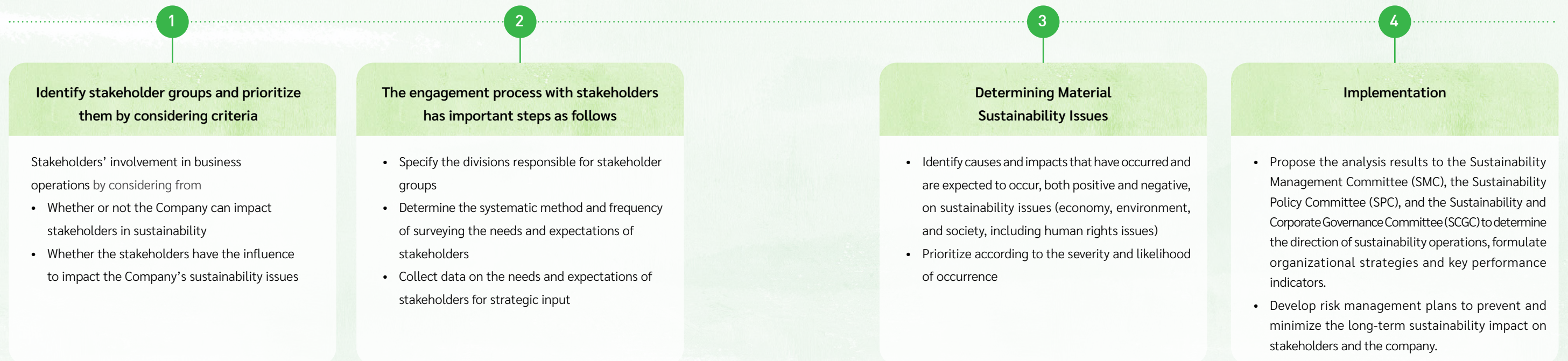
Approach to Stakeholder Engagement


(Disclosure 2-29)

The Company is committed to driving changes through sustainable energy, maintaining a balance of energy stability, and enhancing the quality of life and well-being. This is why stakeholder inclusiveness is of utmost importance. The approach to receiving the voices of stakeholders and operating in a way that meets their needs and expectations is therefore essential. The Company has continuously developed effective communication methods and inclusive practices with the proper frequency aligned with the lifestyles of stakeholders, to ensure we gather accurate information. This data supports strategic planning, creating a balance between value and impact from business operations, building trust, and preventing negative effects on stakeholders. The Company's stakeholder groups are divided into 10 categories: employees, suppliers and contractors, customers, service station operators, competitors, neighbors, creditors, investors, mass media, and government agencies.



The Process of Engaging with Stakeholders



Stakeholder Group	Key Engagement Approaches	Expectations/Needs of Stakeholders	The Company's Responses
1. Employees 	<ol style="list-style-type: none"> The needs and expectations survey through the annual employee engagement survey (A) Meeting: TOWNHALL (Q) / Labor Committee (Q) / Focus Group (R) HR Visit (R) iambcp leadership activities to motivate Bangchak's values (R) Engagement dashboard for supervisors to view their score (R) 	<ol style="list-style-type: none"> Compensation and benefits Retention Career development Performance appraisal Work process 	<p>Topic "Human Capital Development" page 136</p>
2. Suppliers and Contractors 2.1 General Suppliers and Contractors 	<ol style="list-style-type: none"> Annual supplier seminar (A) Suppliers needs, expectations and satisfaction survey (R) Suppliers visit (R) Procurement synergy project (R) 	<ol style="list-style-type: none"> Speed in procurement process (emphasizes on transparency to build confidence in business operations) Digital Transformation Preparedness Convenient and easy-to-use procurement system for bidding Communication channels or channels for presenting the products and services 	<p>Topic "Sustainable Supply Chain Management" page 66</p>
2.2 Truck and Vessel Transporters 	<ol style="list-style-type: none"> Meeting and communicating to set targets / create delivery plans / follow up on performance / conduct emergency response plan drills (R) Surveying satisfaction during the oil receiving and the oil transportation process from customers (R) Evaluating the performance of suppliers and compared to other suppliers (R) 	<ol style="list-style-type: none"> Allocating transportation tasks appropriately, correctly, and in accordance with the agreements Establishing fair and non-discriminatory rules/guidelines for joint operations Collaborating to improve the efficiency of transportation to increase net revenue per vehicle Developing the quality of delivery, safety measures, preventing environmental impacts, and ensuring timely response to customer demands Conducting a straightforward evaluation of suppliers' performance 	
2.3 Raw Material Suppliers 	<ol style="list-style-type: none"> Regular meetings and discussions with suppliers (A) 	<ol style="list-style-type: none"> Consistency in raw material procurement Fair and transparent procurement Flexibility and smoothness in the operation of receiving crude oil Timely payment for goods/services and document delivery 	

Remark: The frequency of stakeholder engagement : R = Regularly, M = Monthly, Q = Quarterly, A = Annually

Stakeholder Group	Key Engagement Approaches	Expectations/Needs of Stakeholders	The Company's Responses
3. Customer 3.1 General Service Station Customers (End users) 	<ol style="list-style-type: none"> 1. Customer research (A) 2. Market research (A) 3. Customer behavior data from POS and CRM systems (R) 4. Data from the Department of Energy business (R) 5. Customer relationship management division (R) 6. Post-service survey via Mobile Application (R) 7. Social Media Monitoring (R) 	<ol style="list-style-type: none"> 1. Convenient location 2. The best refueling experience 3. Attractive customer membership program 4. Fast service 5. Fuel that enhances engine performance 6. Constantly inventing, improving, and presenting new innovations 	<p>Topic “Sustainable Product and Service Development” page 41 and “Relationship Management and Responsibility to Customers” page 49</p>
3.2 Industrial Customers 	<ol style="list-style-type: none"> 1. Customer visit (R) 2. Online and onsite meeting (R) 	<ol style="list-style-type: none"> 1. Develop products to meet customer needs 2. Improve service by providing technical support from the service team when customers encounter product usage issues 3. Expand sales in the international market 	
3.3 Wholesale Customers 	<ol style="list-style-type: none"> 1. Organize small group seminars for the customers of distributors to build confidence in the quality and standards of the products (R) 	<ol style="list-style-type: none"> 1. Communicate product knowledge and develop new marketing strategies to support market expansion 2. Organize promotional campaigns and set competitive pricing 3. Increase sales of automotive products, both in volume and sales share 	
4. Service Station Operators 	<ol style="list-style-type: none"> 1. Marketing representatives (R) 2. Monthly / Quarterly / Annual meetings (A) 3. BCP Link system (R) 4. Mystery Shopper (R) 5. Call center system (R) 6. Data from the department of energy business (R) 7. Bangchak online academy (R) 	<ol style="list-style-type: none"> 1. Improved business performance (business operations for profit and growing revenues) 2. Monitoring of MR 3. Support and monitor the standards of service stations to be competitive 4. Efficient equipment repair 5. Effective sales promotion programs and advertising 6. Development of high-quality products 7. Timely, complete, and non-loss oil delivery service 8. Emergency plans and operational measures for various situations 9. Ability to continue providing services during emergencies 10. Relief measure after incidents 11. Place importance on the strategy to promote collaboration 	

Remark: The frequency of stakeholder engagement : R = Regularly, M = Monthly, Q = Quarterly, A = Annually

Stakeholder Group	Key Engagement Approaches	Expectations/Needs of Stakeholders	The Company's Responses
5. Competitors (Service Stations) 	<ol style="list-style-type: none"> Follow up on business results, market conditions from the data of the department of energy business (R) Study competitor data through financial reports and present to relevant people (R) Follow news and marketing activities from various media, including social media (R) Cooperate and coordinate with competitors on issues that the government requests cooperation (R) Provide market information that does not affect competitors (R) 	<ol style="list-style-type: none"> Conduct business transparently under fair trade and competition Provide support to competitors during emergencies that affect competitors 	<p>Topic “Sustainable Product and Service Development” page 41</p>
6. Neighbors 	<ol style="list-style-type: none"> Community relations employees / local visits (R) Community relations activities and access to target groups (R) Channels for communication / complaints (R) <ol style="list-style-type: none"> Direct telephone lines / 24-hour Call Center Public announcement board Audio transmission through public broadcasting Leaflets / brochures / banners LINE group (community, school, condominium) Leaf family newsletters (family) Evaluation of community relations activities (R) Assessment of community needs by a Third Party (A) 	<ol style="list-style-type: none"> Operate the business with safety as a priority, giving significant attention to the environment and minimizing any potential impact on neighboring areas Notify the neighbors in advance before taking any actions that may have an impact or cause misunderstandings Organize community engagement projects/activities and provide opportunities for participation with neighbors in a comprehensive, inclusive, and diverse manner, addressing the needs of all target groups, including vulnerable groups, children, the elderly, women, and others 	<p>Topic “Community and Social Development” page 123</p>
7. Creditors (Loans, Bonds, Bank Loans) 	<ol style="list-style-type: none"> Regularly monitor and inquire about the financial market situation (R) Interactive through on-site meeting and financial institutions seminar (R) Analyst meeting (Q) 	<ol style="list-style-type: none"> Strictly comply with the terms of loan and bond contracts Provide the company's information accurately and promptly Opportunities to utilize comprehensive financial services with the bank and establish a mutually beneficial partnership Regular discussions, meetings, and updates on information with financial institutions 	<p>Company operations covering all 3 dimensions (Governance and Economic, Environmental, Social)</p>

Remark: The frequency of stakeholder engagement : R = Regularly, M = Monthly, Q = Quarterly, A = Annually

Stakeholder Group	Key Engagement Approaches	Expectations/Needs of Stakeholders	The Company's Responses
8. Investors (Institutional Investors, Retail Investors, Analysts, and ESG Rating Agencies) 	<ol style="list-style-type: none"> Annual general meeting (A) Disclosure of accurate, complete, and timely information through the Stock Exchange of Thailand and the company's website (R) Investor relations online and offline activities such as analyst meeting, SET opportunity day, company visit, roadshow, conference call and investor forum (R) Answering questions, and listening to suggestions through various channels of the Company (website, email, and phone) (R) Disclosure of information to ESG Rating Agency through answering questionnaires or assessment in ESG aspect (R) 	<ol style="list-style-type: none"> Dividend payment at a satisfactory level and on a regular basis and opportunity to provide higher returns (Capital Gain) Good business performance and continuous and stable growth and conduct business with responsibility according to the sustainable development guidelines Clear future business expansion goals and directions of the Company, and invest in businesses that provide appropriate returns Disclose material information related to the company accurately, transparently, and promptly, with a focus on providing comprehensive and relevant material information Give importance and disclose information according to ESG rating criteria to support decision-making for investment 	<p>Company operations covering all 3 dimensions (Governance and Economic, Environmental, Social)</p>
9. Mass Media (Newspaper, Magazines, Television, Radio, Online Media) 	<ol style="list-style-type: none"> Explore needs/expectations from conversations with the media (R) Meet and visit the media on various special occasions and quarterly (R / Q) Arrange special interviews on various occasions as requested by the media, appropriately by the high-level management responsible (R) Add appropriate content to respond to online media and expand the target group (R) Support budget / Inthanin beverages for various special events and occasions (R) 	<ol style="list-style-type: none"> Information on business development, business information in general, as well as growth and expansion plans related to the business Arrange special interviews with senior executives to obtain exclusive insights into special news It is essential to have senior executives as information providers, sharing their visions on the energy business and related sectors. This will enhance the credibility of the news and generate motivation for the audience to engage with and follow the updates. Prepare interesting news content and accompanying images that are accurate, with quick response times 	<p>Company operations covering all 3 dimensions (Governance and Economic, Environmental, Social)</p>
10. Government Agencies 	<ol style="list-style-type: none"> Coordinating, meeting, explaining, discussing, and participating in government agency projects (R) Surveying needs/expectations from discussions, consultations, and conducting opinion surveys (R / A) Participating in training, seminars, and legal knowledge exchange organized by government agencies (R) 	<ol style="list-style-type: none"> Complying fully with laws and obligations, including regulations on air pollution emissions, waste management, and wastewater treatment and discharge. Supporting the operations of government agencies and cooperating in providing accurate, complete, and timely information. Taking responsibility for society and the environment, fostering sustainable community coexistence, and maintaining a good safety and environmental management system at the company. 	<p>Company operations covering all 3 dimensions (Governance and Economic, Environmental, Social)</p>

Remark: The frequency of stakeholder engagement : R = Regularly, M = Monthly, Q = Quarterly, A = Annually

Identification of Materiality Topics

The year 2024 marks a time of change and adaptation, prompting the company to approach the identification of key sustainability issues with careful consideration. This process involves listening to the voices of stakeholders, engaging in their participation, and striving to respond to their needs and expectations while simultaneously creating value and benefits for society and the environment. The company conducts regular surveys, gathers data, and reviews key sustainability issues annually. In addition to internal organizational data and stakeholder input, the company also considers the global sustainability direction, issues from similar industries, and related sectors. The selection of key issues is based on international standards for sustainability reporting frameworks (GRI Standards 2021), following the key process outlined below.

Materiality Determination Process

(Disclosure 3-1)














List of Materiality Topics

(Disclosure 3-2)



Remark: From the review of key sustainability issues, it was found that they consist of the same key issues as in 2023

Materiality Topics	Business Impacts	Impacts on Economy, Environmental, and Society	Types of Impacts								Sustainability Management Approach	SDGs
			Cause of Impacts			Actual		Potential				
			Operations	Products/ Services	Supply Chain	+	-	+	-			
1. Sustainability Innovation and Investment	Revenue	Increase business opportunities in utilizing technology for renewable and clean energy, Increase efficiency and energy-related process improvement		●		●				“Innovation and Sustainable Investment” Topic Page 38		
2. Quality of Products and Services	Revenue	Maintain customer satisfaction on the products and services of the organization and maintain the procurement ability to exceed the customers’ expectations while ensuring safety to the customers		●				●		“Sustainable Product and Service Development” Topic Page 41		
3. Corporate Governance and Ethics	Risks	Create and maintain trust from stakeholders regarding governance and ethics of the organization	●		●	●				“Good Corporate Governance and Anti-Corruption” Topic Page 53		
4. Sustainable Supply Chain	Costs	No long-term business partners, Partner companies within the supply chain that might create environmental and social impacts in the long run			●				●	“Sustainable Supply Chain Management” Topic Page 66		
5. Customer Relationship	Revenue	Delivering best services to the customers as a top priority, being the center and creating relationships with them, including receiving feedbacks and needs from customers, and develop service skills of the employees accordingly	●	●				●		“Relationship Management and Responsibility to Customers” Topic Page 49		
6. Digital Transformation and Cybersecurity	Risks	The technology system cannot operate continuously, causing a reputational risk from data security and gaps for corruption	●						●	“Cybersecurity and System Availability” Topic Page 76		
7. Anti-Competitive Behaviors	Risks	No practices to prevent competition in the market or set prices or price proposal with no transparency		●				●		“Good Corporate Governance and Anti-Corruption” Topic Page 53		
1. Climate Change and Greenhouse Gas Emissions	Risks	Volatile change in the climate and global warming, flood, drought from greenhouse gas emissions	●	●	●		●			“Energy Consumption and Climate Change Management” Topic Page 84		
2. Air Emission	Risks	Reduce health risks from air pollution to the communities	●			●				“Air Quality Management” Topic Page 100		
3. Oil Spill Management	Risks	Oil leakage to the land and sea, destroying environment, wildlife, and communities	●		●		●			“Oil Spills” Topic Page 98		
4. Water and Wastewater Management	Risks	Manage water usage, especially within the water scarcity area to have enough for the refining process, including wastewater management to reduce impacts to the communities	●					●		"Water and Wastewater Management" Topic Page 93		

Materiality Topics	Business Impacts	Impacts on Economy, Environmental, and Society	Cause of Impacts			Types of Impacts				Sustainability Management Approach	SDGs
			Operations	Products/ Services	Supply Chain	Actual		Potential			
						+	-	+	-		
5. Waste Management	Risks	Reduce health risks from hazardous wastes and non-hazardous wastes to the communities	<div></div>			<div></div>				“Waste Management” Topic Page 104	<div></div>
6. Biodiversity	Risks	Destroy the ecosystem by removing trees for construction, releasing pollution during operations, and oil and other substance leakage during operations	<div></div>						<div></div>	“Biodiversity Management” Topic Page 106	<div></div>
1. Occupational Health and Safety	Risks	Control occupational health of the employees to maintain at a healthy level physically and psychologically, work in a dangerous environment, work that causes deterioration or irregularity of health, including inappropriate workplace standards causing employees and other labor harms and death during operations	<div></div>				<div></div>			“Occupational Health and Safety” Topic Page 114	<div></div>
2. Energy Accessibility	Revenue	Communities cannot access energy, Customers and consumers cannot afford the energy due to price and increased costs		<div></div>			<div></div>			“Energy Accessibility & Security” Topic Page 120	<div></div>
3. Community Development and Employment	Risks	Support community development in sustainable areas for a better life and an engagement	<div></div>					<div></div>		“Community and Society Development” Topic Page 123	<div></div>
4. Human Resource Management	Costs	Unable to develop employees at the growth pace of the organization, including diversity management in ideas to retain the employees	<div></div>						<div></div>	“Human Capital Development “ Topic Page 136	<div></div>
5. Human Rights, Labor Rights, and Labor Practices	Risks	Challenging human rights management in the future from the diversity of the employees and stakeholders as the businesses expand, increasing the risks of oppression and inequality causing financial impacts or criminal abuse	<div></div>						<div></div>	“Human Rights” Topic Page 146	<div></div>
6. Land and Resource Rights	Risks	Intruding spaces/areas and utilizing the resources of the community inappropriately causing the way of life and safety of the communities	<div></div>						<div></div>	“Human Rights” Topic Page 146	<div></div>



Governance and Economic Dimension

Innovation and Sustainable Investment	38
Sustainable Product and Service Development	41
Relationship Management and Responsibility to Customers	49
Good Corporate Governance and Anti-Corruption	53
Risk Management	56
Sustainable Supply Chain Management	66
Cybersecurity and System Availability	76
Tax Management	81

Innovation and Sustainable Investment

The Company operates under the “Bangchak Initiative and Innovation Center (BiiC)” with the aim of creating a green ecosystem and driving innovations in energy and technology to address climate change (Energy and Climate Technology) and bio-based solutions in order to expand its business both domestically and internationally. Additionally focusing on innovation development and venture capital (IVC) as well as ecosystem and incubation (E&I) activities. Furthermore, the business development team and various business groups study and actively explore new investment opportunities to support corporate growth.

Last year, investment opportunities in Green Energy Technology, Energy Transition Technology, and innovations in Energy and Climate Technology were studied. The investment scope was also extended to digital technologies, such as AI, IoT, and Big Data, to support, monitor, and control processes, enhance production efficiency, and reduce energy loss. Moreover, the Company collaborates with academic institutions and international technology developers to explore pathways toward achieving net-zero greenhouse gas emissions for the refinery business, for instance, Carbon Capture Technology and Utilization and Storage (CCUS) to capture, utilize, and store carbon dioxide produced during the production process. This includes leveraging artificial intelligence innovations to enhance operational efficiency.

Performances

Astaxanthin Production Project

The project aims to transform astaxanthin into high-value products, including developing and improving production processes, testing the efficiency and toxicity of astaxanthin in collaboration with the Faculty of Pharmaceutical Sciences at Chulalongkorn University. Additionally, new products, such as dietary supplements and cosmetics, are being developed for market trials. The project also involves studying and developing astaxanthin nanoparticles to enhance product efficiency further and expanding commercial production with business partners. Expanding

commercial production of astaxanthin will be a significant step that can create opportunities for the economy and the health and beauty industry. It will reduce the need for importing astaxanthin from abroad. Since the project’s inception in 2019, five patents have been registered in 2023, products have been developed and market tested to expand commercial production. The goal is to become a center for the cultivation and extraction of valuable substances from algae in the Southeast Asian market. Currently, dietary supplements and cosmetic products under the brand Asta.A are produced from the key substance derived from red algae (astaxanthin).

In 2024, the project’s scope expanded to include the study and production of recycled products from biodegradable plastics and the production of prototype products from rare sugars.

Ecosystem and Incubation (E&I)

The Company actively encourages and promotes the continuous development and enhancement of innovative business ventures both within and outside the organization.



- The “Wrong DI (Wrong-Deliver-Innovation)” initiative, is a creative space for employees to present ideas and expand them into business opportunities. Over the past year, projects that participated in the Wrong DI Innovation Workshop have been further developed within various business groups. Additionally, collaborations with universities and research institutions have been established to study and develop selected projects for technical feasibility testing, with the aim of commercializing them in the future.

- BiiC collaborates with various business groups within the organization to integrate innovation through several projects. These include mandatory training programs for employees at different levels, the Transformation & Synergy project in the marketing business group (MarkethinX), the use of AI technology in the accounting and finance department (Awareness AI for AFBU), and the Bangchak Greenovator Hackathon 2024, among others.

- The business incubation project involves research and development of algae cultivation for the production of high-value extracts. This aims to support business development and raise funds for commercial expansion, with the goal of becoming a leading center for the cultivation and extraction of valuable substances from algae in the Southeast Asian market. Currently, the dietary supplement and cosmetic products under the brand Asta.A are produced from red algae (astaxanthin), which is an antioxidant 6,000 times more potent than vitamin C. There are plans to expand the product line into human and animal nutrition.



Due to the Company’s dedication to innovation management, it has received the South East Asia MIKE Award (The Most Innovative Knowledge Enterprise) at the Gold Level, recognizing its efforts in fostering knowledge and innovation within the organization, continuously developing products and services for customers, and valuing personnel and technology. Additionally, the Company was honored with the Thailand Corporate Excellence Awards 2024, receiving the Distinguished Award for Innovation Excellence.

Investment in Sustainable Aviation Fuel (SAF) Business from Used Cooking Oil

Recognizing the significant greenhouse gas emissions in the aviation sector, the Company is pioneering the production of Sustainable Aviation Fuel (SAF) from used cooking oil through the establishment of BSGF Company Limited. It is the first and only company in Thailand and the second in Asia with a production capacity of 1 million liters per day.

The production of biofuel for aviation can reduce carbon dioxide emissions by up to 80% throughout its life cycle compared to fossil-based aviation fuel. This initiative supports Thailand’s aviation sector in meeting the standards of the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA), aligning with the BCG Economy Model (Bio-Circular-Green Economy).

The Company supports proper management of used cooking oil through the “Fry to Fly” or “Tod Mai Ting” project and extends this effort by partnering with the Department of Health to launch the “Mai Tod Sum” campaign. This initiative aims to promote safe and correct use of cooking oil by businesses, considering consumer health and environmental impact. Additionally, the Company expands collection points for used cooking oil at Bangchak service stations and various partners across all 77 provinces. These efforts help improve the quality of life and health of Thais by reducing the consumption of reused cooking oil and efficiently recycling it into sustainable aviation fuel. This adds value for both households and businesses through the sale of used cooking oil.

In 2024, the Company is constructing a sustainable aviation fuel (SAF) production unit within the Bangchak Phra Khanong Refinery. The facility will use pre-treatment technology from Desmet, Italy, and UOP Ecofining Technology from Honeywell UOP, USA, for effective production of SAF.

These technologies provide efficient solutions for converting used cooking oil into sustainable aviation fuel. The Company and its supply chain partners are also seeking International Sustainability & Carbon Certification (ISCC) for the entire supply chain, including ISCC EU and ISCC CORSIA, to distribute sustainable fuels such as bio-naphtha and SAF. This preparation ensures that Bangchak Group is ready for

the production and distribution of all types of sustainable fuels, supporting the transition to a low-carbon society. Additionally, the Company has initiated a pilot test of mixing SAF with Jet A1 fuel in the pipeline systems at Suvarnabhumi and Don Mueang airports.



Performances

- The construction of the production unit is currently 70% complete and is expected to be operational by the second quarter of 2025.
- The Company expanded its network of collection and distribution points for used cooking oil.

Network (Locations)	2022	2023	2024	2025 Targets
Communities, social organizations and educational institutions (Households)	44	165	297	400
• Through Bangchak service stations (Accumulated)	19	178	49	300
• Through communities, social organizations, government agencies, and educational institutions				
Businesses				
• Through legal entities: restaurants/industrial factories	-	239	480	600



The ISCC EU Standard is recognized by the European Union for certifying the supply chain of biofuel or biomass producers for transportation fuels in compliance with the EU Renewable Energy Directive (EU RED). It is acknowledged by the European Commission.



The ISCC CORSIA Standard certifies sustainable aviation fuel (SAF) in accordance with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). This standard, endorsed by the International Civil Aviation Organization (ICAO), certifies the use of SAF in international aviation and throughout the supply chain.

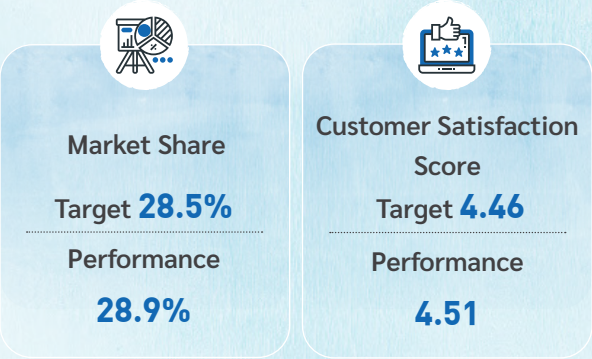
Sustainable Product and Service Development

In 2024, the economic and global situation continues to be volatile, with regional conflicts and energy transition policies playing a crucial role in shaping future energy consumption trends. Additionally, there have been impacts from flooding, affecting the agricultural sector, household income, and consequently consumption in certain areas. The Company remains committed to developing products and services to meet customer demands in collaboration with Bangchak Sriracha Public Company Limited. This synergy allows the combination of strengths and build upon creating a network of easily accessible service stations, ensuring a diverse range of products and fostering customer confidence, continuously serving both existing and new customer bases. **Therefore, an important mission in the previous year was the rebranding and revamping of the image of nearly 700 service stations under the Bangchak brand. This included setting service standards, controlling quality within Bangchak service stations, and developing products and services to provide customers with the “Your Greenovative Destination” experience.**

The concept of “Your Greenovative Destination” is aimed at becoming a leader in green innovation through a diverse range of products and services. The goal is to make Bangchak service stations a comprehensive destination that meets all customer demands while driving sustainable business practices.

Over the past year, the Company has continuously listened to the demands and expectations of customers, analyzing data from various channels to gain insight into key customer expectations. These include convenient service station locations, the best refueling experience, an attractive loyalty program, fast and efficient service, enhanced fuel quality for improved engine performance, and a commitment to continuous innovation. These insights have shaped the Company’s key goals and performance in 2024, reflecting both business growth and customer-centric development across two key dimensions.

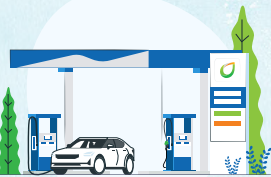
Performances



In the past, the Company has leveraged the core capabilities of the marketing business group, including: 1) Responding to the demands and expectations of customers, partners, and service station operators, 2) Procuring, developing, and innovating new products, both in oil and non-oil services, as well as other services to be able to adapt swiftly to changes, and 3) Conducting business responsibly towards the environment and society sustainably, driving the development and enhancement of products, services, and business processes. This is achieved through 4 main strategic pillars, including:



Strategy 1: Developing service stations and networks to cover more areas and increase customer accessibility



Objective

Becoming the number one service station brand in the hearts of consumers, driving continuous sales growth through service stations and increasing market share.

Performances	2024 Results	Short-term Targets 2025	Long-term Targets 2030
<div> Rebranding and revamping the image of service stations under the Bangchak brand. <ul style="list-style-type: none"> Implementing the rebranding of the “New Leaf” logo, which gives a modern feel with a variety of colors to convey growth and moving towards a sustainable future. Rebranding from “Esso” to “Bangchak” by focusing on developing service stations that meet standards in prime locations along major roads to appropriately meet customer demands. <p>As a result, by 2024, there were over 2,163 service stations.</p> </div>	<div> <p>1,233 stations Revamping the logo (Accumulate 100% as planned)</p> <p>724 stations Completed revamping the logo</p> </div>	<div> </div>	
<div> Improving and enhancing the capabilities of service stations. <ul style="list-style-type: none"> Developing and enhancing standard service stations that are due for improvement, as well as community service stations, to be on par with standard service stations. Additionally, supporting the upgrade of standards and the image of service stations to be competitive in terms of structure and service. </div>	<div> <p>Improved and enhanced 127 stations</p> </div>	<div> <p>163 stations</p> </div>	
<div> Continuously expanding service stations. <ul style="list-style-type: none"> Expanding service stations under the Bangchak brand to meet consumer demands, including the expansion of “Unique Design” service stations with distinctive characteristics, making them landmarks in each area. </div>	<div> <p>2,163 stations (previously 1,365 stations) 96 stations</p> </div>	<div> <p>2,194 stations</p> </div>	<div> <p>2,475 stations</p> </div>

Strategy 2: Developing high-quality fuel products that align with automotive technology and are environmentally friendly




Objective

Focusing on leading in high-quality and environmentally-friendly fuel products to enhance acceptance among car users who prioritize sustainability and the environment.

Performances	2024 Results	Short-term Targets 2025	Long-term Targets 2030
<div> EURO 5 standard fuel for all products <ul style="list-style-type: none"> To align with government policy, EURO 5 standard fuel helps reduce sulfur content and combustion pollutants, such as hydrocarbons and nitrogen oxides, as well as mitigate the issue of fine particulate matter (PM 2.5). The Company’s fuel products not only meet customer demands but also help reduce health and environmental impacts. </div>	<div> <p>Market share through service stations continuously increased to 28.9% (previously 16.3%)</p> </div>	<div> <p>30% Market share</p> </div>	<div> <p>33% Market share</p> </div>
<div> Premium Products <ul style="list-style-type: none"> Promoting the sale of premium products, Hi-Premium Diesel S and Hi Premium 97, through various campaigns. This includes expanding service stations that sell premium grade fuel and building confidence in the products through collaboration with importers and dealers of luxury cars that choose Bangchak Hi Premium 97 as the first tank of fuel for luxury cars, such as Porsche, Bentley, and Harley-Davidson. Organizing activities to boost sales, such as “Purple Day” to offer discounts on premium fuel and conducting various promotional campaigns to increase opportunities for consumers to try Bangchak’s high-quality products. </div>	<div> <p>Percentage of service stations selling premium products Diesel 45% Gasohol 30% previously 29.8% and 13.3%)</p> </div>	<div> <p>Percentage of service stations selling premium products Diesel 47%</p> </div>	<div> <p>Percentage of service stations selling premium products Diesel 86%</p> </div>

Performances	2024 Results	Short-term Targets 2025	Long-term Targets 2030
<div> Lubricants</div> <div><ul style="list-style-type: none">Developing lubricants in accordance with international standards, certified by ISO 9001 Quality Management System and ISO/TS16949 Quality Management System for the automotive industry. Collaborating with PJW and SCGC to create innovative, sustainable packaging, including 30% PCR plastic content in FURiO ULTRA HD packaging. PJW has been honored with the Gold Award at the Thailand Plastics Awards 2024.</div>	Market share for lubricant products 11.6%	Market share for lubricant products 12.0%	Market share for lubricant products 15.0%

Strategy 3: Continuously developing and expanding non-oil offerings to meet customer demands, making service stations a one-stop service destination



Objective

Expanding customer base with diverse services, including Inthanin coffee shop network, Lemon Green convenience stores, and Big C Mini. Additionally, collaborating with business partners in the restaurant industry, leading brands, and EV chargers to provide convenience for consumers in all aspects.

Performances	2024 Results	Short-term Targets 2025	Long-term Targets 2030
<div> Inthanin Coffee Shops</div> <div><ul style="list-style-type: none">Inthanin Coffee Shop Business is a leader in the coffee industry with a focus on being “environmentally friendly” using Organic Arabica 100% coffee beans and promoting reduction of plastic usage through the “Bring Your Own Cup” campaign to encourage the reduction of single-use packaging. Inthanin also uses BIO Packaging made of PLA, which is 100% biodegradable, and opts for sip lids to reduce straw usage. Additionally, collaborating with the Royal Forest Department and Bangkok Metropolitan Administration in the “Kaew Por Klar” (Seedling Cups) project by collecting used beverage cups to be reused as containers for seedlings, flowers, and ornamental plants instead of using black plastic bags, thus reducing plastic waste and promoting green spaces.</div>	Expanded Inthanin Coffee Shop to 1,028 branches	Expanded Inthanin Coffee Shop to 1,135 branches	Expanded Inthanin Coffee Shop to 2,050 branches
			

Performances	2024 Results	Short-term Targets 2025	Long-term Targets 2030
<div> Convenience stores</div> <div><ul style="list-style-type: none">Developing 35 convenience stores under the brand “Lemon Green” and collaborating with business partners to provide convenience stores under the brand “Big C Mini” with 148 branches, and other marts, totaling 152 locations.</div>	297 stations		
<div> Leading restaurant brands, including business groups catering to various lifestyle needs</div> <div><ul style="list-style-type: none">Collaborating with leading restaurant brands and business groups catering to various lifestyles, including automated laundry business, logistic business, and various vending machines etc.</div>	Expanded non-oil offerings within service stations to 4,106 stores	4,794 stores	8,634 stores
<div> EV Charger</div> <div><ul style="list-style-type: none">Collaborating with business partners to develop EV chargers in Bangchak service stations to support the growth of EV, making Bangchak the service station with the most EV chargers, covering all regions across Thailand.</div>	365 charging stations 1,096 charging stations	467 charging stations	1,259 charging stations
			
<div> Oil change service centers</div> <div><ul style="list-style-type: none">Oil change service centers under the brand “FURiO Care”, car wash centers under the brand “Green Wash”, and business partners including B-Quik, Tyre Plus, Autoclik.</div>	324 service centers within service station		



Strategy 4: Enhancing customer experience at every service touchpoint to maximize satisfaction and foster positive impression, including elevating the service standards at service stations and offering diverse benefits through Bangchak Green Miles membership.

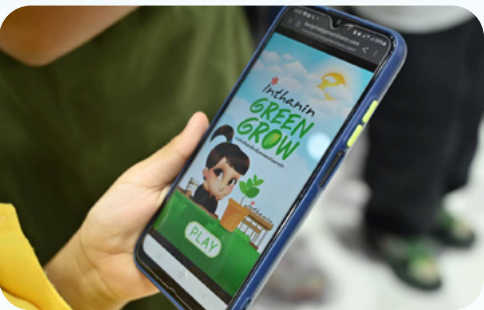


Objective

Delivering exceptional service through quality standards, while also enhancing the Bangchak Green Miles membership card to become the best loyalty program that meets customer demands and expectations.

Performances	2024 Results	Short-term Targets 2025	Long-term Targets 2030
<div>Improving services at service stations and ensuring consistent service standards<ul style="list-style-type: none">To places great importance on customer experience, emphasizing on unique Thai greetings at all service stations, including conducting a systematic evaluation through the receipt slip, allowing customers to immediately rate their satisfaction.</div>	Customer Satisfaction Score 4.51/5.00	Customer Satisfaction Score 4.57/5.00	Customer Satisfaction Score 4.90/5.00
<div>Launching personalized marketing programs for member customers<ul style="list-style-type: none">To understand the behaviors and demands of the target groups and implement personalized marketing, service usage data among members is analyzed to encourage repeat visits. Special promotional offers, such as earning extra points when refueling to a specified amount, are included, along with various programs based on purchasing behaviors of products and services.</div>	8.3 Million Bangchak Green Miles Members	9 Million Bangchak Green Miles Members	14 Million Bangchak Green Miles Members





Developing products and services to create value for society

The Company is committed to building a sustainably growing business while simultaneously fostering social development and environmental conservation. This is achieved through the continuous implementation of projects that encourage the participation of customers and stakeholders.



Community products which was introduced in 1997, involves purchasing agricultural produce and innovative products from farmers and SMEs to use as promotional items given to customers refueling at the stations. This helps farmers earn income during periods of low agricultural prices and promotes agricultural product innovation for SMEs, making their products known. An example is the “4 Regions Brown Rice Pop,” which uses high-quality rice from seven agricultural cooperatives.



Activities for customers to participate in fostering society include initiatives such as Bangchak Green Miles members assisting flood victims by converting reward points into donations to the “Friends in Need (of “PA”) Volunteers Foundation, Thai Red Cross Society.” These donations are used to create survival kits, set up community kitchens to prepare cooked meals, and aid affected citizens while supporting post-flood rehabilitation. Additionally, the “Bangchak and Customers Unite: One Million Bottles for Flood Relief” campaign encourages customers to donate one million bottles of drinking water. Customers who receive 1.5 liters of drinking water when refueling at gas stations are invited to participate.



Bangchak Ruam Pan Nam Chai for Endless Giving Campaign Fostering engagement among members of Bangchak in social contributions by allowing customers to donate reward points earned from fuel purchases and products from the Bangchak Group in exchange for money. This money is then donated, along with additional contributions from the Company to public benefit organizations such as the Princess Mother’s Medical Volunteer Foundation, Ramathibodi Foundation, and the Thai Red Cross Society, among others, to support social and environmental development.



The Disabled and Elderly People Employment campaign (in suitable positions) aims to enhance the value and quality of life in society and emphasizes participation in supporting products made by disabled groups. The project includes hiring and providing opportunities for the elderly and disabled to work at service stations, employing 90 elderly individuals (aged 60 and above) and 32 disabled individuals. Additionally, Bangchak Retail Company Limited employs 3 elderly individuals and 6 disabled individuals.



The Company's pride in its continuous development of products and services has led to its recognition as a "Inspirational Brand" in the Asia Pacific region. This achievement is marked by winning the Inspirational Brand Award in the Oil and Gas industry at the Asia Pacific Enterprise Awards (APEA) 2024. The Company is celebrated for its exemplary image and philosophy that inspire others, operating sustainably while being socially and environmentally responsible for 40 years. Stepping into its 5th decade with the brand idea, "Greenovate to Regenerate: Balancing Nature for Infinite Energy."



Additionally, the Company has received the Royal Trophy from Her Royal Highness Princess Maha Chakri Sirindhorn in the category of Product/Service Excellence at the Thailand Corporate Excellence Awards 2024. This event is organized by the Thailand Management Association (TMA) and Sasin Graduate Institute of Business Administration of Chulalongkorn University.

Relationship Management and Responsibility to Customers

The Company employs customer relationship management tools through Bangchak membership to maintain the customer base and boost sales of oil, lubricants, and Inthanin beverages. This includes further development through the creation of a Customer Data Platform (CDP) to enable systematic and accurate analysis of various situations. For example, segmenting customers and meeting the needs of each group leads to personalized marketing, aiming to create a positive customer experience in the destination for Bangchak members. This strategy is intended to ensure long-term continuity of service usage by Bangchak members.



Personalized marketing involves using various tools and technologies, such as Power BI, Tableau, and Google Analytics, to analyze data and understand the needs and behaviors of members. By collecting and specifically analyzing this data, the goal is to match the needs of members as closely as possible and **segment members** based on their purchasing amounts, and benefits are provided according to their preferences. This approach aims to create a positive impression, encouraging members to continue using the services in the long term.

Strategy and Performances



1. Developing Two-Way Communication Mechanisms: The Company places great importance on communication, data collection, and processing customer needs and expectations from various channels. These include Call Center 1651, Facebook, Email, Website, Line Official, Line@, Live Chat, Bangchak Mobile Application, and Marketing Representatives.



- Actively tracks customer feedback through public online media to ensure it stays connected with customers.
- Expanding contact channels and evaluating customer satisfaction through receipt slip feedback after service usage. This aims to facilitate the transition of Esso Smiles card members to Bangchak Green Miles cards, allowing immediate recognition of customer satisfaction, suggestions, and areas for improvement after using the service at service stations and Inthanin coffee shops.
- Developing a Chatbot via Line@bcp1651 to provide prompt responses to customer inquiries.
- Upgrading the phone answering program to be more modern and efficient.





2. Development of Systems and Technology to Support Customer Relationships
- 2.1 Developing a Customer Relationship Management System and Offering Appropriate Benefits to Specific Customer Groups
- Analyzing fuel filling behavior and service usage frequency to maintain consistent service usage and offer additional products and services. This includes new customer groups food delivery motorbike riders (Food Riders) and other potential groups.
- 2.2 Utilizing Data Analytics Technology for In-Depth Customer Behavior Analysis
- Creating promotional campaigns for premium-grade oil products and personalized marketing for lapsed members, encouraging them to return to the services.
- 2.3 Developing a Points Transfer System
- Developing a points transfer system to benefit Esso Smiles members by transferring their remaining points to Bangchak Green Miles membership. This aims to retain the existing customer base.

3. Customer Relationship Management to Retain Current Customers and Attract New Customers

Customer Groups	Customer Care and Benefits
<div><p>3.1 Service Station Customers</p></div>	<p>Retaining Key Benefits:</p> <ul style="list-style-type: none">Price increase rebate, on the first day of a fuel price increase, members receive the difference in price as reward points.Receiving THB 5 discount when purchasing Inthanin beverages.Exclusive benefits are provided on birthdays.Using Bangchak points as cash with participating merchants in Tung Ngern and Paotang through the Bangchak application. <p>Additional Benefits:</p> <ul style="list-style-type: none">Transferring points between members and from participating credit cards to Bangchak membership points, and transfer in between Bangchak and its partners through the Bangchak application.Redeeming Bangchak points for RMF and SSF fund investments.Redeeming points for the “Happy New Year, Safe Travel” micro-insurance policy during New Year and Songkran festivals.Special discount of THB 5 per liter on Hi premium fuel nationwide, as a year-end travel gift.

Customer Groups



3.2 Industrial and Wholesale Customers



Customer Care and Benefits

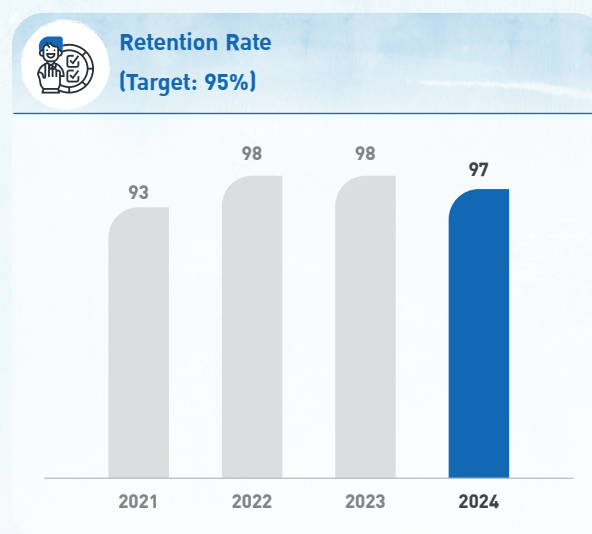
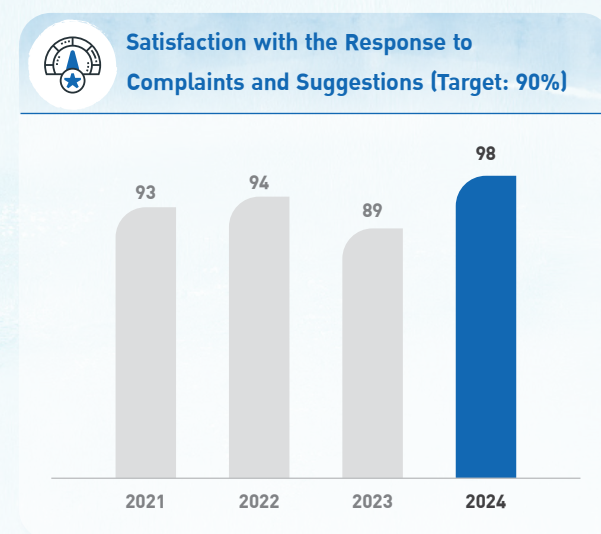
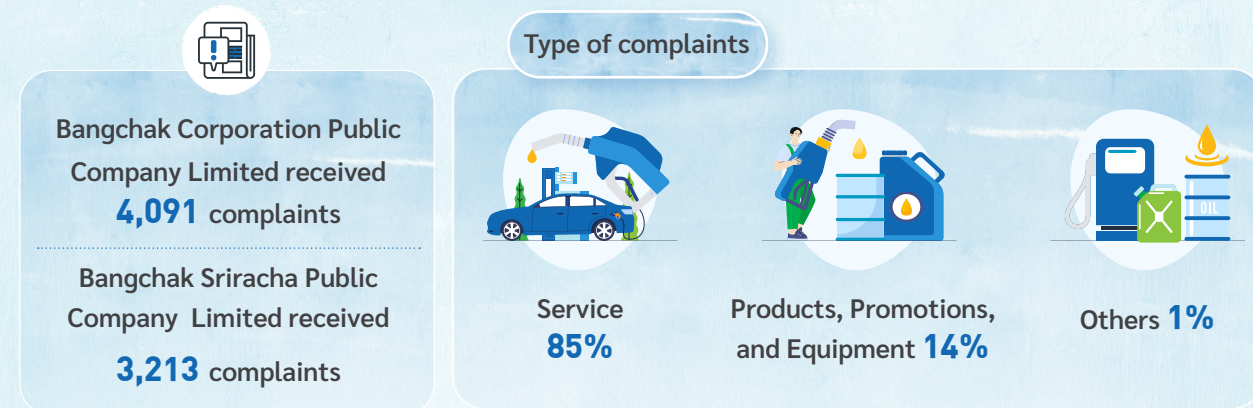
- Regularly meeting and holding conferences with major customers has resulted in a customer satisfaction rating of 92%, which exceeds the target.
- Development of solvent products beyond BCP White Spirit-3040, which is used in the paint industry, has expanded to include D80, Hexane, and BCP80/100. These additional solvents are used in various industries, allowing market expansion to new customer segments. Sales volume of solvent products increased by 109% compared to 2023.
- Expansion of aviation fuel sales through a new direct sales channel to both domestic and international airlines has led to a 26% increase in aviation fuel sales compared to 2023.
- Implementation of targeted promotional campaigns tailored to specific customer segments, such as a Loyalty Program for selected customers, promotions based on customer discussions, and periodic discounts (monthly, quarterly, or annual) for customers who meet purchasing targets.
- Providing online and onsite education on various topics, including products, emergency response training, after-sales services, equipment support, equipment inspection and maintenance services for machinery.
- Offering comprehensive services (Total solutions), including equipment care and additional quality assurance beyond oil product sales.
- Promoting the E-Tax Invoice system to facilitate customer convenience.
- Integrating the delivery and oil storage management system with Bangchak Sriracha Public Company Limited by expanding the oil storage and pipeline network in the northern and northeastern regions to enhance the speed and efficiency of product delivery to customers.
- Updating the database of various lubricating oils, allowing customers to study about lubricating oil products at www.bangchaklubricants.com.

In terms of customer satisfaction, the Company employs various methods to evaluate customer satisfaction, aligning with diverse business activities. These methods include telephone surveys, automatic call transfers post-service through the Call Center, and mobile surveys that appear on Bangchak member receipts. This approach ensures comprehensive coverage of both station services and non-oil business. Additionally, customer satisfaction data is obtained by outsourcing annual market research, conducting focus group discussions with business operators to exchange market information, and summarizing customer complaints, inquiries, compliments, promotions, and service recommendations. This information is then forwarded

to relevant departments to improve services, conversely, employees who receive compliments are rewarded to boost their morale.

Since becoming the major shareholder in Bangchak Sriracha Public Company Limited, the number of service stations has increased. Therefore, to maintain communication with its customers and Esso Smile card members, 2 call center contact points have been established. As a result, in 2024, there was an increase in the number of complaints and suggestions received. Nevertheless, customer satisfaction regarding the handling of complaints and suggestions, as well as their return to use services, remains on par with target.

Performances



There were no significant violations of laws related to marketing communications (Disclosure 2-27).

Good Corporate Governance and Anti-Corruption

The Board of Directors is committed to fostering the Company as an organization that operates under the principles of good corporate governance with a management system of high standards. This approach aims to maximize benefits for shareholders while considering the interests of all stakeholders. With integrity, transparency, and accountability as its guiding principles, the Company has established a written policy on good corporate governance since 2003.

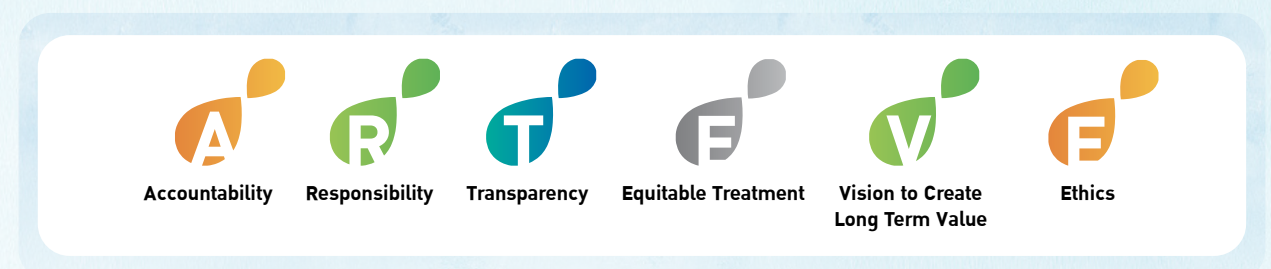
The Company consistently focuses on educating and promoting awareness of good governance principles, integrating them into daily work practices to form an organizational culture. Its governance system is continuously improved by studying both domestic and international best practices, ensuring the policy is reviewed and updated annually. Moreover, the Company adheres to 6 key principles of good corporate governance, known as ARTEVE



More Information Available in
[Policy on Corporate Governance](#)



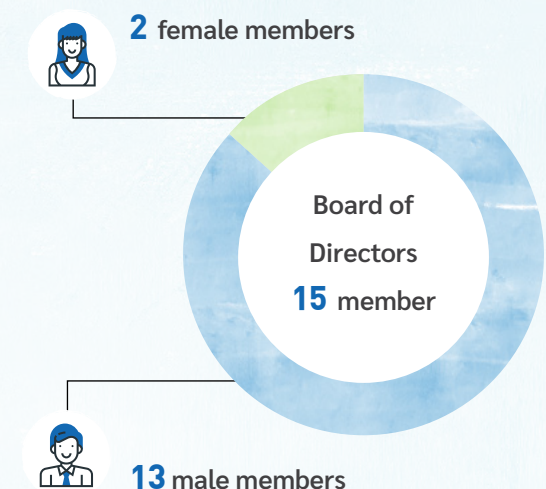
More Information Available in
[Overview of Corporate Governance Policies and Practices in the 2024 Annual Registration Statement/Annual Report 2024 \(Form 56-1 One Report\)](#)



Board of Directors Overview

The Company's Board of Directors consists of **15** members (Board Size):

Executive Director: 1 member
Independent Directors: 12 member
Other Non-executive Directors: 14 member
Board Average Tenure: 3 years 1 month
Board Diversity: 13 male members and 2 female members
Average Board Meeting Attendance: 100%



Good Corporate Governance Operating System

The Company operates under a good corporate governance system consistent with leading organizations and tailored to its current business model. The process includes the following steps:

1. Setting policies and reviewing governance processes.

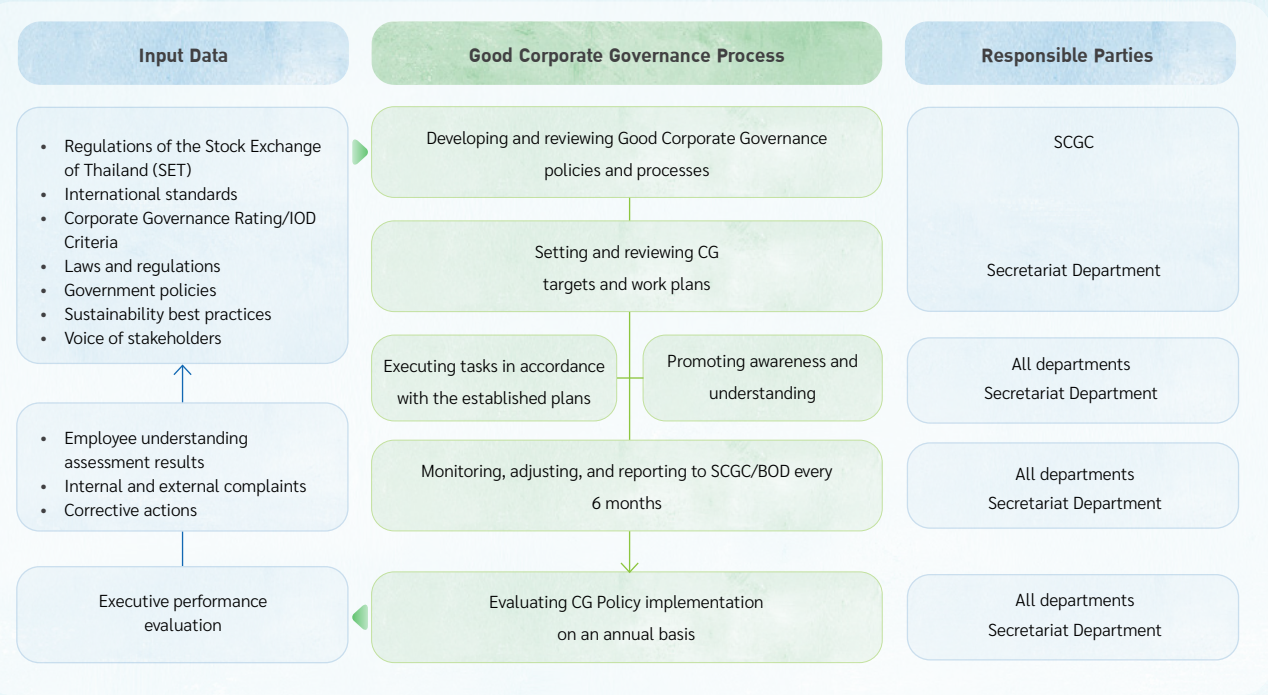
2. Defining and amending governance objectives and action plans.

3. Implementing policies and guidelines.

4. Promoting awareness and understanding among employees through various channels, such as CG e-Learning and CG Day activities. These initiatives
5. Monitoring progress against improvement targets and reporting to the Sustainability and Corporate Governance Committee (SCGC) and the Board of Directors (BOD) every 6 months.

6. Conducting yearly assessments to ensure compliance with governance policies and identifying areas for further enhancement.

include tangible case studies for self-study and extend corporate governance principles to temporary employees and contractors. Online learning resources provide comprehensive content on topics such as governance policies, conflict of interest, insider trading, anti-corruption, and whistleblowing procedures, ensuring ethical and compliant operations.



Anti-Corruption

The Company's Anti-Corruption Policy applies to the Board of Directors, executives, and all employees within the Company and its subsidiaries, as well as affiliated companies, joint ventures, or other entities under the Company's control, including business representatives. The Company conducts corruption risk assessments across all core businesses and investment activities, following the CAC (Collective Action Coalition) risk assessment principles, which evaluate both likelihood and impact. From this assessment, 5 high-risk operational processes have been identified:

1. Preparation of financial statements for public disclosure
2. Application or renewal of licenses for constructing service stations, where there is a risk of bribery to government officials for facilitation
3. Tax refund applications
4. Application or renewal of licenses for operating oil depot facilities
5. Hiring of consultants and experts. To address these risks, the Company has implemented preventive measures and mitigation plans to reduce potential impacts (Disclosure 205-1)

Anti-Corruption Performances

The Company implements its corporate governance (CG) policy as follows (Disclosure 205-2):

Board of Directors and Executive Management




- 100% acknowledgment of the policy
- 100% training provided to the Board of Directors and executives on anti-corruption measures*.

Employee

- 100% communication of the policy to employees.
- 100% acknowledgment and implementation of the policy
- An average employee knowledge test score of 93%.

* The Company provides corporate governance training, including anti-corruption policies, to the Board of Directors, requiring them to acknowledge and sign compliance with the corporate governance policy during every new director orientation. Additionally, all executives and employees must review the corporate governance and anti-corruption policies annually through an online system and sign to confirm compliance each year.

There was 1 reported complaint concerning a violation of the business code of conduct (Disclosure 205-3), which includes:

Reporting of breaches	(Unit : case)	Employee	Business Partners
 Corruption or bribery complaints		1 case	-
 Discrimination or sexual harassment complaints		-	-
 Use of customers' personal data		-	-
 Conflict of interest complaints		-	-
 Money laundering or insider trading complaints		-	-
 Number of legal lawsuits		-	-

In 2024, the Company received one complaint through the Internal Audit Department (ico@bangchak.co.th) regarding corruption or ethical misconduct within its subsidiaries. The Company followed its complaint management procedures, implemented preventive measures to prevent recurrence, and notified relevant parties of the resolution. Additionally, the Company used the findings from the investigation to enhance related operational processes for greater efficiency.



More Information Available in

 [Whistleblowing and Whistleblower Protection" in the 2024 Annual Registration Statement/ Annual Report 2024 \(Form 56-1 One Report\)](#)

Disciplinary Actions

Objective: To correct and improve employee behavior. Depending on the severity of the misconduct, the Company may impose:

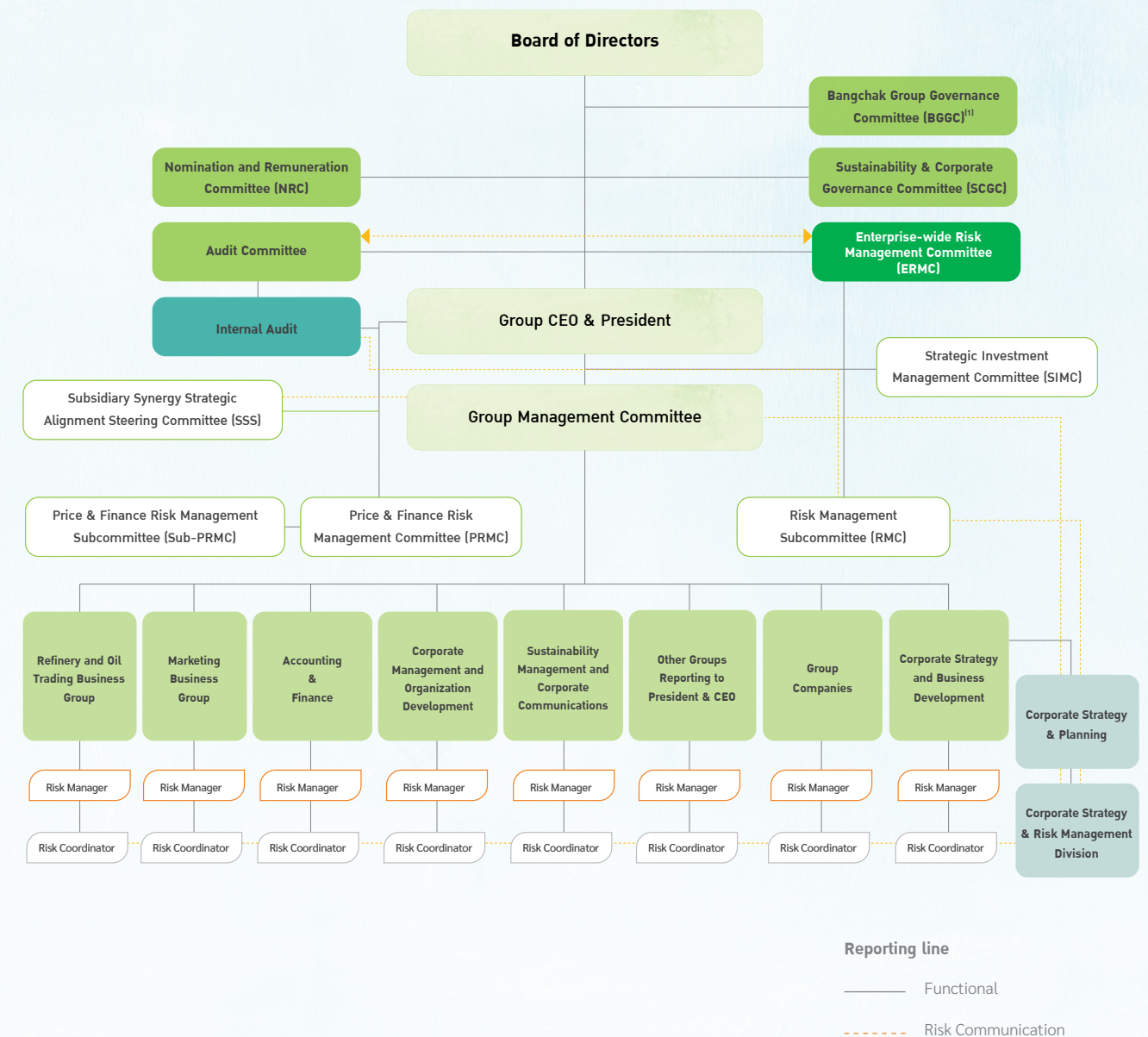
1. Verbal warning
2. Written warning
3. Suspension
 - 3-day suspension without pay
 - 7-day suspension without pay
4. Dismissal with or without compensation/pension, depending on the case
5. Dismissal without any compensation or benefits

Risk Management

Risk Management Policy and Plan

Over the past 20 years, the Company has adopted a risk management framework within the organization by incorporating international standards such as COSO ERM and ISO 31000 which are aimed at preventing and mitigating risks that could hinder the achievement of the Company's objectives. This is to ensure stakeholders' confidence in the Company's ability to conduct business amid continuously and rapidly changing environments.

Senior executives and employees at all levels of the Company and joint ventures actively participate in implementing the standardized risk management system, which is integrated with the Company's strategic planning processes and aligns with the Sustainability Policy (Environmental, Social and Governance). The Company monitors risks continuously on a quarterly basis, overseen by the organization's Risk Management Committee, to achieve shared business objectives under the organizational risk management structure.



Remarks : ⁽¹⁾ The Board of Directors resolved to appoint the Bangchak Group Governance Committee on 18 July 2024 for a special purpose in order to ensure that the governance of Bangchak Group align with the Group Strategy's policies and directors, as well as the strengthen the long-term sustainability of Bangchak Group

Risk Manager - Vice President/Designated Person

Risk Coordinator - Assigned by Senior Executive Vice President/Executive Vice President

As of 31 December 2024

The Enterprise-Wide Risk Management Committee (ERMC) is responsible for establishing policies, risk management strategies, and developing risk management systems. It promotes collaboration in risk management across all levels of the organization and ensures effective risk management practices are in place. Additionally, the Risk Management Committee (RMC) of Bangchak Group is tasked with developing risk management systems, setting policies and objectives, creating and reviewing risk management plans, and monitoring progress against those plans. The RMC also evaluates changes in both internal and external business environments.

The Corporate Strategic and Risk Management Division, along with the Corporate Strategy and Planning Department both reporting directly to the Senior Executive Vice President of Strategy and New Business Development, Bangchak Group, implements the organizational risk management system, monitors and ensures its execution. At the business group or function level, a Risk Manager is assigned to oversee risk management and report directly to the Senior Executive Vice President of the respective business group or function. Additionally, a Risk Coordinator is designated to ensure that risk management efforts are effectively implemented at the operational level within each department. This includes managing enterprise-level risks that arise from the business group or function. Furthermore, the Company actively promotes a culture of risk awareness by requiring all departments within the Bangchak Group to conduct annual risk assessments and develop risk management plans. These efforts are integrated into performance evaluation metrics, which influence employees' annual compensation. Each department is required to develop a risk management plan and obtain approval from its supervisor within the first quarter of the year. To strengthen risk management capabilities, the Company conducts annual training sessions on risk management and business continuity, including courses such as Business Continuity Management and Risk Management. Additionally, risk management topics are integrated into the orientation program for the Enterprise-Wide Risk Management Committee, and employees are provided with access to risk management knowledge through the BCP-KMS, the Company's internal knowledge platform.

Risk management processes are monitored and audited by the Internal Audit Department, which conducts regular risk management audits based on approved cycles and reports directly to the Audit Committee (AC). This ensures that internal audits are appropriate and effective in independently managing and controlling risks where the most recent risk management audit was conducted in 2024. Furthermore, the Audit Committee and the Enterprise-Wide Risk Management Committee hold joint meetings to ensure alignment on risk-related issues and internal audit matters.

In 2024, global economic growth is expected to slow down compared to the previous year. While inflation rates in major economies are projected to ease due to fiscal measures in various countries, prolonged geopolitical conflicts continue to pose risks to global supply chains and trade. Additionally, political and policy uncertainties stemming from elections worldwide, along with the potential impact of Trump 2.0 policies, are expected to intensify trade protectionism, placing significant pressure on global economic stability. Other critical challenges include climate change, safety concerns, environmental and social impacts, regulatory compliance, anti-corruption measures, cybersecurity threats, and shifts in government policies. In response, the Company closely monitors these risks, assesses their potential impact, and implements comprehensive risk management plans, including for its joint ventures. These efforts aim to keep risks and business disruptions within acceptable levels while ensuring the Company's adaptability in an increasingly volatile and rapidly evolving business landscape.

The Company has developed its risk management plan with its operational strategy by developing 2 scenario-based plans (Scenario Planning) to address potential future situations where key trigger points have been identified to enable timely adjustments to business strategies in response to changing conditions.

In addition, to ensure business continuity and long-term sustainability, the Company also considers emerging trends and external factors, Mega Trends and Global Risks, that could impact its operations in the medium and long term. These include industry competition, economic conditions, shifting consumer behaviors, climate change, energy transition, energy security, technological advancements and innovations. For example, renewable energy and energy storage technologies, the advancement of electric vehicles (EVs), biotechnology, and evolving government policies. The Company also gathers insights from key stakeholders to assess potential impacts and future risk trends. These insights are incorporated into its long-term risk management framework, ensuring alignment with the Company's strategic planning and sustainability objectives.

Risks to the Company's Business Operations

The Company has established a structured risk management framework encompassing

1. Enterprise Risk Management
2. Investment Project Risk Management
3. Business Continuity Management to evaluate potential risks effectively and develop appropriate mitigation plans, ensuring resilience and continuity in its operations.

1. Organizational Risk Management

Organizational risk management involves evaluating the key risks faced by the organization, stemming from both internal and external factors, as well as future trends that could impact organizational objectives in the short, medium, and long term. These risks encompass strategic, operational, financial, and reputational aspects. To address these, a risk matrix is implemented to assess the severity and likelihood of risks, categorizing them into four levels: Very High, High, Medium, and Low. Furthermore, monitoring and surveillance of identified risks are conducted using Key Risk Indicators (KRIs), which include defining acceptable risk levels (Risk Appetite) and allowable deviations (Risk Tolerance). Additional risk management plans are also devised to minimize the potential impact on operational targets.

For example, in monitoring and managing financial risks, such as inventory loss caused by fluctuating oil prices impacting the Company's operating profit (EBITDA), this risk is classified as very high. To mitigate this, the Company tracks Dubai crude oil price indices and sets an acceptable risk level at USD 83 per barrel with a tolerance level of USD 70 per barrel. This framework ensures efficient planning for raw material and inventory management. Another example focuses on reputational risk. The Company monitors accident statistics as a Key Risk Indicator since accidents could result in extensive complaints and harm the Company's credibility. This risk is also classified as very high, with the tolerance level being set at no more than 1 incident. To manage this, the Company has implemented a Process Safety Management (PSM) system in production processes to prevent and reduce risks. The Company has identified its key risks for the year 2024 as follows:





Strategic Risk

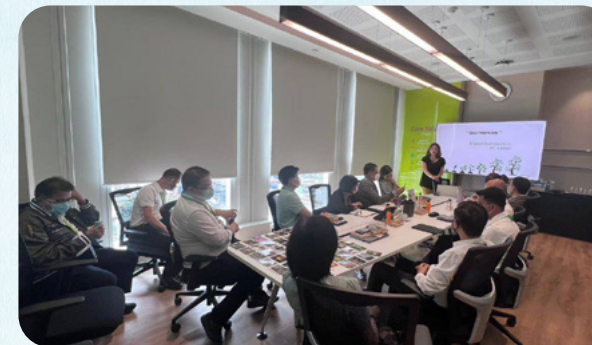
Geopolitical Uncertainty Risks (Emerging Risks)

The Company faces risks arising from geopolitical uncertainties and conflicts in various regions, including the Russia-Ukraine war and tensions in the Middle East. Additionally, the impact of oversupply conditions in the market is affecting crude oil prices and refining margins, leading to a potential decline in refining margins in 2024. This reduction has prompted some refineries to cut back on their refining capacities due to unfavorable economics, with some refineries even shutting down. Looking ahead to 2025, the oil market is expected to continue facing oversupply, driven by reduced demand from a slowing Chinese economy, while oil production from Non-OPEC countries and Trump 2.0 policies could further increase supply. This could lead to volatility in refining margins, oil stock profits or losses, and challenges in adjusting retail fuel prices at gas stations. The Company has developed risk management plans to address these potential challenges.

- Closely monitoring fluctuating oil prices and hedging a portion of oil prices to mitigate risks, while ensuring sufficient financing to support oil procurement for the oil trading business by BCP Trading Pte. Ltd. (BCPT).
- Focusing on developing niche refinery products by producing Unconverted Oil (UO) from the Hydrocracking Unit as a precursor for Lube Base Oil and Paraffin Wax. These products support industries such as candles, paper coatings, and adhesives, while planning to upgrade production capacity for heavy oils left uncracked (UO) from the Hydrocracking Unit.
- Extending the turnaround maintenance cycle from every 3 years to every 4 years.

- Developing plans to control crude oil and inventory levels, aligning them with production and sales plans to manage price risks effectively.
- Implementing scenario-based budget planning to accommodate anticipated situations and establishing trigger points for adjusting operational plans accordingly.
- Consistently monitoring oil price movements, including the spread between crude oil and refined oil prices, while developing new tools for price risk management. These initiatives are overseen by the Price and Financial Risk Management Subcommittee and Committee, who report closely to the Board of Directors. Furthermore, diversifying risks from volatile agricultural raw material prices by investing in the bioproducts business under BBGI Public Company Limited. This enhances the competitiveness of the Company's biofuel production and distribution business, including biodiesel and ethanol, while also paving the way for expansion into high-value bioproducts in the future to drive long-term value creation.
- The Company's marketing business continues to maintain its position ranked with the second-largest market share (according to the Department of Energy Business) by ensuring each service station has a unique design that integrates the Bangchak brand identity. As of now, the Company operates 2,163 service stations and remains committed to enhancing service standards to deliver an exceptional customer experience through continuous service development. Under the concept of "Your Greenovative Destination for Intergeneration," the Company also continues to expand its non-oil business in collaboration with strategic partners. By the end of 2024, there were 1,028 Inthanin coffee shop branches nationwide.
- Developing and promoting high-quality fuel products under the Greenovative Product concept, including Bangchak HI Premium 97, the highest octane gasoline in the market; Bangchak HI Premium Diesel S, which has the highest cetane rating among diesel fuels; and Bangchak E20 S EVO, a high-quality E20 fuel. All three products meet Euro 5 standards.

- BBGI Public Company Limited has adjusted its ethanol production capacity to align with market demand and fluctuating raw material prices which helps mitigate the impact of persistently high raw material costs throughout the year.



Operational Risk

Risks from Digital Technology Changes and Cyber Threats (Emerging Risks)

The evolution of digital technology and cyber threats represents external factors that are becoming increasingly complex and rapidly changing. These changes stem from heightened competition and the ongoing development of businesses that now depend on cutting-edge technologies and greater interconnectivity between devices and organizational units via the internet. This integration aims to enhance business efficiency and improve customer experiences, while simultaneously considering the security of the organization's information systems. To address these challenges, the Company has made preparations to adapt to technological advancements and changes. It has also identified key technological risks that could severely disrupt current business operations. The following measures are being implemented to mitigate such risks effectively:

- **Establishing a Digital Technology Center:** The Company has established a Digital Technology Center tasked with planning, monitoring, and implementing digital technologies to prepare for rapid technological changes and to align with evolving consumer behavior. The aim is to enhance competitiveness and improve service efficiency through the adoption of digital technologies. Key initiatives include:
 - Digital Payment Project: Introducing a contactless digital payment system using Mobile EDC

(Electronic Data Capture) devices at service stations. Payments can be made by scanning a QR code via any banking application or PromptPay, or by tapping a credit card on wireless terminals (Contactless). Customers can simultaneously earn Bangchak membership points.

- Personalized Marketing: Leveraging analytics technologies to analyze consumer behavior and design services tailored to individual preferences. This approach enhances customer satisfaction and the overall service experience.
- Promoting Work Process Digitalization: Improving efficiency and reducing processing time by adopting various digital tools, such as Robotic Process Automation (RPA), Power BI, or Power App, to streamline operations and increase productivity.

- **Establishing a Cybersecurity Division:** The Company has established a dedicated cybersecurity division responsible for planning, monitoring, testing, and implementing tools to mitigate the increasingly complex and evolving risks posed by cyber threats. The Enterprise-Wide Risk Management Committee has emphasized the importance of vigilance and risk management measures to address potential disruptions to business operations caused by cyberattacks. Key initiatives include equipping data centers with enhanced security tools, conducting system vulnerability assessments, and promptly addressing identified weaknesses. Continuous monitoring is carried out using risk indicators and intelligence (Threat Intelligence), supported by a Security System Alert. The Company has also developed an Incident Response Plan, which is practiced at least once a year, to ensure readiness for potential cyber threats. To strengthen identity protection, the Company has implemented Multi-Factor Authentication (MFA) and adopted the Zero Trust principle to secure access to critical systems. A robust data backup system has been introduced to prevent data loss and breaches, including protection against ransomware attacks. A backup data center has also been established to ensure continuous business operations even during emergencies.

Regular awareness training is conducted for employees to improve their understanding of cyber threats, with consistent testing to reinforce this knowledge. The Company's systems have achieved international certifications such as ISO 27001 (2022) for information security management, ISO 27032 for cybersecurity management, and ISO 27018 for personal data security.

- Furthermore, the Company continues to manage the Refinery Cyber Security System to mitigate risks associated with cyberattacks or disruptions that could specifically impact the oil refining process. Since 2020, the Company has maintained ISO/IEC 27001 (Information Security Management) certification, adhering to the latest 2022 standard. This certification covers the Distributed Control System (DCS) at the Bangchak Phra Khanong Refinery, ensuring that the Company's refining operations remain resilient and uninterrupted in the face of potential cyber threats.
- The Company consistently monitors news and provides regular updates to employees to raise awareness about the importance of the organization's information technology security systems. Additionally, the Company conducts quarterly employee awareness tests to ensure ongoing vigilance.

Reputation Risk from Social Media

Currently, the communication channels that consumers prefer for exchanging opinions about products and services have shifted to online platforms, enabling faster response to their needs. Conversely, in cases of negative news or misinformation, content can spread rapidly and widely, potentially impacting the credibility of the Company. This can affect the reputation and trustworthiness of the Company. Therefore, the Company has established a dedicated unit to continuously monitor and manage online communication channels. This ensures effective communication systems both in normal situations and during crises, reducing potential risks and impacts. Additionally, crisis response plans are regularly rehearsed to ensure timely and effective management of any potential crises.



Social and Environmental Risk

Operational Risks Impacting Communities and Society

With a commitment to conducting business sustainably alongside communities, society, and the environment, and recognizing the importance of risk management to mitigate safety and environmental impacts, the Company continuously improves and develops its production processes to operate safely and without affecting communities and society. The Company prioritizes management and quality improvement to reduce safety and environmental impacts that may affect communities and society. The risk management strategies include:

- Continuously developing occupational health and safety systems according to international standards to enhance workplace health and safety, and systematically improving work processes by considering risks, opportunities, and legal requirements. The Company is certified with ISO 45001, ISO 14001, and ISO 50001 standards.
- Continuously managing operational risks through Safety Integrity Level, Reliability Centered Maintenance, and Risk-Based Inspection systems to comprehensively cover both equipment and processes, allowing for accurate advance maintenance planning.

- Conducting Hazard and Operability Studies to identify work-related hazards and implementing a Process Safety Management System to ensure that all processes meet international standards.
- Installing online air quality monitoring devices and displaying results on automatic screens around the Bangchak Phra Khanong Refinery and nearby areas, providing air quality information to the surrounding community and building broader societal confidence.
- Organizing educational activities to raise safety awareness among the community around the Bangchak Phra Khanong Refinery, especially schools and condominiums, by providing training on evacuation, firefighting, and first aid, as well as installing comprehensive communication and warning systems in the community.
- Additionally, in overseeing businesses operated by joint ventures, the Company monitors and mitigates risks that could impact communities in each area to prevent any distress or impact from production or operational processes. This includes monitoring wastewater management risks and continuously organizing social and environmental activities with surrounding communities and agencies.

The Enterprise-Wide Risk Management Committee (ERMC) is responsible for monitoring performance throughout the year.

Climate Change and Environmental Risks Leading to Greenhouse Gas Reduction Measures

The Company's business operations that may impact global warming are managed with a focus on improving energy efficiency to reduce greenhouse gas emissions. The severe impacts of climate change can affect raw material sources, limit crude oil supply, disrupt production continuity, increase costs, and hinder effective greenhouse gas management. Additionally, the growing environmental awareness among consumers increases the demand for eco-friendly products. The Company manages these risks as follows:

- Demonstrating a commitment to low-carbon business operations and leading the energy transition by continuously increasing the proportion of green businesses to reduce carbon emissions. The Company has participated in creating a low-carbon society through the Carbon Markets Club.
- Setting targets for carbon neutrality by 2030 and net zero greenhouse gas emissions by 2050 **under the BCP316NET framework, which includes 4 key approaches: B = Breakthrough Performance**, focusing on high-efficiency production processes and improving work efficiency with low carbon and environmentally friendly practices; **C = Conserving Nature and Society**, supporting ecological balance through natural carbon absorption alongside societal well-being; **P = Proactive Business Growth and Transition**, transitioning businesses to clean energy with sustainable growth technologies; **NET = Creating an Net Zero ecosystem** that accommodate the target.
- Utilizing natural gas to produce electricity and steam in cogeneration power plants, which serve as the primary fuel in the oil refining process, replacing fuel oil to enhance energy efficiency and reduce pollution. Additionally, installing solar power systems on the roofs of Bangchak service stations to reduce carbon dioxide emissions.
- Mitigating pollution from dust and PM 2.5 by producing and selling low-sulfur diesel, which has 5 times less sulfur content (below 10 PPM), to help reduce particulate matter from combustion and sulfur dioxide emissions, especially during dust crises in Bangkok.
- Adopting the 3Rs strategy (Reduce, Reuse, Recycle) to optimize resource use in business operations, emphasizing sustainable and eco-friendly practices. This includes waste separation campaigns at service stations, beverage carton recycling projects, reducing plastic use by adopting biodegradable plastic packaging (Bio-Cup), using lift-and-drink lids to reduce straw use, and encouraging customers to exchange used cups for discounts. The Company has also donated biodegradable cups to the Royal

Forest Department and Bangkok Metropolitan Administration through the “Cups for Saplings” project, providing over 3 million cups for government seedling activities.

- The “Tod Mai Ting” or “Fry to Fly” project by BSGF Company Limited. encourages the public to collect used cooking oil for sale to Bangchak for the production of Sustainable Aviation Fuel (SAF), preventing improper disposal into drains or public water sources and mitigating environmental impacts. The “Tod Mai Sum” (No Repeated Frying) project educates the public and restaurant operators to use cooking oil only -2 times to prevent degradation into harmful compounds and encourages the collection of used cooking oil for sale at Bangchak service stations or designated collection points, supporting the BCG (Bio-Circular-Green) Economy model.
- “Mobile Waste Collection” Project aims to “reduce waste at the source” by using Bangchak service stations as collection points for orphan waste, supporting the circular economy and reducing environmental impacts from landfill waste. Orphan waste, which is non-recyclable and non-hazardous, can be used as RDF fuel in cement plants. The Company, in collaboration with partners, has established 8 collection points at Bangchak service stations in Bangkok and surrounding areas, as well as within the Bangchak Phra Khanong Refinery, and supports additional collection points with other partners. In 2024, this initiative helped reduce landfill waste by up to 400 tons.



Flood and Water Scarcity Risks

The global water crisis poses a significant future risk due to climate change, leading to uncertainties in water resource availability. Coupled with a growing population, the demand for water for consumption has increased. In 2024, Thailand faced various natural disasters, particularly droughts and floods, which severely impacted the northern and southern regions. The Company prioritizes managing production processes to reduce water usage and analyzes water resource risks in terms of quantity, quality, regulatory changes, pricing structures, and stakeholder conflicts. The Company manages these risks as follows:

- Monitoring and assessing risks from climate change, such as drought conditions, by tracking information from the Metropolitan Waterworks Authority to evaluate water scarcity risks that could affect production processes. This includes securing emergency water sources to replace production water if needed and implementing measures to monitor and manage water levels in the Chao Phraya River, which could impact water transport navigation. Additionally, flood risk monitoring involves tracking water levels in major rivers during the rainy season and ensuring flood protection equipment is ready in high-risk areas. A risk management plan is in place to ensure business continuity.
- Setting targets and monitoring water usage and recycling within the Bangchak Phra Khanong Refinery through the Safety, Health, Environment, and Employee Management (SHEEM) Committee and the Safety, Health, Environment, and Energy Promotion (SHEEP) Committee. Educational activities on water reduction are conducted within production processes and offices.
- Implementing the 3Rs (Reduce, Reuse, Recycle) strategy in water resource management, resulting in a reduction of 1.52 million cubic meters of new water usage in 2024, equivalent to the water consumption of approximately 4,366 households.

- Assessing water stress levels through the AQUEDUCT program, which identified the Bangchak Phra Khanong Refinery as being in a high water stress area. This necessitates reducing municipal water use in inappropriate activities, supplemented by the 3Rs measures. In 2024, after turnaround maintenance of cooling unit 2, equipment was upgraded to improve efficiency and reduce water evaporation, while cooling unit 3 operated at full capacity, helping to reduce water loss from the cooling system.
- Implementing forest planting and conservation projects in watershed areas of major northern and northeastern river basins, covering over 6,000 rai. This is supported by community mechanisms, volunteers, NGOs, and government agencies to maintain forest conditions, prevent wildfires, retain moisture, slow down flash floods, and prevent soil erosion.

2. Investment Project Risk Management

Managing investment project risks is crucial for business operations. Company analyzes potential project risks at different stages:

- **Development Phase Risk**
- **Construction Phase Risk**
- **Operation Phase Risk**

This includes operational, financial, tax risks according to the tax policies of the investment country, reputational risks, and natural disaster risks. Significant investment projects must have risk management plans approved by the Enterprise-Wide Risk Management Committee (ERMC)



to ensure appropriate risk management, community and environmental protection, and achievement of Company goals. In 2024, the committee provided recommendations on risk management plans for projects such as wind power plant investments and natural resource business investments.

3. Business Continuity Management (BCM)

To ensure continuous business operations even in times of crisis, the Company has implemented a business continuity management system, focusing on readiness in strategy, processes, and resources. This effort has been certified under the ISO 22301 business continuity management standard, covering the head office, Bangchak Phra Khanong Refinery, Bangchak oil distribution centers, Central Region Business Office and Bang Pa-In Terminal since 2013. This certification confirms that the Company is prepared to handle crises efficiently and manage business continuity effectively according to international standards, instilling confidence in stakeholders that the Company can sustain operations, manage crises, and deliver products consistently.

In 2024, amidst global challenges, the Company continuously improved various measures to manage all situations. The annual business continuity management drill in 2024 focused on “fire outbreak in oil tanks,” using the drill results to refine operational procedures and ensure system readiness for continuous and rapid business recovery.



Sustainable Supply Chain Management



The Company manages its supply chain sustainably from upstream to downstream. It adopts the UNGC's sustainable supply chain management framework as a guideline for operations with partners, considering sustainability in environmental, social, and economic/governance aspects. This is coupled with procurement principles of transparency, fairness, and professionalism to maintain long-term business cooperation, enhance efficiency, and minimize operational impacts throughout the supply chain. Additionally, the Company elevates its procurement to a shared service model within the group to strengthen competitiveness in the market, foster good relationships with all stakeholders, and support sustainable growth and supply chain management.

5-Year Period Targets

- 1 Shared Service
- 2 Risk and Cost Reduction in Procurement by Fostering Relationship with Partners
- 3 Collaboration in Product Development
- 4 Professional Procurement Specialists Development
- 5 Technology-Driven Process Development



Strategies



1. One Procurement (Shared Service Center) establishes policies and guidelines for a shared service management approach. It creates efficient, clear, and transparent processes (streamline process) to support the procurement activities of the Bangchak Group.



2. Develop strategies and projects for efficient procurement to reduce costs by listening to user feedback and working closely with partners to create mutual benefits, and being a part of the Transformation & Synergy Working Committee.



3. Procure a new operating system to replace the old one for convenience, speed, ease of use, and standardization. This ONE Sourcing Platform meets the needs of both users and partners.

Performances

- Establish clear and comprehensive procurement guidelines within the Bangchak Group, aiming for a full-scale shared service model. This includes policy formulation, operational processes, supplier selection criteria, systems, technology, and personnel.
- Conduct training courses such as the “International Professional Certificate in Supply Chain Management” by ITC (International Trade Centre) WTO UNCTAD to prepare and enhance the knowledge of personnel in procurement strategies for practical application.

- Consolidate similar goods and services to increase bargaining power in tenders (volume consolidation), starting with commonly used general goods and services.
- Select and reduce the number of suppliers/service providers to only the most efficient ones that meet business needs (vendor rationalization). This involves evaluating partner groups and building long-term business relationships, enabling partners to plan their business and invest clearly with continuous order volumes.
- Develop efficient procurement projects through the Transformation & Synergy Working Committee, with 56 projects expected to reduce costs by over THB 86 million. Of these, 12 projects have been implemented, achieving actual cost savings of 70 million baht, such as contracting for maintenance and replacement of highway signs for brand change and service station image improvement. The annual maintenance of the Bangchak Phra Khanong Refinery has established agreements with partners for key equipment to ensure quality, price, and timely delivery, extending operations to Bangchak Sriracha Public Company Limited.

- Procure a new sourcing platform to replace the complex old system, incorporating feedback from partners and users to find a system that is convenient, fast, and supports shared services. It is expected to be operational by 2025.
- Develop a communication channel with partners (Procurement Portal) to disseminate policies and registration procedures, making essential information easily accessible and ensuring transparency in operations.

Strategies	Performances
 <p>4. Enhance the capabilities of partners, encouraging them to adhere to the BCP Supplier Code of Conduct for sustainable development.</p>	<ul style="list-style-type: none"> Revise the Supplier Code of Conduct for sustainable development, focusing on anti-corruption in all forms and environmental care. Encourage partners to adopt anti-corruption policies and measures, and establish measures to prevent and reduce environmental impacts, such as energy use, corporate greenhouse gas accounting (CFO), forest conservation activities, ecosystem and biodiversity preservation, avoiding business operations in UNESCO World Heritage sites, and IUCN-designated conservation areas, and preventing deforestation.

Key Projects

COP Procurement



- The Company employs a joint procurement process within the Bangchak Group by expanding product categories and collaborating with external partners, such as Osotspa Public Company Limited, to create business opportunities and increase bargaining power with suppliers. Additionally, there is an exchange of knowledge and information, such as supplier lists and operating systems, and an expansion of the supplier database, allowing more suppliers to participate in tenders. In 2024, the Company implemented e-auction procurement strategies for general goods and services and multiple suppliers, such as



- Car rental services, which have been adjusted to reduce maintenance, insurance, and registration costs.
- The rental of laptops has resulted in an 8% cost saving,
- For office supplies and consumables, there is an additional 1% discount from using group contracts based on actual usage.

Procurement of Environmentally Friendly Goods and Services

The Company remains committed to procuring environmentally friendly goods and services. Since 2016, selected products and services have been specified to use Green Label Thailand certified products in relevant works, such as construction, maintenance, and cleaning products. In 2024, there were 24 categories of environmentally friendly products and services, with 20 categories being regularly used, reflecting the environmentally responsible behavior of users.

Performances



Sustainable Supply Chain Management

The Company has established a sustainable supply chain management framework to develop the capabilities of its suppliers, ensuring good sustainability practices and managing organizational risks. Significant Supplier are categorized into two groups:

- Critical Supplier
- Critical and High Potential ESG Risk Supplier

The Company collaborates with these suppliers, including both direct (Tier-1) and indirect (Non Tier-1) suppliers, using the Supplier Code of Conduct for sustainable development.

Tools such as the SCOC Online Self-Assessment Checklist, risk management plans, supplier development, and annual audits are key to driving joint efforts with suppliers, service users, the procurement department, and the corporate sustainability development department to mitigate supply chain risks.

Bangchak Supplier Code of Conduct, established in 2016, promotes good economic, social, and environmental practices among suppliers. It includes a self-assessment checklist covering five categories:

- Business Ethics,
- Labor Practices and Human Rights,
- Safety and Occupational Health,
- Environment, and
- Community and Social Development.



More Information Available in
[Bangchak Supplier Code of Conduct](#)

Sustainable Supply Chain Processes (Anually)



Supplier Sustainability Risk Assessment

The process begins with analyzing current contractual suppliers who may have varying levels of sustainability risks. The Company prioritizes grouping these suppliers to assess sector-specific risks and/or commodity-specific risks. If any supplier is identified with high levels of risk, the Company will implement measures to provide consultation, develop action plans for prevention, improvement, and development, and monitor and report results. The aim is to extend sustainable management practices across suppliers, aligning with the Company's goals and vision, targeting 100% compliance with all criteria (Disclosure 308-2, 414-2).

The risk assessment of suppliers' business operations, which may cause negative impacts, is divided into 3 areas:



Environmental Impact

Assessing negative impacts from suppliers' business operations related to greenhouse gas emissions, energy use, water use, resource use, pollution, waste, and biodiversity destruction.



Social Impact

Assessing negative impacts from suppliers' business operations that are not complying with laws and regulations that may cause harm or damage to life and property, including complaints arising from non-compliance with human rights and labor practices, such as child labor, forced labor, discrimination, and lack of freedom of association and collective bargaining.



Economic and Governance Impact

Assessing negative impacts suppliers' business operations related to corruption, bribery, conflicts of interest, unfair competition, unfair pricing, poor service quality, delayed delivery of goods and services, and non-compliance with procurement contracts, which result in economic damage, with the value of economic loss assessed per day.

Risk Level Assessment

Considering the severity of potential impacts from suppliers at five levels (no risk, low risk, moderate risk, high risk, and critical) alongside environmental, social, and economic/governance criteria, and the likelihood of these risks occurring. This assessment also takes into account the frequency of purchasing goods/services from the supplier.

In 2024, the Company conducted a sustainability risk assessment with both groups of suppliers: 612 Tier-1 Suppliers and 4,954 Non-tier 1 Suppliers. It was found that suppliers posed higher risks in several areas.

- **Environmental Risks** included oil spills and fires.
- **Social Risks** involved potential complaints.
- **Economic and Governance Risks** included delayed or failed deliveries and poor-quality goods, causing business disruptions.

The Company collaborated with high-risk suppliers to implement risk mitigation measures, aiming to prevent impacts and likelihood of these risks by **100%** There were no terminations of operations with any suppliers assessed as high-risk, maintaining a **0%** termination rate (Disclosure 308-2, 414-2). The details are as follows:

Risk Factors	Risk Mitigation Measures	Targets	Performances
Environmental Dimension (Disclosure 308-2)			
 Oil Spills to Public and Fires	<ul style="list-style-type: none">• Conduct joint emergency drills at least once a year.• Include penalty clauses in contracts to ensure suppliers adhere strictly to operational guidelines.• Secure insurance coverage for damages and obtain guarantees from transport companies to cover potential losses.	Zero Incident	Incident 0 Case
Social Dimension (Disclosure 414-2)			
 Complaints	<ul style="list-style-type: none">• Include penalty clauses in contracts to ensure suppliers adhere strictly to operational guidelines.• Encourage Suppliers to install TMS, GPS, and CCTV systems, and hold monthly meetings with transport companies to monitor drivers' behavior and control vehicle speed.• Promote the installation of driver fatigue prevention systems by suppliers to enhance transport safety.	Zero Incident	Incident 0 Case
Economic and Governance Risks			
 Delayed Deliveries/ Failure to Deliver Goods	<ul style="list-style-type: none">• Hold daily meetings with contractors to monitor work status.• Conduct monthly readiness checks (Terminal Feedback).• Perform quarterly performance evaluations (KPI).	Zero Incident	Incident 0 Case

Remark: The risk analysis and self-improvement measures to close gaps in environmental, social, and economic/governance issues are being implemented for suppliers in the raw material procurement, production process, transportation, and goods and services groups.

Tier-1 suppliers and Non-Tier-1 suppliers ESG risk assessment results	The number of suppliers assessed for ESG risk (Suppliers)	High level risk (critical and high risks: Suppliers)	Gaps closed (Suppliers)
612 Tier-1 Suppliers have undergone ESG risk assessments, achieving a completion rate of 100%			
• Environmental Risk (Disclosure 308-2)	612	23 (3.7%)	23 (3.7%)
• Social Risk (Disclosure 414-2)	612	23 (3.7%)	23 (3.7%)
• Economic and Governance Risks	612	23 (3.7%)	23 (3.7%)
4,964 Non Tier-1 Suppliers have undergone ESG risk assessments, achieving a completion rate of 100%			
• Environmental Risk (Disclosure 308-2)	4,954	32 (0.6%)	32 (0.6%)
• Social Risk (Disclosure 414-2)	4,954	32 (0.6%)	32 (0.6%)
• Economic and Governance Risks	4,954	32 (0.6%)	32 (0.6%)

2024 Supplier Screening Results		Performances
Tier-1 Supplier		(Unit: Suppliers)
Tier-1 Suppliers		612
• Number of the Company's direct and critical suppliers (Critical Tier-1 Suppliers)		23
• Number of Tier-1 Suppliers with high-level ESG risks (critical and high risks)		23
• Number of significant suppliers conducting business directly with the Company with high-level ESG risks (Significant Tier-1 Suppliers)		36
Percentage of purchases from direct suppliers (Tier-1 suppliers) to total purchases		100%
Percentage of purchases from significant direct suppliers (Significant Tier-1 suppliers) to total purchases		57.87%
Non Tier-1 Supplier		(Unit: Suppliers)
Number of suppliers not conducting business directly with the Company (Non Tier-1 Suppliers)		4,954
• Number of the Company's non-direct but critical suppliers (Critical Non Tier-1 Suppliers)		337
• Number of Non Tier-1 Suppliers with ESG risks at critical and high levels		32
• Number of significant suppliers but not conducting business directly (Significant Non Tier-1 Supplier)		337
Significant Supplier		
Number of Significant Tier-1 Suppliers and Significant Non Tier-1 Suppliers (Tier-1 and Non Tier-1 Supplier)		373

Remark: Significant Supplier refers to key suppliers that impact organizational risk, including: 1) Suppliers critical to business operations (Critical Supplier) 2) Suppliers with high-level ESG risks (Critical and High Potential ESG Risk Supplier) 3) Suppliers critical to business operations and with high-level ESG risks (Critical Supplier & Critical and High Potential ESG Risk Supplier)

Promoting Supplier Compliance
According to the Code of Conduct

Suppliers are encouraged to conduct self-assessments through the Supplier Code of Conduct (SCOC) Online Self-Assessment system. The goal is for all significant suppliers with organizational risks (Significant Suppliers) to complete self-assessments every three years. If the Company’s Supplier Code of Conduct is revised, suppliers must participate in assessments aligned with the latest version and collaborate on development plans to mitigate risks. Continuous guidance has resulted in all suppliers passing the 2024 assessments, eliminating the need for improvement plans.

For new significant suppliers with organizational risks, assessments are mandated. In 2024, 36 Tier-1 Significant Suppliers completed the SCOC Online Self-Assessment. The Sustainability Management and Procurement departments provided training on the code of conduct, assessment procedures, and ESG risk evaluations. Efforts were extended to significant Non Tier-1 Suppliers to reduce potential ESG risks. All significant suppliers underwent on-site ESG audits (100%) as per the annual assessment schedule.

In 2024, supplier satisfaction with the Company’s support in adhering to the code of conduct was rated good to very good (100%). New suppliers must acknowledge and agree to comply with the code of conduct before registration (100%) (Disclosure 308-1, 414-1).

Supplier Audits According
to the Supplier Code of Conduct (SCOC)

Supplier audits are conducted annually in two forms: document reviews (supplier desk assessment) and on-site assessments at suppliers’ facilities (supplier on-site assessment). These audits ensure compliance with the code of conduct and sustainability risk assessment criteria, considering both positive and negative impacts on the environment, society, and business continuity according to international standards such as ISO9001, ISO14001, ISO45001, ISO50001, TIS/OHSAS18001, ISO/IEC17025, UDHR, UNGC, UNGP, ILO, and Green Industry Level 5: Green Network. Additionally, efforts are made to expand and promote environmental management throughout the supply chain, particularly among suppliers, to foster a green network and demonstrate a commitment to environmental development, ultimately embedding it as an organizational culture in socially and environmentally responsible business operations.



Results of assessment and development to enhance the Sustainability of suppliers		2024 Performances	2024 Targets
1. Supplier Assessment	1.1 The number of suppliers assessed through desk assessments and on-site assessments	36 Suppliers	36 Suppliers
	1.2 The percentage of Significant Tier-1 suppliers that have been assessed	100%	
	1.3 The number of suppliers assessed for ESG risks arising from substantial actual or potential negative impacts (Substantial Actual/ 40 Suppliers Potential Negative Impacts)	36 Suppliers	
	1.4 The percentage of suppliers at risk of ESG negative impacts that have actually occurred/may occur significantly that have jointly developed plans in place	100%	
	1.5 The number of suppliers at risk of ESG negative impacts that have actually occurred/may occur or whose trading/purchase may be suspended by the Company	0	
2. Promotion and support for improving	2.1 The number of suppliers with improvement/correction plans and have received operational supports	36 Suppliers	36 Suppliers
	2.2 The percentage of suppliers who have been assessed for high ESG risks from negative impacts that have actually occurred/may occur and have improvement/correction plans and have received operational supports	100%	
3. Capability Enhancement	3.1 The number of suppliers who have received capacity enhancement Suppliers	36 Suppliers	36 Suppliers
	3.2 The percentage of suppliers who have received capacity enhancement Suppliers	100%	

Communication and Promotion of Sustainability Knowledge with Suppliers



An annual supplier seminar titled “Empowering Sustainability through Procurement Center” is organized to communicate the Company’s policies and operational directions. The seminar shares information on procurement, the transition to Shared Services, and alignment with organizational growth. It also covers the integration of sustainability (ESG) in supplier business operations, anti-corruption measures, and the promotion of a low-carbon society, particularly for Significant Suppliers. The seminar provides

knowledge on the Supplier Code of Conduct, organizational sustainability risk assessments, and the selection of key business suppliers. Certificates of Outstanding ESG Way of Conduct are awarded to suppliers who fully comply with the Supplier Code of Conduct. Additionally, online training is provided to Company employees on sustainable supply chain management through the ESG Online Learning platform of SET ESG Academy, with over 300 participants.

Cybersecurity and System Availability



The Company integrates information technology and cybersecurity measures into its business development to mitigate potential impacts on both internal and external stakeholders, and it is particularly crucial in cases of system failures or breaches of personal data belonging

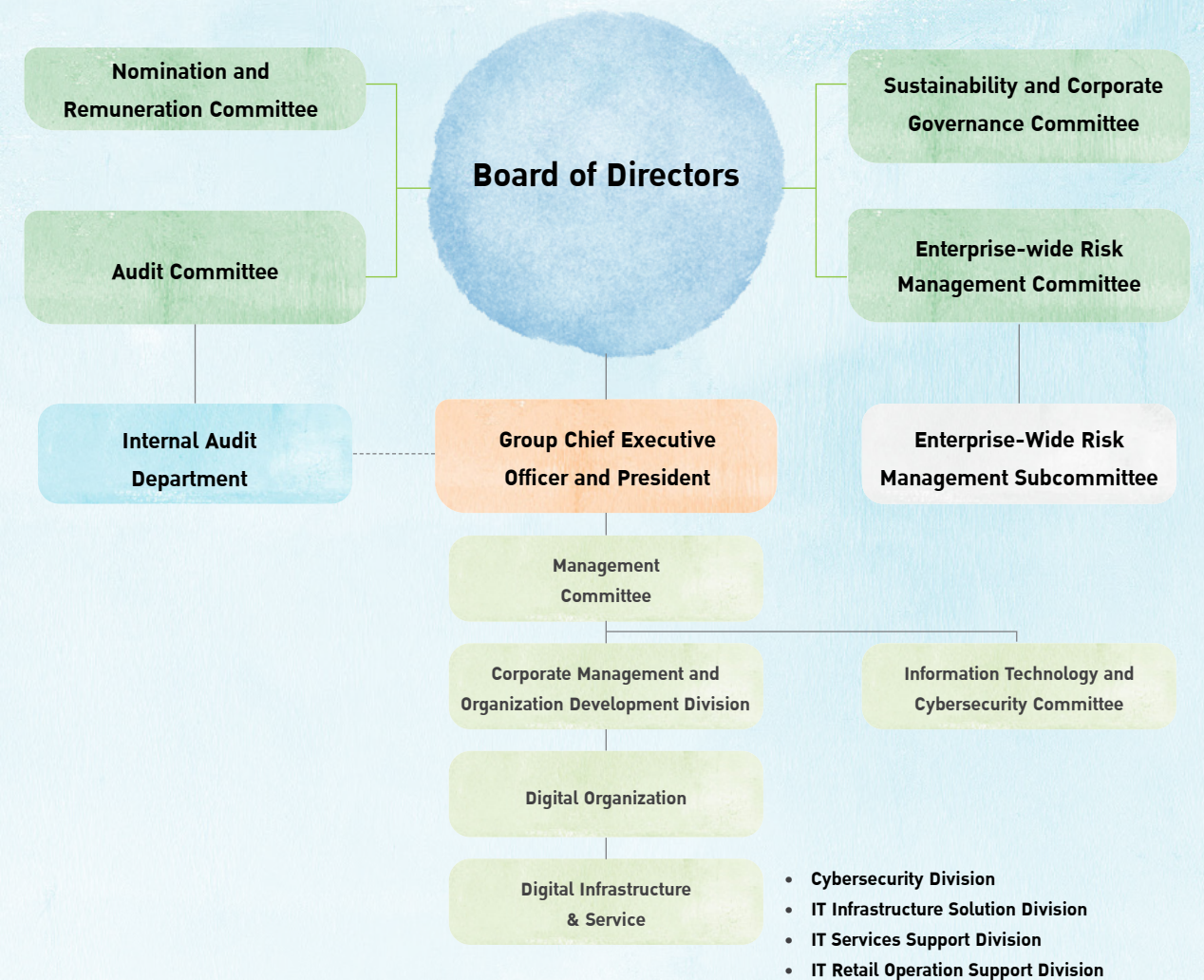
to employees, partners, and customers. The Company has adopted advanced and efficient technological systems, adhering to international standards and government regulations such as the Computer-Related Crime Act 2017, the Cybersecurity Act 2019, and the Personal Data Protection Act 2019. Additionally, the Company assesses the security of its systems and the use of AI technology to manage risks and opportunities appropriately.

Furthermore, the Company evaluates and procures services from reputable third parties to enhance security management and support business expansion. The Company also prepares for cyber threats with an Incident Response Plan and regular Cyber Drills to ensure readiness and continuously strengthen cyber resilience.

Information Technology and Cybersecurity Management Structure

The Management Committee, the Working Committee, and the Internal Audit Committee for Information Security ISO 27001. These entities report to the Enterprise-wide Risk Management Committee (ERMC) and Subcommittee. While the Digital Organization and the Digital Infrastructure & Service Division oversee the operations. The Senior Executive Vice President of the Corporate Management and Organization Development serves as the Chairman of the Information Technology and Cybersecurity Committee. This role also functions as the Chief Information

Security Officer (CISO), responsible for the security of the infrastructure, network, and information security. The CISO possesses expertise in information technology and information security at the management level. A dedicated Cybersecurity Division has been established to manage cybersecurity operations. The Company's cybersecurity management aligns with international standards, including ISO/IEC 27001:2022, ISO/IEC 27032:2012, ISO/IEC 27018:2019, and the NIST Cybersecurity Framework.



Management of Information Security Systems According to the International Standards

- ISO/IEC 27001:2022 is an international standard for Information Security Management Systems (ISMS). The Company has been continuously certified since 2012. This involves risk assessment, security design, implementation, and security management, providing flexibility in business control and development.
- ISO/IEC 27032:2012 certification was additionally obtained from ISO 27001 in 2018, focusing on confidentiality, integrity, and availability in cyberspace. This standard ensures the security of cyber assets such as hardware, software, data, services, and virtual assets like reputation and brand.
- ISO/IEC 27018:2012 certification was obtained in 2021, emphasizing the management of information security to protect personally identifiable information (PII) in the Company's cloud services.



Protection Against Threats to Information Assets and Systems

The Company adheres to its “Information Technology Security Policy,” which covers comprehensive measures as follows:



More Information Available in
[Information Technology Security Policy](#)



1. Evaluates risks, selects critical information systems, and establishes backup systems and emergency response plans for scenarios where electronic operations are not feasible. Regular testing of backup systems and emergency response plans, as well as business continuity plans is conducted. Quarterly reports are submitted to the Corporate Strategy and Risk Management Division, which are then reviewed by the Enterprise-wide Risk Management Committee and Subcommittee.



2. Manages information assets by controlling the use and maintenance of assets and equipment to ensure they are in optimal condition and prevent unauthorized access to assets or information.



3. Maintains data management and confidentiality through security measures, access control, and usage of information systems based on importance or confidentiality level. Data transmission is controlled, and confidentiality agreements are signed with external parties.



4. Enhances cybersecurity through the implementation of advanced technologies and comprehensive defense strategies. This includes Multi-Factor Authentication (MFA) to prevent unauthorized access, Advanced Endpoint Protection for effective threat detection and response, and the adoption of the Zero Trust model for stringent network access verification. Advanced SIEM, powered by AI and integrated with global Threat Intelligence, helps detect and alert new threats such as ransomware attacks. Additionally, Deception Technology and Managed Security Service Provider (MSSP) services, which provide 24/7 security monitoring, are employed to handle complex threats confidently and continuously in the challenging digital era. Regular threat updates and reports are provided at least monthly. Furthermore, Secure data backup systems are in place, along with ransomware protection and rapid recovery capabilities. These measures enable system administrators to respond confidently to information system threats, including network intrusions and malicious software, ensuring the Company’s data is protected through detection, prevention, and recovery processes.



5. Raises awareness to related persons and manages technical vulnerabilities as follows:
 - Conducts more than one Cybersecurity Drill annually to test procedures and processes for managing incidents that could severely impact information security.
 - Hires experts to perform penetration tests on critical work systems to analyze risks and business impacts. Testing is conducted at least annually or whenever there are significant system changes.
 - Performs vulnerability assessments on operating systems (OS), software, and network/security devices to identify and evaluate the severity of vulnerabilities. This helps assess the risk of potential breaches by malicious actors and allows for remediation to close these vulnerabilities both before and after deployment.
 - Evaluates external service providers that process personal data to ensure compliance with the Personal Data Protection Act of 2019. This ensures that data handling meets the required standards for data protection and confidentiality.

Raising Awareness and Enhancing the Efficiency of IT Systems Usage for Cybersecurity

The Company stresses its importance in promoting and developing employees’ knowledge and skills for IT systems usage with activities as follows:

- Conduct practical training and workshop sessions for new employees, including assessments on cybersecurity awareness and compliance with information system usage and legal requirements, such as the Computer-Related Crime Act 2017 and the Personal Data Protection Act 2019.
- Communicate emerging cybersecurity risks to educate and raise security awareness among employees. This includes publishing information through internal IT systems, such as emails or pop-up notifications.
- Cybersecurity Awareness Improvement Program is being implemented annually to enhance employees’ understanding of email threats, particularly phishing. The Company conducts phishing simulations to assess employees’ risk levels and ability to identify phishing emails. Test results are recorded and analyzed to improve training plans and phishing prevention measures. The program is conducted four tests per

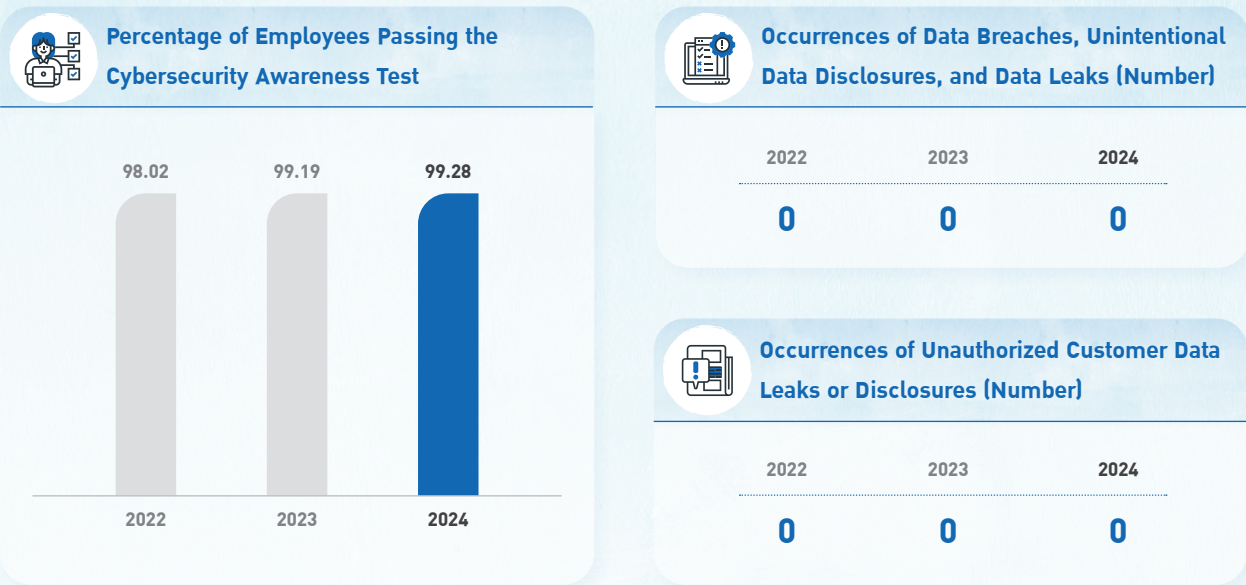
year in various scenarios, with immediate feedback provided to employees (Rapid Improvement Program) to enhance learning and phishing threat management.

- Cybersecurity Response by monitoring cybersecurity case studies to provide training and guidance to executives, employees, and related divisions of BCP on business email compromise (BEC) scams, such as fake invoices. Training is provided to relevant departments to raise awareness and caution, with effective control measures established (Strictly Process Confirming).
- Establish cybersecurity awareness as a performance indicator for executives and employees involved in operations related to cybersecurity through KPI of percentage of employees passing the tests, with a process for immediate self-assessment and improvement (Rapid Improvement Program) to ensure all employees are aware of threats and are knowledgeable, and able to work safely according to Company standards.

Measures for Handling Cyber Threats

The Company evaluates high-risk threat patterns and develops an Incident Response Plan. It conducts more than one cybersecurity drill annually to ensure effective and rapid prevention and recovery, allowing the Company to continue its business operations with minimal impact. The IT Service Management System, BMC Remedy, supports these efforts by providing procedures for managing information security incidents. Employees can report suspicious emails through three channels: the MyIT system, email, and a direct phone line to the relevant section.

Key Performances*




* KPI is established as an indicator for executives and employees involved in Cybersecurity



Tax Management

The Company conducts its business with a focus on balancing value and benefits for stakeholders, striving to enhance operations with transparency and sustainability. For its tax strategy, the Company emphasizes disclosure, including public tax policies, transparency of income, operating profits, tax reporting, and tax risk management. This approach demonstrates tax transparency to governments in various countries and develops good, rigorous, accurate, and transparent practices.



More Information Available in
 Tax Policy

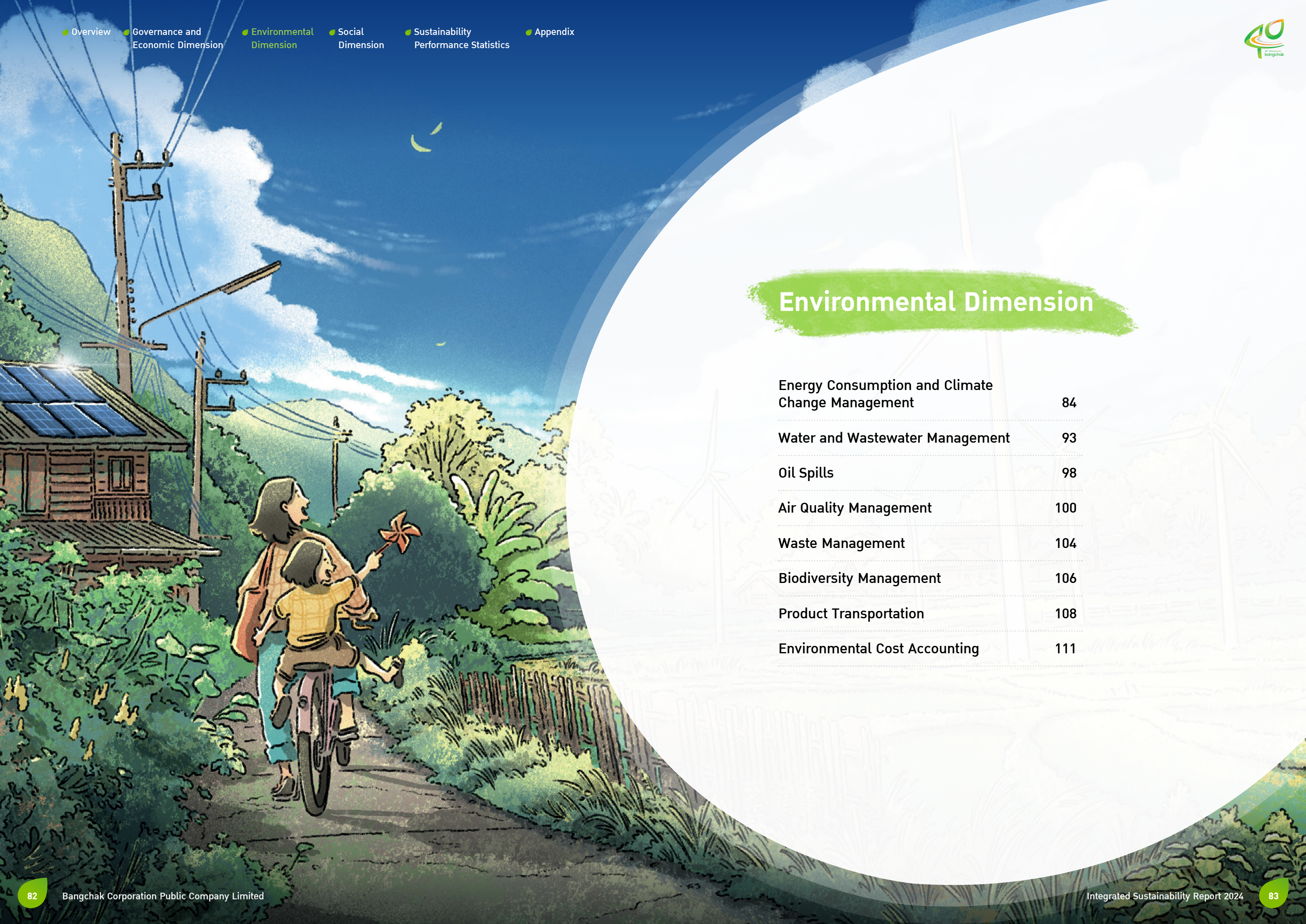
The tax policy, approved by the Group Chief Executive Officer and President, and the Sustainability and Corporate Governance Committee, is reviewed annually, publicly announced, and implemented under the management guidelines of the Bangchak Group to ensure consistent tax practices across the group. The tax policy of the Bangchak Group includes the following practices:

1. Adhering to relevant tax laws, announcements, and orders, including transfer pricing laws for transactions between related companies, to ensure accuracy and transparency.
2. Assessing tax risks for Bangchak Group’s businesses, including new or potential investments in Thailand and abroad, either internally or with external experts.
3. Monitoring tax-related laws, announcements, and orders through various channels such as the Royal Gazette website and relevant government websites, and assessing their impact on Bangchak Group’s businesses.
4. Tracking laws related to tax benefits and evaluating opportunities to utilize these benefits.
5. Consulting regularly with relevant tax authorities for new business tax planning or to ensure compliance in current operations, involving various levels of consultation, including operational, audit, and executive levels, as well as formal and written discussions to ensure accurate, transparent, and timely compliance.

6. Coordinating with tax authorities, with the head of the tax team as the regular contact person, accessible through multiple channels such as phone and social media, supported by a tax team for continuous coordination to understand needs, expectations, and build good relationships efficiently.
7. Enhancing tax knowledge for accounting, tax, and related personnel through activities and seminars organized by government and private entities to ensure accurate operations.
8. Considering the impact of tax law changes to review and improve accounting and tax practices, including related transactions within Bangchak Group.
9. Disclosing tax information such as the effective tax rate, corporate income tax information by country, and relevant laws. This information is disclosed in the Company’s financial statements and Annual Report (refer link one report) and the corporate income tax report for 2024 (details in the Annual Report (refer link one report) and the economic performance summary on page 156 of this report.

Strategies

1. Standardizing operational practices according to Bangchak Group’s tax policy to support the implementation of tax policies across various tax-related matters.
2. Developing a self-assessment document template and holding joint meetings with group companies to ensure mutual understanding (Tax Control Self-Assessment Format and Understanding).
3. Hiring experts to study and assess impacts, and preparing information and evidence for calculating the minimum corporate income tax rate (Effective Tax Rate Management).
4. Conducting assessments of compliance with transfer pricing laws for transactions between related companies (Transfer Pricing Group Governance Assessment).
5. Implementing tax health checks and risk assessments for transactions or activities that may have potential impacts (Tax Health Check and Tax Risk Management).



Environmental Dimension

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Air Quality Management	100
Waste Management	104
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Energy Consumption and Climate Change Management

The Company recognizes the significance of climate change from greenhouse gas emissions and global warming, which are global situations that lead to risks and impacts on the Company's business operations. As the refinery business is an industry that utilizes high energy in the production process, efficient energy management is the first priority. The Company must focus and define short, medium, and long-term development goals and plans in parallel with the goal of becoming a carbon-neutral organization by 2030 and achieving net-zero greenhouse gas emissions by 2050 under the BCP316NET strategy and action plans. A clear responsibility structure has been established for management, from the Board of Directors level to the operational level.



Climate Change Management Structure

2 meetings per annum

Sustainability and Corporate Governance Committee: SCGC (board-level committee)

- Reviews corporate strategies in accordance with the climate change situation for the Board of Directors.
- Oversees and proposes sustainability development practices, including policy assignment and deployment.

Quarterly

Enterprise-wide Risk Management Committee: ERMC (board-level committee)

- Define and review policies and organizational risk objectives, including risks related to climate change,
- Develop, support, and provide guidance on management systems to ensure effective enterprise-wide risk management

2 meetings per annum

Sustainability Policy Committee: SPC

- Defines and reviews policies, operational guidelines, and sustainable development goals.
- Considers operational guidelines in accordance with the Company's sustainable strategies.

2 meetings per annum

Sustainability Management Committee: SMC

- Implements climate change policies and strategies, assesses risks and opportunities related to the climate, and implements greenhouse gas reduction approaches, as well as drives and monitors the operations of the working committee or operational level to comply with the operational framework.

Regularly

Climate Change Management Department

- Drives the operations of the Bangchak Group to align with policies to achieve organizational goals by working closely with the Corporate Strategy Department and Business Units.

In addition, the organization's greenhouse gas emissions are defined as a key performance indicator (Corporate KPI), and also including as an indicator for evaluating the performance of executives and Group Chief Executive Officer and President of Bangchak Group, to drive climate change and all related operations in an integrated and efficient manner, with operations and disclosures in accordance with the international Task Force on Climate-related Financial Disclosures (TCFD) standards.



More Information Available in [Task Force on Climate-Related Financial Disclosures \(TCFD\)](#)



Targets

Short-term: Carbon Neutrality by 2030
Long-term: Net Zero GHG Emissions by 2050

BCP316NET Strategy

The Company expresses its intention to participate in supporting the achievement of carbon neutrality by 2030 and net-zero greenhouse gas emissions at the organizational level by 2050.

B : Breakthrough Performance (30%)

Improving the production process for energy efficiency and reducing greenhouse gas emissions by 30% from the base year (2019) by focusing on production process development and improvement through selecting technologies that reduce greenhouse gas emissions, using clean energy and fuel from the source, and mandating continuous monitoring of all business groups, especially the refinery business group, due to its significant proportion of greenhouse gas emissions. Followed by the marketing business group and various offices to jointly reduce greenhouse gas emissions in scopes 1 and 2, which are defined as operational indicators in each business group. (Read the content in this chapter)

C: Conserving Nature and Society (10%)

Joint development of natural carbon dioxide absorption and storage sources, both terrestrial and marine ecosystems (Green and Blue Carbon), in the proportion of 10% of greenhouse gas emissions in the base year. The Company conducts projects with various partners to study and develop carbon credit projects that benefit the ecosystem and community and society simultaneously, such as community forest conservation projects in Chiang Mai, mangrove planting in Ranong, and the development of carbon credit projects from perennial crops with agricultural cooperatives in Chonburi. Moreover, the Company also considers other possibilities regarding project formats, operating areas, stakeholders, and international carbon credit standards to seek opportunities to jointly develop projects with reliable partners and benefit the value chain and expectations of the organization's stakeholders. (Read the content in the chapter "Community and Social Development")



**P: Proactive Business
Growth and Transition
(60%)**

Studying and seeking new business opportunities to invest in for the Company’s energy transition, with the highest proportion set at 60% of greenhouse gas emissions in the base year. This proportion is not fixed and depends on future opportunities and technological and investment possibilities.

The Company have been focusing on seeking investment opportunities in Green Energy Technology, Energy Transition Technology, and Energy and Climate Technology, and expanding investment scope to Digital Tech, such as using AI, IoT, and Big Data to support, monitor, and control to increase production process efficiency and reduce energy loss. Collaboration with academic institutions and technology developers from abroad to study the development path towards the goal of net-zero greenhouse gas emissions for the refinery business, such as Carbon Capture, Utilization and Storage (CCUS) technology to capture, utilize, and store carbon dioxide generated from the production process, including the use of artificial intelligence innovation to increase work efficiency. (Read the content in the chapter “Innovation and Sustainable Investment”)

Energy Consumption

Refinery Business

The refinery industry has high energy consumption in the production process, including thermal energy, electrical energy, and steam energy. Therefore, efficient energy management is the first priority that the Company strives to control and manage internal operations to the best of its ability. The Company has been using an energy management system according to the ISO 50001 standard since 2014 and has goals and plans to develop energy efficiency in the refinery business, divided into 3 phases:



- Short-term:** Setting energy use goals, developing existing systems efficiently.
- Medium-term:** Increasing efficiency and effectiveness in the production process.
- Long-term:** Studying projects that can significantly reduce energy use, also known as Energy Improvement Project.

The Company has set annual refinery energy efficiency targets (Energy Efficiency), considering energy use in terms of fuel oil equivalent barrels (%FOEB), which was developed from 2023 (%FOEB 4.86). Due to the increasing trend of domestic oil demand, the Company has adjusted its production capacity to meet the increased demand, resulting in the energy consumption target for 2024 being similar to the target in 2023, with internal energy use equal to 4.84% of fuel oil equivalent barrels (%FOEB) in 2024. Due to the refinery shutdown for turnaround maintenance in 2024, the average crude run decreased, impacting energy consumption in the production unit accounting for 5.20%FOEB, a slight increase. However, the Company has improvement projects in the production process and additional projects during the turnaround maintenance such as:

- Installation project of heat-insulating surface coating materials on the furnace walls to reduce energy consumption within the furnace with the total of 4 units: Crude Oil Distillation Unit 2, Diesel Quality Improvement Unit 2, Continuous Catalytic Regeneration Unit (CCRU), and Vacuum Distillation Unit. This results in a reduction of greenhouse gas emissions by 2,215.16 tons of carbon dioxide equivalent (tCO₂e).

Energy Consumption Targets and Performances

Energy Consumption in the Production Unit (Percent of Fuel of Oil Equivalent Barrel (%FOEB))

Year		2021*	2022	2023	2024*
	Targets	5.48	4.99	4.86	4.84
	Performances	5.24	4.83	4.90	5.20

* Turnaround Maintenance



NET: Net Zero Ecosystem

A strategy that responds to the Thailand’s goals of Carbon Neutrality by 2050 and Net Zero by 2065. The Company drives the initiatives with partners from government agencies, the private sector, and the public to prepare stakeholders both inside and outside the organization with knowledge, understanding, and experience in managing the country’s greenhouse gases, carbon mechanisms including trading systems, tax systems, and carbon credits, which are considered new to Thai society at all levels, including individuals, communities, SMEs, and business organizations. The operational formats are diverse, including participating as a working committee with the government, various associations, the Federation of Thai Industries, and establishing the Carbon Markets Club. (Read the content in the chapter “Community and Social Development”)



Additionally, the Company uses a Life Cycle Assessment (LCA) approach to evaluate carbon dioxide (CO₂) emissions of products and has received Carbon Footprint labels from the Thailand Greenhouse Gas Management Organization (Public Organization) for 5 products. Furthermore, Bangchak Aviation Fuel has been certified as Low Carbon Aviation Fuel (LCAF) with greenhouse gas emissions 10% lower than ICAO standards.

For future project development, the Company has collaborated with foreign experts to exchange technology and experience, ensuring efficient energy consumption and reduced greenhouse gas emissions. Other energy consumption reduction projects in 2025 include decommissioning the Catalyst Reforming Unit of Refinery Unit 2, installing Gas Engine Generators to replace Steam Turbine Generators, and improving the efficiency of energy production units.

Marketing Business

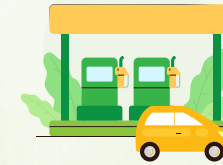
Bangchak service stations primarily operate using electricity purchased from external sources. The Company designs the construction of service stations and other usable spaces in accordance with legal requirements, while also considering green innovations. The aim is for Bangchak service stations to be environmental prototypes, conserving energy, using natural lighting, and selecting high-quality, certified, and energy-efficient certified electrical equipment that reflects environmental friendliness. Additionally, the Company increases the proportion of electricity used from renewable energy by developing solar rooftop installation projects at service stations. These projects are developed in collaboration with BCPG Public Company Limited, a company in the group specializing in renewable energy.



Moreover, Inthanin Coffee Shop operates only during daytime and uses air conditioning constantly. Therefore, there is a plan to replace the air conditioners in the shop with solar-powered air conditioners, with the replacement process accumulating across 44 branches. This not only helps reduce electricity costs but also reduces carbon dioxide emissions.



Targets and Performances



Bangchak Service Station
(Bangchak Green Net Co., Ltd.)

Plan
Installing Solar Rooftop

Performances



28 Service stations



Total capacity of **771** kw.



Greenhouse gas emissions reduction expected to be **600** tons of carbon dioxide equivalent (tCO₂e per year).

In addition to, the Company invites Bangchak service station operators to consider installing solar rooftops to promote a low-carbon society. The Company offers consultation and installation services to reduce costs for interested operators.

Office Buildings and Regional Offices

This includes the headquarters and various Regional offices that primarily use electricity and fuel. Although the energy consumption is relatively low, the Company adopts various approaches suitable to the users and circumstances. For example, the headquarters implements Office Energy Management based on the Leadership in Energy and Environmental Design (LEED) standards. Energy-saving measures include using all LED lighting in the headquarters, installing a Building Management System (BMS) to automatically control the lighting and air conditioning, and selecting Energy Star-rated electrical appliances. The Company also increases the proportion of Company



vehicles to be electric (EV) with 9 electric cars and 1 hybrid car, replacing fuel-based vehicles. There are plans to further increase the number of electric vehicles to cover long-distance use and install charging stations at the headquarters, Bangchak Refinery Phra Khanong, and nearby areas, with 14 charging platforms for convenience and diverse usage.

Moreover, the Company provides knowledge, campaigns, and promotes efficient energy use behavior among employees, such as setting the AC temperature at 26 °C and turning off computer screens when not in use, as part of its corporate culture. The Company also sets specific goals for the headquarters to achieve carbon neutrality as a key performance indicator, alongside energy savings and purchasing carbon credits to offset excess emissions.



Targets and Performances



Headquarters

Plan

Fuel and Electricity Reduction

Performances in 2024*

- Fuel consumption was reduced by **24%** due to energy consumption reduction measures.
- Electricity consumption was reduced by **9%** due to energy consumption reduction measures in the offices.

Targets in 2030*

- Fuel consumption reduced by **30%**
- Electricity consumption reduced by **20%**

* Base year 2019

Climate Change Management

The Company recognizes that reducing energy consumption in the oil refining industry is challenging due to several limitations, including technology, investment, time, economic fluctuations, etc. Therefore, the Company aims to strike a balance between the three energy challenges (Balancing the Energy Trilemma): Energy Security, Energy Affordability by seeking opportunities to enhance the country's energy security at affordable prices for the public, and Environmental Sustainability.

Managing climate change in accordance with goals and economic growth is a long-term journey that requires continuous learning, improvement, and development, utilizing knowledge, regulations, and various standards. Moreover, Thailand is in the process of considering a crucial law, the (Draft) Climate Change Act B.E..... or the Global Warming Act, which is primarily overseen by the Department of Climate Change and Environment. This law will establish a framework for climate change management in the country, including the establishment of a steering committee, setting operational goals, master plans, climate change adaptation, greenhouse gas accounting, greenhouse gas reduction plans, carbon tax systems, emissions trading systems, carbon credits, funds, and related regulations.

All sectors are paying close attention to this, especially private organizations, which need to study the law to determine clear guidelines for conducting business.

In this regard, the Company has established a Climate change management structure aligned with corporate sustainability management refer to page 84 and set up a "Climate Solutions Division" to work closely with the Corporate Strategy and Planning Department. The Company also mandates monitoring and reporting of Scope 1 and Scope 2 greenhouse gas emissions, and analysis of risks, impacts, and business opportunities related to climate change, alongside efforts to control the greenhouse gas emission intensity per unit of product for each business group, especially the Refinery and Oil Trading Business Group. Additionally, there are plans to expand data collection for significant activities to calculate the Company's Scope 3 greenhouse gas emissions more comprehensively. The Company also communicates goals and management approaches to its subsidiaries, especially new members like Bangchak Sriracha Public Company Limited, which operates in the same industry group and has high greenhouse gas emissions.

Targets and Performances



In 2024, Bangchak had total Scope 1 and Scope 2 greenhouse gas emissions of **984,892.93** tons of carbon dioxide equivalent (tCO₂e).

Bangchak Phra Khanong Refinery

Result GHG Emissions (Scope 1 and 2)

- 884,136.05** tons of carbon dioxide equivalent (tCO₂e)

Targets GHG Emissions (Scope 1 and 2)

- 889,116** tons of carbon dioxide equivalent (tCO₂e)

Office Buildings and Regional Offices

Result GHG Emissions

1,357.45 tons of carbon dioxide equivalent (tCO₂e) and achieve the carbon neutrality target through carbon offsetting from BCPG's solar power generation project.

* Bangchak Phra Khanong Refinery calculated only the activities that occur within the refinery area, excluding the turnaround maintenance period, Bang Pa-In, and Surat Thani terminal

Eco-Efficiency

The main business operating area with significant greenhouse gas emissions is the Bangchak Phra Khanong Refinery. However, the Company also uses eco-efficiency as an indicator reflecting production efficiency and environmental impact resulting from production. It is calculated from earnings before interest, taxes, depreciation, and amortization (EBITDA), reflecting economic growth, and greenhouse gas emissions, which are a significant environmental concern in the petroleum industry, reflecting environmental impact. A high eco-efficiency value indicates high production efficiency and low environmental impact. This index shows that business growth takes into account reducing the impact of business activities, especially environmental impact.

In 2024, the Phra Khanong Refinery had an average crude run of 120,220 barrels per day, accounting for 89% of the refinery's total production capacity. The Company had a turnaround maintenance in May for 27 days, resulting in a lower average total crude run compared to previous years.



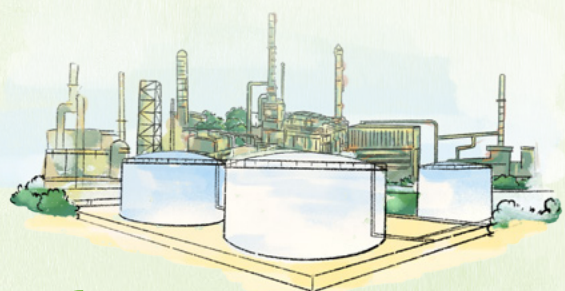
Regarding eco-efficiency in 2024, it was found to have decreased compared to 2023 due to the impact of oil prices and lower refining margins in the second and third quarters of 2024, as well as the turnaround maintenance shutdown, which resulted in a lower average crude run compared to the previous year. Nevertheless, if assessing only the period of normal refining operations, the average crude run was 119,055 barrels per day, or 99% of the refinery's total production capacity. Additionally, the Company improved various refining units during the turnaround maintenance shutdown and implemented efficiency improvement and energy consumption reduction projects in the refining units to reduce greenhouse gas emissions by collaborating with foreign experts to exchange technology and experience in developing energy use efficiency. As a result, greenhouse gas emissions in 2024 decreased compared to the previous year. Furthermore, the production of high-value products such as Unconverted Oil (UO) and BCP White Spirit 3040 also improved.



Eco-Efficiency

7.74 THB Thousand / tons of carbon dioxide equivalent in 2024

Remark: EBITDA and Scope 1 and 2 greenhouse gas emissions (tons of carbon dioxide equivalent) of Bangchak Corporation Public Company Limited..



The Company has expressed its intention to participate and support achieving carbon neutrality and net-zero greenhouse gas emissions at the organizational level by 2050 by operating under the Thailand Carbon Neutral Network as a “Climate Action Leading Organization” (CALO).

Energy and Resource Use Training

The Company prioritizes continuous human resources development to enhance employees' potential and prepare them for changes and business expansion, both in terms of energy and resource utilization. This is achieved by promoting training and providing knowledge about energy consumption reduction to employees. In 2024, training courses included the Senior Person Responsible for Energy (PRE) Theory in Heat and the Responsible Person for Energy in Ordinary Factories.

Furthermore, the Company organizes training, workshops, and promotes energy and resource reduction projects through the Business Improvement and Development Project (Focus, Analysis, Success, Transform Team: FAST+). This project aims to improve production processes, products, and enhance the efficiency of oil procurement and transportation to meet energy-saving and greenhouse gas reduction goals.



Water and Wastewater Management

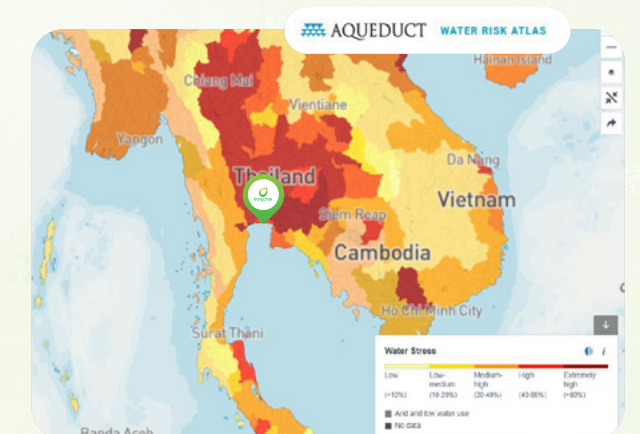
Water is a crucial resource for human life, survival and industrial operations. The Bangchak Phra Khanong Refinery is the Company's main operational area, where a significant amount of water is used in production processes, such as steam generation for crude oil refining and cooling. The Company recognizes the risks and impacts associated with using water from natural sources in its activities and production processes, as well as the treatment process before discharging wastewater.

The Company analyzes organizational water usage risks in various dimensions, including water quality and quantity, regulatory changes and pricing structure, and stakeholder conflicts over water resource usage. This analysis includes assessing the location's water stress using tools like the AQUEDUCT Water Risk Atlas from the World Resources Institute and ThinkHazard! from The Global Facility for Disaster Reduction and Recovery (GFDRR). Monitoring drought, flooding, and water level changes in the Chao Phraya River has revealed that the Company is located in a high water stress area. Therefore, efficient water use and wastewater management are prioritized, following the 3Rs principle (Reduce, Reuse & Recycle) to reduce tap water usage in production. The tap water supplied by the Metropolitan Waterworks Authority comes from the Sam Lae Raw Water Pumping Station in Pathum Thani, a crucial raw water source for Bangkok and nearby provinces.



Additionally, the Company manages water usage risks using the Water Footprint of Product tool to measure direct and indirect water usage in the production processes of six products. This analysis aims to reduce tap water usage in production. Water management performance is collected and presented for improvement through working committees at all levels, from operational to executive. More details can be found in the “Bangchak and Sustainability” section. The Company also listens to all stakeholders' opinions, especially the refinery's surrounding communities and government agencies, through various channels such as community activities and meetings with relevant government agencies. More details can be found in the “Bangchak and Stakeholders” section.

In 2024, the Company implemented additional tap water reduction projects, including the Utilization & Process Water Management Project, which optimizes tap water usage by reducing inappropriate tap water use. After turnaround maintenance of Cooling Unit 2, equipment was upgraded to improve efficiency and reduce water evaporation within the unit. Cooling Unit 3 also operated at full capacity, helping to reduce water loss from the cooling system.



Targets and Performances



- Controlling the intake of new water in the production process to not exceed **0.053** cubic meters per barrel of oil production equivalent.
- Reduce tap water and groundwater use by **40%** compared to the water requirement in proportion to the crude oil quantity in the base year 2019.

Strategy

- Adopt 3Rs Principle (Reduce, Reuse & Recycle) to increase efficiency of water usage (Reduce water usage, reuse water, recycle treated water)
- Manage water with tools/modern technology

Performance of the Bangchak Phra Khanong Refinery (key operation area)



Water withdrawal:

- Tap water from the Metropolitan Waterworks Authority: 2.56 million cubic meters
- Groundwater: 0.08 million cubic meters*
- Water from other sources: 0.12 million cubic meters
- Total water withdrawal of all sources: 2.76 million cubic meters accounting for 0.078 cubic meters per barrel of oil equivalent
- Water withdrawal for production process: 1.97 million cubic meters accounting for 0.05 cubic meters per barrel of production capacity




Water discharged to natural surface water sources: 0.98 million cubic meters

Remark: * As part of the management plan to reduce tap water usage during drought crises and maintain the condition of groundwater wells

Water reduction projects according to the 3Rs principle

Results of the 3Rs plan (Reduce, Reuse, Recycle) implemented continuously as follows:

2024 Plan	Performances
<p>Water Reduction</p> <div></div> <p>Improve water quality with Micro-Filtration System and Reverse Osmosis System, along with the Electro De-Ionization System to treat raw water with Demineralization System in the power plant since 2014.</p>	<p>Reduce water consumption 0.17 million cubic meters per year (9% of tap water demand excluding water extracted from crude oil and equal to 4,323 cubic meters per million barrels of oil equivalent).</p>

2024 Plan

Performances

Water Reuse



Condensate high quality water from the production process to be reused in the steamers.

Reduce water consumption 0.60 million cubic meters per year (30% of tap water demand excluding water extracted from crude oil 14,930 cubic meters per million barrels of oil equivalent)



Reuse stripped water from the sour water stripping unit and wastewater from stripping steam process of the distillation unit no. 3 to use instead of tap water in the desalter unit.

Reduce water consumption 0.08 million cubic meters per year (4% of tap water demand excluding water extracted from crude oil 1,876 cubic meters per million barrels of oil equivalent)

Water Recycle



Recycle condensate water from the distillation unit 4 (plant 4) to treat and use in the boiler feed water.

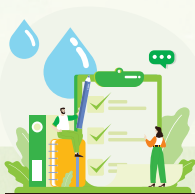
Reduce water consumption 0.50 million cubic meters per year (26% of tap water demand excluding water extracted from crude oil 12,518 cubic meters per million barrels of oil equivalent)



Recycle the wastewater by treating with Micro-Filtration System and Reverse Osmosis System to use in the cooling process.

Reduce water consumption 0.17 million cubic meters per year (8% of tap water demand excluding water extracted from crude oil 4,126 cubic meters per million barrels of oil equivalent)

Targets



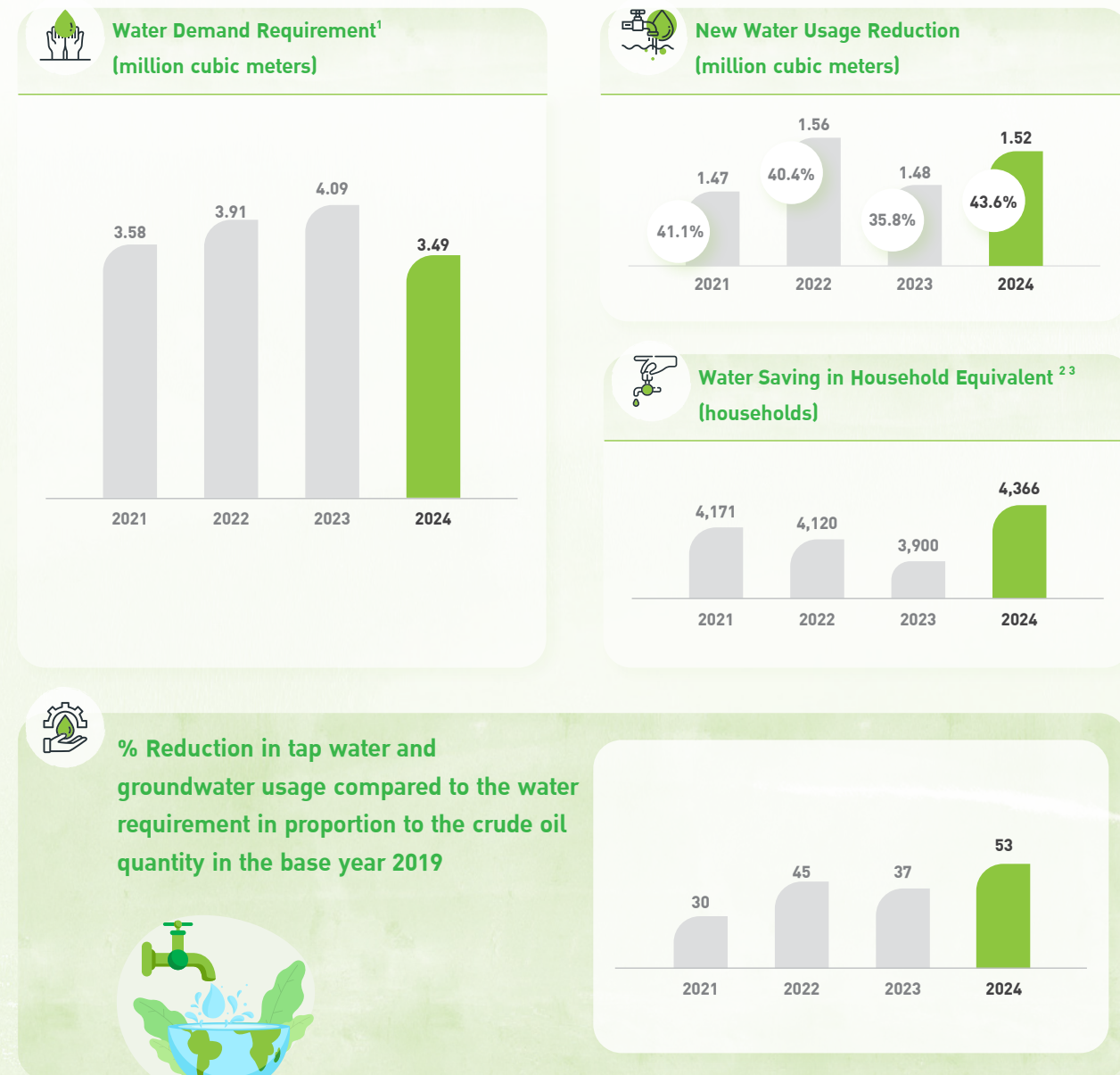
Target: Control water consumption per production unit less than 53 cubic meters per thousand barrels of oil equivalent.
Result: **49** cubic meters per thousand barrels of oil equivalent.



Target: Reduce tap water and groundwater use by **40%** compared to the water requirement in proportion to the crude oil quantity in the base year 2019¹.
Result: **53%**

Performances

New Tap Water Usage Reduction according to the 3Rs Principle Compared to the Water Demand Requirement in the Production Process for the Year



Remarks: ¹ Excluding water usage during turnaround maintenance periods
² Compared to the baseline year of 2015, this includes a combination of reused water from good quality condensate water used in the boiler and within the 4th distillation unit, alongside water from the oily wastewater treatment unit further improved by the reverse osmosis system, and the water that has been treated from the wastewater treatment unit further improved by the reverse osmosis system and used in the cooling tower.
³ Water usage in Bangkok region, In Phra Khanong district where the refinery is situated, there is a member of 1.85 person per household, with the water consumption rate of 0.56 cubic meters/person/day or 1.04 cubic meters/household/day (source: MWA 2015)

Beyond the Bangchak Phra Khanong Refinery, the Company also prioritizes water management at Bangchak service stations nationwide. This is especially true for stations managed by group companies located in high water resource risk areas, such as the Northeast, North, and East regions. The Company emphasizes water conservation by using water-saving sanitary ware, posting conservation signs, and storing rainwater for watering plants. Additionally, the green areas within the stations are maintained to provide shade, serving as rest spots for travelers, reducing daytime heat, maintaining moisture, reducing groundwater evaporation, and preventing soil erosion during the rainy season.

Water Management in Collaboration with Stakeholders and External Organizations/Entities

The Company also participates in natural resource conservation efforts, particularly water resources, in collaboration with stakeholders and various organizations in multiple ways. Examples include:

- Collaborating with the Marine Department to purchase the “Sritarak 8” vessel, which is used for waste and oil spill removal to protect the Chao Phraya River environment.
- Partnering with communities and suppliers to organize canal clean-up activities and tree planting to prevent erosion along the Chao Phraya River.
- Campaigning with government agencies, such as local administrative organizations, Bangkok Metropolitan Administration, and the Department of Health, through the “Fry to Fly” project to purchase used cooking oil from households in communities and markets near the Bangchak Phra Khanong Refinery and over 297 service stations nationwide, reducing the problem of disposing of cooking oil into public water sources.
- Collaborating with the Department of Environmental Quality Promotion to implement the ECO SCHOOL project, integrating environmental knowledge into the science curriculum at 11 schools around the Bangchak Phra Khanong Refinery.
- Partnering with the Bai Mai Pan Suk Foundation to implement the “Rak Pan Suk Junior” project,

developing environmental learning stations based on the 3Rs principle and the circular economy, focusing on efficient resource use and waste management within schools, with 36 model schools.

- Collaborating with the Mae Fah Luang Foundation, the Royal Forest Department, and community forest committees to conserve community forests in Doi Saket and San Sai districts, Chiang Mai province, covering over 5,000 rai.
- Partnering with the Royal Forest Department, monks, villagers, and over 10 organizations to restore the Phu Long forest in Phu Khieo district, Chaiyaphum province, over the past 20 years, covering more than 4,000 rai. The Phu Long forest is the watershed forest of the Chi River, the longest river in the Northeast, sustaining the local population.

Water Pollution Management

The Company manages water pollution through an efficient wastewater treatment system, resulting in treated water quality that exceeds legal standards. Moreover, the Company reduces wastewater volume through the principles of 3Rs (Reduce, Reuse, Recycle). Treated water is recycled back into the production process to reduce natural resource consumption and minimize environmental and community impacts around the distillery. The wastewater treatment process of the distillery is divided into three parts as follows:

- 1. Physicochemical Treatment Process:** Reducing the contamination of oil and heavy metals in water
- 2. Biological Treatment Process:** Reducing the contamination of water-soluble organic substances
- 3. Tertiary Treatment Process:** Filtering out small solid particles and absorbing water-soluble organic substances remaining to ensure that the water meets appropriate quality standards before entering the recycling system



The Company conducts internal controls to regulate the quality of wastewater treatment units according to the Company’s control standards. Regular analysis of water quality after treatment is performed at the Company’s laboratory, including pH and dissolved oxygen measurements, to ensure the wastewater treatment system remains efficient. Additionally, an online COD monitoring system has been installed to measure COD levels in real-time and provide results to nearby government agencies and communities surrounding the refinery area.

In 2024, the refinery underwent its turnaround maintenance, necessitating the shutdown of the wastewater recycling unit. However, the refinery managed to reduce the amount of wastewater generated from maintenance activities by adopting the Pigging System for furnace cleaning. This system uses a pig device to inspect and clean the inside of oil pipelines, or to check for any damage, replacing the use of hot steam for pipeline cleaning. This change reduced water usage for cooling wastewater from the steam cleaning process.

Oil Spills

The Company recognizes the importance of preventing and managing spills of raw materials and products in the petroleum refining industry, as these pose significant risks to the organization and stakeholders in terms of economic, social, and environmental impacts. These risks include damage to raw materials and products, health and safety impacts on employees and communities, and effects on society, the environment, and ecosystems.

The Company is committed to reducing the risk of spills and also has established effective emergency response measures. These measures cover the entire value chain from crude oil transportation, refining, and product transportation to storage in oil terminals and service stations, as follows:


Performances



Volume of Recycled Water
(Only from the RO Recycle unit of the wastewater treatment system)
Results : 166,175 cubic meters



Volume of Water Reused and Recycled by the Company
(Including all units in the process)
Results : 1,521,285 cubic meters



Volume of Wastewater Discharged by the Company to External Water Sources
(Including from wastewater ponds 1 and 3)
Results : 976,982 cubic meters

- Procuring of oil tankers equipped with inspection and evaluation systems that meet industry standards.
- Establishing water transport safety measures by using tugboats to maneuver vessels in and out of ports, securing vessels with standard mooring ropes before oil transfer, surrounding vessels with floating booms to contain any potential oil spills, connecting the hose to the vessel and continuously monitoring during oil pumping operations.
- Developing and annually practicing oil spill prevention and response plans.

- Owning and providing training on the use of oil spill cleanup equipment, with opportunities for community observation.
- Continuously enhancing the capabilities of personnel through training and workshops with government agencies and industry partners.
- Continuously improving safety technologies for equipment and systems in line with the Oil Company International Marine Forum (OCIMF) standards, such as modernizing port equipment fire suppression systems and installing additional CCTV cameras.
- Designing oil tanks, pipelines, and installing equipment in alignment with international standards, including Automatic Tank Gauging and Overflow Alarm System to prevent overflows, and containment dikes to manage spills. Implementing Gas Detection Systems and emergency monitoring measures like CCTV surveillance, Shift Area Patrols, and Stock & Oil Transfer Monitoring.
- Establishing work procedures and training for relevant personnel, with regular preventive maintenance (PM) inspections at appropriate intervals.
- Identifying and assessing potential leak points for loss of primary containment (LOPC) in each area, implementing control measures, and continuously monitoring their effectiveness. Conducting safety inspections in production processes and proposing preventive measures to avoid recurrence.
- Stationing the oil spill response vessel “Sritara Rak 8” at the Bangchak Phra Khanong Refinery, capable of collecting 10,000 liters of oil, equipped with fire suppression systems, and Oil Industry Environmental Safety Group Association (IESG) in oil spill responses and other emergencies as requested.
- Providing EMS Hazmat (chemical incident management and emergency medical system) training in collaboration with Thailand Rescue for external participants, including EMS1669, medical personnel, rescue teams, and ERT teams in interested industries for the training.

The Company regularly reports on the operational performance to Safety, Health, Environment and Energy Management team (SHEEM) responsible for performance monitoring and risk assessment; Then, reports to Enterprise-wide Risk Management Committee monthly to ensure the quality and safety in its operations. Such commitment and strong measures to prevent, avoid and manage the oil and chemical spills in operational areas

Amount of oil and chemical spills exceeding 100 barrels per time (Barrels)

2021	2022	2023	2024
0	0	0	0

Total amount of oil and chemical spills exceeding 1 barrel per time (Barrels)

2021	2022	2023	2024
0	0	0	0



Air Quality Management

The Company places great importance on controlling air pollution emissions, given its refinery’s location in a major city surrounded by diverse communities and residential areas. In addition to strictly adhering to legal compliance, the Company follows international standards for environmental management systems (ISO 14001: Environmental Management System: EMS) and considers the interests of all stakeholders, including employees, contractors, on-site workers, the surrounding environment, and nearby residential communities.

The Company puts importance in the use of natural gas as fuel in its entire production process. Natural gas is a clean, safe fuel with minimal environmental impact compared to fuel oil or liquefied petroleum gas. This approach ensures the control of pollutant emissions from the very beginning of the production process.

Additionally, the Company has installed internationally standardized technology and continuously operates a Sulphur Recovery Unit (SRU) to maximize the efficiency of sulfur removal and converts sulfur gases into liquid

sulfur products, which can be utilized in other industries, thereby reducing pollution. Furthermore, the Company has implemented low NO_x burners for all combustion processes to effectively reduce nitrogen oxide emissions.

In 2024, the Company fully used the enclosed ground flare, resulting in more complete combustion of gases sent to the flare, thereby reducing air pollution and minimizing negative impacts on surrounding communities, particularly in terms of noise and light.

Additionally, the Company has set more challenging targets for reducing emissions from exhaust stacks, aligning with its proactive environmental management policy. Continuous air quality monitoring is conducted using online measurement devices at exhaust stacks, work areas, and the refinery’s surroundings. External agencies are also periodically engaged to measure air quality. Daily monitoring of volatile organic compound (VOC) leaks from equipment is performed, along with regular inspections and preventive measures to improve control equipment for storage tanks and products such as:



Flare and Fuel Combustion

The Company uses natural gas as the sole fuel source, ensuring low pollution from the outset and optimizing combustion efficiency with flare technology.



Storage Tanks and Loading

Appropriate types of storage tanks are selected for different oils, and control equipment is continuously improved to reduce vapor leaks, such as enhancing the efficiency of secondary rim seals on all tanks. For product loading, a Vapor Recovery Unit (VRU) with 99% efficiency is installed to minimize VOC emissions, with continuous monitoring systems in place.



Wastewater Treatment Plant

Regular measuring and monitoring of VOCs from the wastewater treatment system is conducted, with activated carbon used to absorb organic vapors.



Fugitive Emissions

Controls, monitors, and tracks emissions, along with improving equipment standards to minimize leaks.



Gas Imaging (OGI) Project

Technology is used to detect VOC leaks in inaccessible areas, allowing for quick repairs and efficiency restoration.



In 2024, the Bangchak Phra Khanong refinery underwent turnaround maintenance, and simultaneously improving stricter environmental controls within the facility to ensure no impact on the surrounding community. The Company implemented additional VOC absorption systems in various activities and required contractors working within the refinery to have environmental officers (Jor Sor) oversee operations to prevent environmental impacts through motivational campaigns being introduced to encourage teamwork in environmental care, including Big Site Visit: daily site cleanliness inspections, Big Cleaning: collaborative cleaning efforts, and the Big Green Award: for contractors excelling in environmental management.

Furthermore, the Company extended its collaboration with the Asian Institute of Technology (AIT) and a U.S. company to develop carbon capture technology. Small-scale carbon capture technology was installed and tested for efficiency in capturing carbon dioxide from production processes. This initiative aims to achieve carbon neutrality by 2030 and net-zero greenhouse gas emissions by 2050, as outlined in the BCP316NET plan, which is currently under study. In terms of environmental and sustainability efforts, the Bangchak Phra Khanong Refinery renewed its Green Industry Level 5 award. Beyond internal environmental care, the refinery extended its efforts to the external value chain, such as improving canal quality and aesthetics, and educating schools, businesses, customers, and partners around the refinery about environmental issues.

Strategy

1. Manage with ISO 14001 Environmental Management Systems
2. Reduce air pollution from the outset of the production process
 - 2.1 Use clean energy
 - 2.2 Set more challenging targets for reducing emissions from exhaust stack
 - 2.3 Adopt technology to reduce pollution emissions
3. Family Communication Styles
 - 3.1 Monitor air quality online
 - 3.2 Communicate environmental quality transparently online

2023-2025 Targets

- Zero air pollution complaints
- Air Emission Targets Met



Performances

In 2024, the Company received zero complaints from the community. However, the Company continues to conduct an annual survey within a 1.5 km/5 km radius to gather expectations, needs, and analyze environmental issues or other impacts from stakeholders, especially students, the elderly, and patients.



Green Industry Level 5

The Bangchak Phra Khanong refinery renewed its Green Industry Level 5 certification (Green Network), the highest level awarded by the Department of Industrial Works, for the fifth consecutive year.



ISCC EU Scope Storage and Trader

The Bangchak Phra Khanong refinery received international certification for carbon and sustainable development for UCOME products, recognizing its international efforts in sustainability and carbon reduction.



Eco Factory Award

The Bangchak Phra Khanong refinery adheres to eco-industrial standards, focusing on five dimensions: physical, economic, social, environmental, and management. It meets 14 specific criteria, including eco-efficiency, and continuously evaluates the performance of its environmental management system throughout the life cycle of the Company's activities.



Digitize Measurement and Transparent Communication

The Bangchak Phra Khanong refinery operates seven Continuous Emission Monitoring Systems (CEMs) on exhaust stacks, transmitting real-time data to the Department of Industrial Works. The Company also continuously monitors and reports air quality results on display screens.



ISO 14001
certified for the 27th
consecutive year



Air pollution
complaints
(Target = 0 complaint)
2024 = 0 complaints



Control of fugitive VOCs emissions at all
monitoring points not more than 200 ppm
(legal limit is 500 ppm)
2024 = 2.98 tons



Air quality
measured by the
third party meets
all standards:
100%



Install and fully
operate the 2nd
enclosed
ground flare



Constructed an additional enclosed ground flare unit to work alongside the existing elevated flare. This enhancement allows for better handling of excess gases released during startup, shutdown, and emergency situations in the production processes. This project is a significant proactive measure to mitigate impacts on the community, particularly in terms of noise, light, and environmental effects.



Installed a gas engine generator to increase the efficiency of the Bangchak Phra Khanong refinery and to reduce the chance of incidents that might lead to pollution emissions.



Waste Management

The Company places great importance on waste management by adhering strictly to legal regulations and authorized agencies, including the waste management approach, which follows the 3Rs principles: Reduce, Reuse, and Recycle. This approach is aligned with both domestic and international practices to minimize environmental impact from waste disposal and continuously achieve zero waste to landfill from production processes.



Strategy

- Managing waste according to the 3Rs principles
- Complying with relevant laws
- Reducing office waste through reduction in usage and promoting recycling

2024 Targets

- Zero waste to landfill (production process)
- Continuously enhance waste management practices in accordance with the principles of the 3Rs

Performances



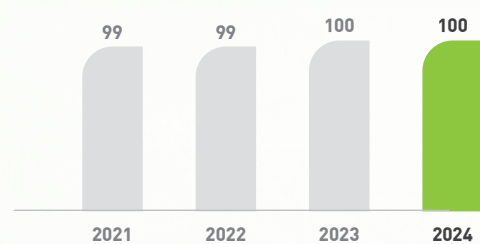
Zero wastes to landfills (production process)



Waste incineration without energy recovery totaling **0** tonne (production process)



Percentage of waste managed according to the 3Rs principles



Reduced the amount of office waste sent to landfill by **17%** compared to the year 2023.

The Company differentiates the waste management methods for production and maintenance processes based on types specified by government agencies. The types and quantities of waste are recorded through the Waste Management Application, which monitors waste generated within the Company. The quantity and disposal of waste are tracked through the waste transportation document control system (Kor.2). The Company also focuses on minimizing the amount of waste sent for disposal by enhancing waste management concepts from the 3Rs to the 5Rs and 7Rs as follows:

Reject

Avoiding the use of environmentally unfriendly materials or chemicals.

Recovery

Utilizing waste materials

- Recovering valuable metals from spent catalysts for reuse in other industries, approximately 369 tons.
- Regenerating spent activated carbon through a restoration process to provide an environmentally friendly option and efficiently use natural resources, approximately 1.4 tons.
- Reprocessing spent caustic through acid/alkali recovery processes.



Rethink

Rethinking comprehensive utilization before disposal, such as inspecting and separating lubricating oil of suitable quality for reconditioning instead of disposal, approximately 19 tons.

Repurpose

Repurposing used materials by finding alternative uses, such as converting unused wooden pallets into plant pot shelves within the project.

Moreover, high-quality raw materials are selected to reduce waste generation from the production process, thereby controlling and managing waste throughout the supply chain. This approach has also yielded by-products from the production process. Comprehensive waste management begins with the procurement process, selecting licensed and legally compliant waste disposal contractors, and prioritizing methods aligned with the Circular Economy. Annual inspections of contractors' operations are conducted to ensure compliance with standards.

In 2024, Bangchak Refinery Phra Khanong was awarded the Standard for Zero Waste to Landfill by the Department of Industrial Works, a certification it has continuously held since 2021.

To expand the scope of office waste management towards achieving continuous zero waste to landfill, enhancing the value of office waste, and reducing greenhouse gas emissions from landfills through the following activities:



- Conducted 2 training sessions for employees on waste management.
- 5Rs Activities
- Road Show "Office Green Tour" to introduce correct waste segregation
- Install separate waste bins with clear signs for proper waste disposal in the office.
- Promote awareness of waste types and reduce paper usage
- BCP Zero Waste Day activities every Friday, where single-use plastics are not brought into the office

In 2024, waste management at the headquarters successfully classified waste into 5 main categories: recyclable waste, organic waste, general waste, electronic waste, and orphan waste. Through campaigns promoting the reduction of single-use plastics and orphan waste, general waste volume decreased by 17% compared to the previous year.

2025 Targets



Zero waste to landfill (production process)



Amount of waste sent for incineration without energy recovery (production process)
(excluding recycling, reuse, or incineration for energy recovery): **0** tons.



Control Waste Generation Intensity by reducing waste generation per unit of production by **3%** from normal business operations by 2025 comparing to the 2015 baseline.

Biodiversity Management

Biodiversity is crucial to ecosystems, the environment, and the well-being of living organisms. If biodiversity is destroyed, it limits ecosystem services, potentially affecting health, communities, and economic inequality. Additionally, living organisms and all businesses depend on natural resources for production and business activities, which may face risks in terms of raw materials or product quality. This is particularly relevant for Thailand, which has a strong foundation in the agricultural industry, as well as the energy business. Adapting to climate change and achieving long-term sustainable growth requires assessing risks, implementing mitigation measures, and promoting biodiversity management throughout the business value chain, including key stakeholders such as suppliers and partners.





The Company’s biodiversity management adheres to GRI standards as operational guidelines and applies the framework of Integrating Biodiversity into Natural Capital Assessments. This includes formulating policies and goals, reporting, and monitoring performance through the Sustainability Management Committee, the Sustainability Policy Committee, and the Corporate Governance and Sustainability Committee. Each committee meets at least twice a year.

Key Strategy	Performances	Short-term/ Long-term Targets
 Continuously assessing the biodiversity risks from the Company’s business activities, considering both the impact and dependence on nature	Risk assessments were conducted in 222 business operation sites , including Bangchak Phra Khanong Refinery, Bang Pa-in Oil terminal, and 220 Bangchak service stations. The assessments were based on 3 criteria: <ul style="list-style-type: none">Distance from the business operation site to areas with high biodiversity within a 5 km radius.Environmental impact assessment.Dependence on nature on business operations.	Zero complaints regarding the impact on biodiversity
 Implementing measures to prevent/ mitigate impacts on biodiversity and continuously monitoring the results	Measures were implemented to prevent and mitigate impacts on biodiversity according to the hierarchical impact mitigation guidelines.	Zero complaints regarding the impact on biodiversity
 Implementing conservation, restoration, and promotion projects for biodiversity both within operational areas and nearby areas	Implemented projects to promote, conserve, and restore biodiversity both within operational areas and nearby areas, as follows: <ol style="list-style-type: none">Operational Areas<ul style="list-style-type: none">Green Area and Birdwatching Activities at Bangchak Refinery in Phra KhanongNearby Areas: Bang Nam Phueng Sub-district / Bang Kachao, Samut Prakan Province<ul style="list-style-type: none">The Path of Fireflies Conservation ProjectSupporting Project for the Bang Nam Phueng Large Farm Stingless Beekeeper GroupOur Khung Bang Kachao ProjectPunsook Urban Greenery Project Participated in reforestation near operational areas with 18,000 saplings and distributed seedlings to the public to increase green areas through 72 service stations in 22 provinces, totalling 36,000 saplings.	



Distance to High Biodiversity Areas

using the Geographic Information System (GIS): If a business operation site is found to be within 5 km of a high biodiversity area, it will be considered a Significant Locations (SLs). The area will then be assessed for environmental impact on air, water, soil, and waste. For SLs with a high environmental impact risk, immediate mitigation measures will be required. For SLs with moderate risk, self-assessment and compliance with company criteria are necessary. If the criteria are met, the area will be considered low risk. The assessment results for the year 2024 are as follows:

Area	Bangchak Phra Khanong Refinery	Bang Pa-in Oil terminal	Service Stations
 Significant Locations (SLs)	Not in SLs	Not in SLs	19 stations
 If located within SLs, an environmental impact risk assessment must be conducted.	-	-	Moderate
 Self-assess and audit compliance with requirements.	-	-	Complied
 Risk	Low	Low	Low

In terms of reliance on nature and ecosystem services,

a moderate issue was identified in flood and storm prevention, impacting the operation of oil terminals and service stations. As a result, the Company developed a crisis management plan and closely monitors flood situations, government announcements, water levels, and warnings in operational areas, especially during the rainy season or periods of prolonged rainfall.

Future Plans

Expand the scope of risk assessment to upstream activities, including Tier 1 Suppliers.

Channels for Biodiversity Complaints



E-mail:
ico@bangchak.co.th





Website
Whistleblowing Portal



More Information Available in
 Biodiversity Management 2024

Product Transportation

The Company enhances its product transportation processes to be efficient, accurate, timely, and safe to reduce transportation risks that may impact the community and environment in case of product leakage. The guidelines are as follows:

Strategy	Performances	2025-2029 Targets
 Enhancing Product Transportation Efficiency	<ul style="list-style-type: none">Optimizing delivery zones to reduce accidents, traffic problems, and congestion in warehouses (Re-Zoning).Integrating delivery systems with Bangchak Sriracha Public Company Limited, due to additional oil terminals and delivery pipelines in the northern and northeastern regions.	<ul style="list-style-type: none">Transport products using large trucks (semi-trailers) for 45% of the total shipment volume.Maintain zero accidents during transportation.Ensure no more than 3.5 complaints per thousand trips.Deliver products to customers as per the Company's sales plan.
 Taking care of suppliers and drivers	<ul style="list-style-type: none">Conducting monthly meetings online and on-site to set goals and track performance (KPI) together.Organizing an annual seminar to foster relationships and awarding outstanding contractors for their performance to boost motivation.	<ul style="list-style-type: none">Foster positive relationships between customers and transport contractors.Ensure fair and efficient work assignments for transport contractors. and reduce Reduce risky behavior among drivers.Lower the cost burden on contractors.

Performances

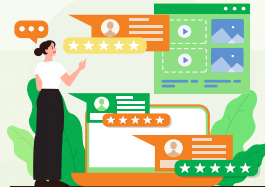
The Company continues to enhance the proportion of large truck (semi-trailer) transportation and leverages transportation technology to improve efficiency, as follows:



Rezone delivery areas to align with the increasing number of oil terminals and enhancing the transportation of oil via pipelines to Bang Pa-in terminal. Adjusting the delivery zones for service stations in Pathum Thani and Nonthaburi provinces out of Bang Pa-in terminal, as well as changing the delivery zones for service stations in Chonburi out of Bangchak terminal in Sriracha, instead of from the Bangkok Phra Khanong refinery. This will reduce distance, lower costs, decrease delivery times, and improve safety.



Increasing the proportion of large truck (semi-trailer)
Company's transportation in 2024, maintaining a 43% share of large truck transportation by offering discounts to service station operators when transporting with large trucks and preparing areas to accommodate large trucks during the construction of new service stations. When combined with product transportation managed by procurement buyers, the proportion of transportation using large trucks (semi-trailers) reached 59%. Moreover, using large trucks helps reduce greenhouse gas emissions by 46,464 tons of carbon dioxide equivalent compared to using two single trucks per trip.



Managing complaints with an online complaint management system (E-Complaint), increasing convenience in receiving complaints.



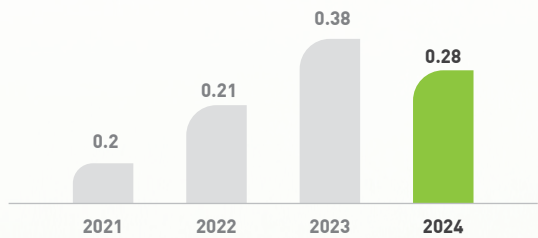
Developing transportation technology with an Auto Ordering System (AOS) within the group of service stations under Bangchak Green Net Company Limited, to efficiently manage fuel inventory and plan orders. Additionally, improving the Transportation Management System (TMS) for effective operations as follows:

- Improving the automated planning system to assign transport vehicles instead of manual work assignments, ensuring fair and efficient work for transport contractors. Matching fuel orders from service stations along suitable routes to increase the use of large truck transportation (Multi-drop).
- Developing a trip matching system to reduce empty return trips by enabling deliveries in both directions (Backhaul).
- Tracking oil transportation in each trip, including monitoring driver behavior such as speed and drowsiness, to prevent accidents and increase transparency through expansion of driver tracking and alert system to cover all oil terminals, as well as extension to the delivery of biodiesel and ethanol from factories to oil terminals.



Complaint Handling

Target : No more than 3.5 complaints per thousand trips



Future Plans



Enhancing transportation efficiency by integrating the transportation system with Bangchak Sriracha Public Company Limited (BSRC) through the establishment of additional oil terminals and pipelines in the Northern and Northeastern regions. This includes sharing knowledge, aligning delivery standards, and preparing to adopt the SAP HANA system for efficient data connectivity.



Utilizing Artificial Intelligence (AI) to support the analysis and improvement of the product transportation system, increasing efficiency in transportation and monitoring driver behavior during delivery. Additionally, this will enhance customer confidence and satisfaction.



Environmental Cost Accounting

In 2024, the environmental cost reduced by THB 10,360.13 million, or 6.67%, from 2023. This reduction was mostly due to an 8.17% decrease in crude feed volume and a 1.53% drop in crude oil prices, resulting in a THB 10,404.55 million reduction in material costs for product outputs. Midway through 2024, the company performed a turnaround maintenance to assess operational efficiency and repair refinery equipment. As a result, the refinery’s average crude run dropped to 110.83 thousand barrels per day, down from the previous year. Despite this, the maintenance caused an increase in material costs for non-product outputs of THB 52.02 million. This increase was primarily driven by an increase in slop oil costs of THB 53.41 million and an increase in waste disposal costs of THB 5.03 million. However, the depreciation of pollution control equipment resulted in a cost decrease of THB 12.19 million.

In addition to these improvements, the Company saw significant growth in the benefits of by-products and recycling, which rose by THB 5.53 million, or 65.58%. This increase was mostly due to higher revenue from the sale of iron and aluminum waste (THB 4.03 million) and liquid sulfur (THB 1.50 million).

(Unit: Million THB)

Environmental Cost Accounting	2022	2023	2024
Material costs of product outputs			
Crude Feed	169,495.13	138,435.05	123,975.31
Ethanol	7,263.95	6,213.60	7,172.70
Bio-Diesel (B100)	-	-	-
Bio-Diesel (B100)-Premium	-	-	-
Bio-Diesel (B100) HI PURE TYPE2	8,049.93	7,347.12	8,639.10
Used cooking oil	31.18	101.25	2,185.97
Chemicals	173.75	180.50	215.33
Process water	24.24	28.34	28.42
Process energy	3,062.46	2,357.10	2,041.58
Material costs of non-product outputs			
SLOP OIL	27.30	21.51	74.92
Effluent	12.24	12.34	12.71
Excess chemicals from neutralizing pond	20.68	1.77	-
Waste and emission control costs			
Environmental equipment maintenance	0.93	1.48	1.63
Depreciation of pollution control equipment	686.69	686.47	674.28
Effluent treatment	5.69	6.52	5.71
Waste disposal	4.95	11.30	16.34
Prevention and other environmental management costs			
Monitoring and measurement	9.32	8.56	8.83
Depreciation of waste storage area	0.02	0.02	0.02
Management system operation	1.39	0.22	0.16
Environmental equipment maintenance	-	-	-
Benefits of by-products and recycling			
Liquid sulfur	(30.50)	(5.14)	(6.63)
Iron and aluminum scrap	(1.87)	(3.29)	(7.33)



Social Dimension

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Occupational Health and Safety

Security, safety, and occupational health are critical issues in the petroleum industry, as workplace accidents, production processes, transportation, and distribution can significantly impact stakeholders. These effects include injuries, loss of life, and damage to the property of workers and surrounding communities, business disruptions due to production halts from the necessity to address incidents and compensate those affected, and environmental harm, such as pollution leaks. To address this, the Company established **security, safety, and occupational health policies**, assigning employees and contractors responsibility for ensuring their own safety and that of their colleagues. These policies comply with local laws and international standards, such as ISO 45001, and align with Process Safety Management (PSM) systems under the **Safety, Security, Occupational Health, Environment, and Energy (SHEE)** management structure.

A dedicated working committee oversees SHEE policy development, reviews, resource allocation, and appoints teams to promote SHEE practices, aiming for continuous and sustainable improvement of SHEE management systems (Disclosure 403-1). The safety management system includes identifying work-related threats, conducting risk assessments, and investigating incidents to mitigate risks. The Company conducts regular internal inspections, such as safety walkthroughs and monthly Safety Committee meetings to address findings and corrective actions as required by law. External audits, such as ISO 45001 standard evaluations, are also conducted to ensure comprehensive safety management and monitoring which covers 100% of employees and contractors working at the Phra Khanong refinery, Bangchak oil depot at Sukhumvit 64, and the headquarters.

Targets



- **Zero** workplace incidents.
- **Zero** Process Safety Event Tier 1.
- **Zero** Process Safety Event Tier 2.



- **Zero** Lost Time Injury Frequency Rate (LTIFR).
- **Zero** Fatality Rate from workplace injuries.



- **Zero** Occupational Illness Frequency Rate (OIFR).



- **No** significant oil and chemical spills into the environment.
- **Zero** incidents of major releases of flammable substances or production chemicals affecting primary containment or processes (Tier 1) as per API 754 standards.

Safety and Occupational Health Management Approach

The Company is committed to continuously improving and developing the management systems for Safety, Security, Occupational Health, Environment, and Energy (SHEE) in accordance with ISO 45001 safety management standards, as well as the Process Safety Management (PSM) system. This dedication ensures safety performance meets the established targets. The Company also promotes safety activities during and beyond working hours (Safety 24 Hours), instilling safety awareness among employees at all levels and contractors which ensure they possess the knowledge, understanding, and practices necessary to work safely every day.



Workplace safety promotion activities include:

- Promoting a safety culture transformation, such as conducting line walks by executives in operational areas. This emphasizes the importance of safety and demonstrates care for workers' well-being. It also includes Field Risk Assessments (FRA), encouraging employees to identify hazards and risks proactively. Additionally, conducting joint area inspections with contractors to promote their involvement in safety matters. These area inspections not only raise safety awareness but also ensure compliance with safety regulations and workplace conditions, reducing unsafe actions and unsafe conditions.
- Holding monthly meetings with safety officers of contractor companies and conducting weekly joint workplace inspections with contractors.
- Presenting the Contractor Safety Management Recognition Award to contractors who follow correct procedures and set a positive example for their peers.
- Establishing shared safety targets and plans between the Company and contractor companies through the Buddy Manager program.
- Celebrating milestones of safety hours without work-related accidents resulting in lost time.
- Promoting safety through activities organized by the Safety Committee, including meetings and discussions between executives and employees.

Off-duty safety promotion activities include:

- Encouraging employees to practice safe driving, wear helmets when riding motorcycles, and fasten seat belts before traveling.

Through continuous safety operations and initiatives, the Company achieved **9,000,000 employee safe working hours without any lost-time accidents or recordable injuries**. Additionally, in 2024, the Company was rewarded with the prestigious National Excellence Award in Safety, Occupational Health, and Working Environment for the 8th consecutive year by the Ministry of Labor.

Identification of Workplace Hazards, Risk Assessment, and Incident Investigation

(Disclosure 403-2)

The Company has established procedures for identifying hazards, risks, and implementing corrective actions using the "What If" and "HAZOP" methods. These procedures encompass the activities of both employees and contractors. Risks are prioritized to ensure that hazards and risks are thoroughly identified, reviewed, and managed with appropriate and adequate measures for each risk level. The key processes include the following:

1. Evaluating hazards, risks, and corrective actions to reduce and control risks to an acceptable level. This review is conducted at least once a year or when there are changes to work procedures.
2. Implementing the Job Safety Analysis (JSA) process for non-routine tasks to identify hazards and assess risks, covering activities and operational areas. Control and preventive measures are established in conjunction with the online work permit system.
3. Communicating safety matters through Safety Talks before commencing work and verifying safety compliance and adherence to the requirements outlined in the work permits.
4. Conducting risk assessments by employees or contractors at the engineer or supervisor level, who have been trained in risk assessment. Risk assessment reports and control measures are submitted for review and approval by the section manager.

The risk assessment review in 2024 identified work-related hazards with the potential to cause high-consequence injuries, such as fires, chemical spills, falling objects, collisions, or impacts. Appropriate hazard prevention and control measures were implemented based on the Hierarchy of Controls. These measures included designing safe production processes, revising risk assessments and operating procedures, reviewing safety management systems, and providing personal protective equipment (PPE) to employees and contractors.

In addition, additional screenings tailored to age-related risk groups are included in the employee health check-up program. These include screenings for prostate cancer, pancreatic cancer, gastrointestinal cancer, and cervical cancer. The program also covers lifestyle-related diseases and encourages employees to continuously monitor their own health.

- Conducting emergency medical drills with the Company’s support team and hospital support teams to streamline coordination and enhance rescue efficiency.
- Employing occupational health specialists to evaluate and improve general health check-up programs and risk-based health assessments, including establishing a hearing assessment room for annual health examinations.
- Requiring contractor companies to conduct risk-based health check-ups for all contractors. Additionally, health assessment results are analyzed, and employees with abnormal results are provided with consultations by physicians. The health check-up results are also submitted to the Company’s supervisors and safety representatives for review.

The Company considers the health information of employees and contractors as personal data under the Personal Data Protection Act. The Company utilizes this information solely to promote health and prevent work-related hazards when employees’ or contractors’ health conditions are unsuitable for their tasks. Employees and contractors may file complaints in cases of improper use of such information through various channels, such as the labor union, the Company’s employee committee, the Whistleblower Channel, or the 1651 Hot Line.



Participation, Consultation, and Communication with Workers on Occupational Health and Safety

(Disclosure 403-4)

The Company has appointed a Safety, Occupational Health, and Work Environment Committee in compliance with legal requirements. This committee ensures adherence to safety, occupational health, and good work environment practices while pursuing continuous improvement. The committee consists of representatives from operational-level employees elected by work divisions, making up no less than 50% of the total committee members. The committee holds meetings at least once a month to share updates, track progress on ongoing initiatives, and plan future actions. Additionally, senior executives conduct reviews of safety performance.

The Company communicates and provides opportunities for employees and contractors to participate in occupational health and safety matters through various activities. These include the SHEE Excellence Day event, communication via outlook, announcement boards, and the Safety Radio Channel, which shares news, knowledge, and safety reminders. Additionally, the Life-Saving Rules Promotion activity utilizes the IOGP life-saving rules, presenting them in an easy-to-understand format.

Occupational Health and Safety Training for Employees

(Disclosure 403-5)

The Company provides occupational health, safety, and fire prevention training to all employees and contractors before starting work, tailored to their job positions, types of work, or associated risks. Training plans are developed, executed, evaluated, and recorded, while training records are maintained. This process enhances knowledge, skills, and understanding of potential hazards and accidents, prevention methods, and hazard control during operations, enabling individuals to perform their duties safely. Additionally, the Company conducts training and issues electronic contractor cards (Express Safety Pass)

where contractor information is recorded, and documentation is submitted via an electronic system. Safety training videos can also be accessed online, offering convenience and reducing the time needed for training.

Promotion of Worker Health

(Disclosure 403-6)




The Company promotes the health of employees and contractors beyond work-related matters through the following initiatives:

- Providing on-site nurses and physicians on all working days at the Company’s medical office to offer primary and emergency care free of charge.
- Offering annual health check-ups as an employee benefit.




- Implementing employee health promotion programs to prevent non-communicable diseases (NCDs). These include monthly physical activity initiatives such as step challenges, walking, running, simple cardio exercises, as well as e-sports competitions like dance and boxing games. Additionally, promoting healthy eating habits through publicized campaigns, for example, encouraging vitamin-rich diets with slogans like “Be ‘Dee’ (Good) Enough for Vitamin D” or “Swap Sweet Treats for Vegetables to Cut Sugar.”
- Organizing hearing conservation activities to raise awareness about the importance of hearing health and educate employees on how to protect their hearing both at work and in daily life.

Performances

In managing the safety of both employees and contractors, the Company monitors and evaluates performance through key indicators, including the Lost Time Injury Frequency Rate (LTIFR), Total Recordable Injury Rate (TRIR), and High-consequence Work-related Injuries Rate for both employees and contractors. The operational results are as follows:

Employee Safety	2021		2022		2023		2024	
	Male	Female	Male	Female	Male	Female	Male	Female
 Employees’ Total Recordable Injury Rate (TRIR) (case/million working hours)	0	0	1.38	0	0	0	0	0
 Employees’ Lost Time Injury Frequency Rate (LTIFR) (case/million working hours)	0	0	0	0	0	0	0	0
 Employees’ High-consequence Work-related Injuries (Work-related injuries that result in an inability to fully recover within 6 months.) (case)	0	0	0	0	0	0	0	0



Contractor Safety		2021		2022		2023		2024	
		Male	Female	Male	Female	Male	Female	Male	Female
	Contractors' Total	1.79	0	1.43	0	1.95	0	1.34	0.74
	Recordable Injury Rate (TRIR) (case/million working hours)								
	Contractors' Lost Time Injury	0.45	0	1.43	0	0	0	0	0.74
	Frequency Rate (LTIFR) (case/million working hours)								
	Employees' High-consequence	0	0	1	0	0	0	0	0
	Work-related Injuries (Work-related injuries that result in an inability to fully recover within 6 months.) (case)								

Remark: Safety statistics cover both the Bangchak Phra Khanong refinery and the headquarters.



Process Safety Management Operations

The Company has implemented the Process Safety Management (PSM) system and established the PSM Governance Committee (PSM GC) since 2015, ensuring continuous safety improvements. The Company has also defined the 3E safety values, which are:



Everyone Goes Home Safely Every Day



Environment and Asset are Protected



Efficient and Reliable Operation

The primary goal of implementing the PSM system is to prevent Process Safety Event Tier 1 and Tier 2 incidents. Preparedness and emergency response initiatives include regular inspections of firefighting equipment to ensure operational readiness, training programs, and emergency drills for various scenarios. In 2024, the Company organized surprise drills as part of emergency response training at all levels. These drills were continuously enhanced through the Surprise Drill Award initiative, which recognizes and awards the best-performing shifts for unannounced drills. This award is presented annually as part of ongoing improvements.

Ongoing Projects Include:

- Felt Leadership (FL): Demonstrating and embodying leadership in safety practices.
- Field Risk Assessment (FRA): Raising awareness and understanding among workers regarding potential hazards to proactively prevent incidents appropriately.
- Development of Safety Standards: This includes establishing standards such as Lock Out Tag Out (LOTO), Line Break (LB), and Hot Work (HW). Additional standards, including confined space and drilling operation standards, were introduced.
- Process Safety Information (PSI): Consolidating basic knowledge of production processes to identify and understand related hazards.
- Process Hazard Analysis (PHA): A tool for analyzing hazards in production processes and determining appropriate preventive measures.
- Incident Investigation (II): Analyzing the root causes of incidents to establish systematic preventive measures.
- Management of Change - Technology and Facilities (MOC-T,F): Managing changes in production processes safely through an efficient management system. Risks are reviewed by experts, and changes are communicated clearly to workers to reduce risks.
- Pre-Startup Safety Review (PSSR): Inspecting equipment and operations related to production processes after shutdowns or turnaround maintenance to ensure safety before restarting.
- Emergency Planning & Response (EPR): Developing skills through training and regularly conducting emergency drills at various levels.

- Management of Change - Personnel (MOC-P)
- Training and Performance (T&P): Training and creating “Qualified Person” to authorize high-risk work.
- Contractor Safety Management (CSM): From selecting contractor companies to overseeing their work through site audits and evaluating performance at contract completion.
- Mechanical Integrity (MI): Ensuring the effectiveness and hazard control of equipment throughout its lifecycle, including regular maintenance.
- Quality Assurance (QA): Verifying that equipment and machinery are installed as designed and are ready for use.
- Integration of Digital Systems in Process Safety Management: Centralizing data, increasing work efficiency, and analyzing data to develop safety plans.

Performances

In 2024, the Company achieved its process safety targets, with no incidents involving the release of flammable substances from primary containment or production processes causing severe impacts (Tier 1 and Tier 2) as specified under API 754 requirements.



Energy Accessibility and Security

Since becoming the major shareholder in Bangchak Sriracha Public Company Limited on September 1, 2023, the Company has made a historic investment that has turned the country into a strategic energy asset. This has enabled the production of products through 2 world-class complex refineries, with a combined installed capacity of 294,000 barrels per day, and a total of 2,163 Bangchak service stations. This helps address the 3 major energy challenges (Energy Trilemma): Energy Security, Energy Affordability, and Environmental Sustainability.

By enhancing existing capabilities and efficiently managing resources through transformation and synergy realization.

The Company has faced a year of challenges and changes to create a stronger, unified organization. The Company has restructured its organization to execute these operations, including:

1. Steering Committee
2. Working Committee with 4 workstreams, covering:
 - Refinery and Oil Trading Business
 - Marketing Business
 - Shared services
 - Administration and Organizational Capability Development (Information Technology, Human Resources Management, and Procurement)

3. Working Committee for Audit of Benefits from Business Collaborations To integrate and foster effective business collaboration between the 2 companies, a process of learning and experience sharing among employees has been established. Additionally, the value of the benefits arising from business synergy has been identified as a key performance indicator for the organization. This applies to the Group Chief Executive Officer and President and senior executives vice president across all functions, and relevant employees. By harnessing synergies in technology and expertise, overall service and efficiency have significantly improved, leading to the realization of benefits. Examples include:



Crude Oil Procurement and Transportation

Jointly procuring and transporting crude oil between the 2 refineries, achieving efficient logistics such as receiving a Suezmax crude oil tanker with a capacity of **950,000 barrels for the first time.**



Oil Refining

Increasing refining capacity of Bangchak Sriracha refinery to **155,000** barrels per day, marking the highest refining capacity in the history.



Transportation Management

Efficiently managing oil transportation from the 2 refineries, with Bangchak Phra Khanong refinery transporting to customers in the Northern and Lower Central regions, and Bangchak Sriracha refinery transporting to customers in the Eastern and Northeastern regions.



Support Services

Realizing shared benefits through support functions, such as accounting systems, human resource systems, and information technology systems.




Marketing

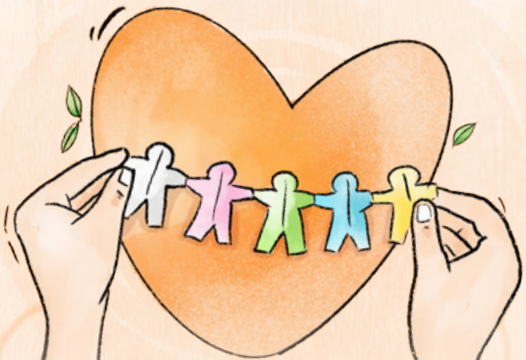
- Rebranding to Bangchak completed at **724** stations.
- Jointly developing the Hi Premium 97 fuel formula to meet the needs of gasoline engine users seeking high-quality fuel.



Additionally, there are plans to further expand business synergies within the group and place emphasis on investments in natural resources, petroleum exploration and production, clean energy businesses, high-value bioproducts, and other sectors to support the country's economic growth.

Business Synergy Strategy

The Transformation and Synergy Realization Office works collaboratively with working committees and employees from both companies. Meetings are held, subgroups formed, and brainstorming sessions conducted to gather ideas from the working committees. These ideas are then reviewed for feasibility and reported to the Steering Committee. Once ideas are approved, detailed plans for key project activities are developed and implemented. The team ensures that returns are aligned with the plan, with continuous monitoring and performance reporting to the Steering Committee. The key strategies include:

Key Strategy	Performances in 2024	Targets
 <ol style="list-style-type: none">1. Increasing Refinery Operational Efficiency	<ul style="list-style-type: none">• Increased the production capacity of Bangchak Sriracha refinery to 155,000 barrels per day.• Enhanced product yield and gross refining margin (GRM) optimization.• Utilized new crude oil with high gross refining margin (GRM).• Upsized voyage to Very Large Crude Carrier (VLCC).	<ul style="list-style-type: none">• Setting an oil refining target of 280,000 barrels per day in 2025, derived from the installed refining capacity (nameplate capacity) of both refineries totaling 294,000 barrels per day.• Enhancing efficiency and reducing operational costs to increase the gross refining margin (GRM).• Developing a diverse range of products to meet market demands.



Key Strategy	Performances in 2024	Targets
 2. Increasing Logistics Efficiency	<ul style="list-style-type: none">Adapted transportation based on areas (Rezoning Focus).Increased oil transportation volume through pipelines (Oil Pipeline Utilization).	Integrating transportation routes and oil storage with partners by leveraging technology to enhance data management and transportation efficiency.
 3. Increasing Marketing Efficiency	<ul style="list-style-type: none">Increased sales of fuel for ships and aircraft.Enhanced customer experiences through retail stores, and expanded the lubricant oil market within the network of Bangchak Sriracha Company Limited (BSRC).Enhanced trade efficiency.	Expanding the “Greenovative Destination” concept by increasing the service station network to over 2,400 locations by 2030, aiming to capture a 33% market share.
 4. Increasing Cost Management Efficiency Across The Organization	<ul style="list-style-type: none">Implemented shared services operations.Reduced average cost per unit in support tasks.Restructured management for simplified workflows.	

In terms of human resource management, there have been personnel transfers between companies and preparations for work alongside creating a consistent culture. Employee engagement surveys and communication of benefit value targets, progress of key projects, and brainstorming sessions for business synergy are conducted through newsletters and quarterly Town Hall meetings by senior executives to drive effective work. This aims to elevate the capabilities of both organizations to become stronger and greater (Together to Greater).

Performances



143 projects to increase efficiency



THB 6,071 million
Realized benefits from Bangchak group synergy projects (Target : THB 4,000 million)








Community and Social Development

With a vision, mission, and goals aimed at developing the business in harmony with the environment and society, **the Company has established strategies for social operations. These strategies are based on continuous assessments of community and social conditions, focusing on key communities near the main operational site, the Bangchak Phra Khanong Refinery.** This encompasses target groups within the radius specified in the Environmental Impact Assessment (EIA) report, with intensive data collection in sensitive areas (0-1.5 km radius) conducted annually by third-party agencies. Stakeholders are identified, and sample groups for surveys are determined, including community leaders, government agencies, non-governmental organizations (NGOs), working-age individuals, the elderly, children and youth, religious leaders, and persons with disabilities. These representatives are involved in data collection, environmental impact assessments, development issues, and community needs across all dimensions. The gathered information is used to refine operations and develop community engagement activities that meet the needs of stakeholders.


Additionally, the Company extends its approach to neighboring communities around the Bang Pa-in Oil Depot in Ayutthaya and 13 key Bangchak service stations*. (These stations are selected based on four factors that may impact the neighborhoods: daily customer traffic, neighboring population density, complaints from neighbors, and incidents in the past year.) Within the group, the Company not only disseminates community and social activity guidelines but also establishes a Community of Practice among employees in community relations, social activities, and sustainability roles. Environmental education camps are organized in key operational areas, including Phra Khanong, Bangkok; Sri Racha, Chonburi; and Bang Pa-in, Ayutthaya. (The percentage of key operational areas with community relations activities is 100%.)

In addition to establishing a systematic complaint management mechanism, the Company conducts environmental impact monitoring in surrounding communities every six months, in accordance with legally mandated indicators. In 2024, **the Company successfully implemented its environmental impact prevention and mitigation plans, with results exceeding legal requirements and no widespread community complaints.** The Company remains prepared to handle potential complaints through proactive and preventive measures, aiming to minimize incidents that could lead to complaints. Multiple channels are available for community members to submit complaints, including direct phone lines to community relations officers, plant managers, Line groups, the Call Center, and the website. This ensures the Company can adhere to measures, avoid negative operational impacts, and build trust with neighboring communities, demonstrating that proximity to Bangchak is beneficial and safe. As an establishment located in a major city, **the Company prioritizes safety and environmental concerns.** Therefore, community relations strategies are aligned with the GREEN SOCIETY strategy under the Bangchak SUCCESS concept, addressing the needs of four main stakeholder groups as detailed below.


Complaints Handling and Management Mechanism	
	1. Established multiple channels for receiving complaints, including the call center, Community Relations Department, website, and plant managers
	2. Receive the complaint and record it in a form, then immediately notify the relevant department
	3. The relevant department visit the site to investigate the cause
Cause is not related to the Company	Cause is related to the Company
the complainant is informed immediately.	Corrective actions are taken immediately, and the complainant is informed of the initial steps taken. If the resolution requires more time, progress updates are provided to community leaders and the complainant within 3 day / 7 days.

Bangchak SUCCESS Reflecting Community Engagement Goals
(Friendly, Beneficial, Trustworthy in Safety, and Engaged)


4 target subgroups residing around the area




Community Group
Approximately 17,800 people in 10 areas of Bang Na and Phra Khanong, 1 military flat, and Bang Nam Phueng Subdistrict.



Family Group
Approximately 5,098 households that are members of the Leaf Family newsletter.



School Group
Approximately 11,244 people from 19 schools in Phra Khanong, Bang Na, Khlong Toei, and Bang Nam Phueng Subdistrict.



Condominium Group
Approximately 6,890 residents from 29 condominium projects around the operational site.

* The 4 main target groups consist of diverse stakeholders who have resided in the area for varying lengths of time. The community, family, and school groups, along with various government agencies, have long-term residency in the area. In contrast, the condominium group has shorter residency periods due to urban expansion. Additionally, the complete transition to an aging society has increased the proportion of elderly residents, presenting challenges to sustainable community development under demographic and economic constraints. This is particularly relevant when working with elderly community leaders and vulnerable groups, such as the disadvantaged, children, and persons with disabilities. The Company is drafting a stakeholder engagement policy to establish key practices for inclusive community development, ensuring no one is left behind. In 2024, the Company plans to increase the proportion of activities promoting health and community economy.

Targets and Performances

Performances	2021	2022	2023	2024
 Community Engagement Target: 89%	86%	89%	89%	89%
 Community Engagement Activities Satisfaction Target: 90%	94.4%	95.9%	96.3%	94.7%
 Complaints from the Community Target: 0 Case	1	0	0	0



Based on the previous year’s community and social condition survey, which was used to formulate strategies for 2024, no significant concerns or negative impacts were identified. The main issues of public concern were dust, vehicle exhaust, and noise, primarily caused by traffic. Residents within the sensitive area radius are regularly informed about the refinery’s activities, express satisfaction with communication and community engagement activities, and have confidence in the Company. They also have increased expectations for improvements in quality of life, safety, environment, and community economy. In monitoring compliance with environmental impact prevention and mitigation measures, the Company has adhered to its plans, with results exceeding legal requirements. This includes general air quality, source-specific air quality, noise, river water quality, wastewater quality, groundwater quality, waste management, transportation, occupational health, and safety.

Strategy

1. Operate Safely and Prioritize Environmental Impact on Neighbor
2. Rapid Communication and Advance Notifications
3. Regular Community Engagement Activities

Community Relations Plan for the Year 2024

- Conduct business operations with safety and environmental friendliness.
- Engage in learning, participation, and support for community preventive safety projects.
- Promote environmental activities to increase green spaces and biodiversity.
- Provide advance notifications and immediate alerts to the community in case of emergencies.
- Engage in learning and participation in community preventive safety projects.
- Conduct community activities to continuously promote quality of life, economy, education, and equality.

Under the supervision of the Sustainability Management Committee, the Company’s operations aim to meet the needs, expectations, and necessities of the community, while considering human rights and equality. This includes both the right to receive benefits and the protection against rights violations in areas such as quality of life, relationship building and cultural preservation, education, safety, environment, economy, music and sports, and public benefits.

Despite the annual maintenance of the Bangchak Phra Khanong Refinery this year, the Company continues to proactively and preventively prepare, seeking ways to prevent and reduce the likelihood of incidents. Close, proactive communication has resulted in no widespread or general complaints. Environmental impact has been mitigated by installing and operating the second Enclosed Ground Flare

(EGF) unit alongside the first unit, enhancing efficiency and effectiveness in preventing excess raw material combustion from production processes and minimizing environmental impact. Infrared cameras (Optical Gas Imaging, OGI) are rented to detect leaks within the refinery. Studies are conducted to improve wastewater treatment systems, storage tanks, and oil transfer by ship to reduce odors and volatile organic compounds (VOCs).

This year, community engagement activities covered 8 areas: safety, economy, environment, quality of life, education, sports, relationship building, and cultural preservation. A total of 217 activities were conducted, benefiting over 102,996 individuals. Additionally, the “Filling Happiness into Society” project was launched to honor His Majesty the King on the occasion of his 72nd birthday on July 28 and to mark the Company’s 50th anniversary.

Key Projects in 2024

Economic Aspect: The Company engages in social investment through the “Bangchak Sarng Ngarn Pun Archeep (Job Creation)” initiative aimed at addressing livelihood issues. The support is divided into three groups:



Bangchak Job Creation and Career Development

Cooking Training

Focus on popular, low-investment foods such as noodles, beverages, spicy salads, and herbal drinks, conducted in communities and educational institutions.



Bangchak Income Generation for Communities

Community Kitchens and Pan Suk Market

Open spaces during the turnaround maintenance period for the community to sell food to employees and contractors for one month.

Entrepreneur Capacity Building

Support community products and services for Company events, such as snacks, food, community products, and various services.

Generating Income of THB **11.23** million



Development into Community Enterprises

Large-Scale Beekeeping Group in Bang Nam Phueng Subdistrict

Under the name “Phueng Tham Bang Nam Phueng,” this group focuses on stingless beekeeping, building on environmental and biodiversity conservation to create livelihoods for the elderly. Product development includes honey, soap, shower gel, lotion, balm, and ice cream.

Ton Jak Bang Kachao Community Enterprise

Aimed at conserving the Ton Jak (Nipa Palm) tree, a key feature of the three-water ecosystem that supports various aquatic species. Product development includes fresh palm sugar, palm syrup, and vinegar.

Generating Income of THB **0.80** million

Over the past year, social investments aimed at developing the economic foundations of the community have involved participation from all age groups, including children, unemployed women, the elderly, and community leaders working in environmental fields. Building on environmental and biodiversity efforts in the area, these initiatives have not only developed into study tours and souvenir shops but also created unique community products. Over the past year, these efforts have generated more than THB 12 million in income for the community.



Environmental Aspect: The Company has established an Environmental Quality and Social Activities Committee for the Bangchak Phra Khanong Refinery, comprising 36 members from the community and government agencies. This committee coordinates and oversees operations to ensure they do not impact the environment, provides recommendations, and addresses environmental issues. Last year, the committee held two meetings to exchange views.


In environmental activities, the Company developed green spaces by transforming the area along the Mahanakorn Expressway into a “15-minute park” near the community at the Sukhumvit 50 (outbound) exit. This project, in collaboration with the Bangkok Metropolitan Administration and the Expressway Authority of Thailand, aims to create a public park for recreation, exercise, and relaxation, increasing community access to green spaces. Additionally, the Company developed the Bang Kachao green area, conserving plant and animal species in Bang Nam Phueng Subdistrict, Phra Pradaeng District, Samut Prakan Province, and planted trees around the Phra Khanong Refinery fence on various significant occasions.








Quality of Life Aspect: The “Healthy Community” and “Pan Suk Glasses” projects aim to proactively support and promote health awareness among community members regarding their physical and eye health. If issues are detected, timely care and treatment can be provided. Four activities were organized, with over 1,467 participants. The Company also supports the “BKK Food Bank” project by the Phra Khanong District Office, Bangkok, to manage food surplus and prevent waste, distributing it to vulnerable groups such as the elderly, disabled, bedridden patients, low-income individuals, and the unemployed who lack sufficient food and necessities. The Food Bank collects food and consumables from donors and distributes them to those in need, operating like a convenience store where registered vulnerable individuals can select items. The Company also provides Winnonie electric motorcycles for food delivery.

Additionally, the Company initiated a sustainable and self-reliant community welfare project in collaboration with the Bangkok Social Security Office Area 12. This project educates independent workers around the refinery about beneficial social welfare programs, encouraging them to register under Section 40 and contribute to receive additional benefits beyond basic state welfare. These benefits include income compensation for illness, disability compensation, funeral expenses, child support, and future savings. 50 community leaders and representatives participated in the training and registered for social security.

Ongoing Projects

Aspect	Aspirations	Ongoing Projects
 Safety	<ul style="list-style-type: none">• Ensure confidence in the refinery’s safety.• Understanding of basic safety processes.• Provision of basic safety equipment to handle emergencies or disasters.	<ul style="list-style-type: none">• Emergency plan training and fire drills, including basic first aid and CPR/AED for communities/schools/condominiums (20th year).• Safety patrols (6th year).• Provision of safety equipment and fire extinguishers (20th year).

Aspect	Aspirations	Ongoing Projects
 Economy	<ul style="list-style-type: none">Develop job skills and generate income.Support community products and services.Promote financial and investment knowledge.Encourage group development with recognized management structures.	<ul style="list-style-type: none">Community enterprise development (9th year).Support for community products and services (20th year).Job creation and career development.Community kitchens and Pan Suk Market selling food in cafeterias and the refinery.
 Quality of Life	<ul style="list-style-type: none">Proactively support health care to maintain physical and mental well-being.	<ul style="list-style-type: none">Healthy Community Project: Health check-ups.One Family Project (32nd year).Good Youth Project (9th year).Sanook Kids Camp during school holidays.Bangchak Cares: Community disease prevention.Pan Suk Glasses.
 Education	<ul style="list-style-type: none">Develop teachers, students, and school administrators in various aspects.Instilling good values and skills in youth.	<ul style="list-style-type: none">Bangchak Youth Scholarship Project (20th year).Teacher and School Capacity Development Project (20th year).“Rak Pun Suk Junior” Project (3rd year).
 Sports	<ul style="list-style-type: none">Promote healthy lifestyles among youth, keeping them away from drugs and providing better educational opportunities through sports.	<ul style="list-style-type: none">Bangchak Youth Football Club (17th year).
 Relationship Building and Cultural Preservation	<ul style="list-style-type: none">Foster strong bonds between the refinery and neighboring communities.	<ul style="list-style-type: none">Leaf Family Newsletter (18th year).Condo Neighbors Project (12th year).Community Home Visits (20th year).

Social Responsibility and Engagement

The Company maintains a balance between value and worth in its business operations, continuously spreading “Regenerative Happiness” to stakeholders and the broader society. By strengthening internal collaboration within the group, especially after becoming the major shareholder of Bangchak Sriracha Public Company Limited, the Company has been able to share its culture and values more effectively, thereby benefiting society at large. To drive Thailand towards a low-carbon society through the BCP316NET strategy, the Company undertakes projects and activities that align with the **C: Conserving Nature and Society** and **NET: Net Zero Ecosystem** plans. Additionally, special activities are organized to honor His Majesty the King on the occasion of his 72nd birthday on July 28 and to mark the Company’s 50th anniversary. These initiatives aim

to distribute benefits to various stakeholder groups and align with the Sustainable Development Goals (SDGs).



Plan C: Conserving Nature and Society Plan, conserving nature in conjunction with social care

The Company has developed natural carbon dioxide absorption and storage systems across both terrestrial and marine ecosystems (C: Conserving Nature and Society) in collaboration with various partners. These efforts aim to advance Green & Blue Carbon initiatives. In 2024, significant progress was made in each project, as detailed below:

Format	Development of Terrestrial Ecosystems (Green Carbon)		Development of Marine Ecosystems (Blue Carbon)		Agriculture
	Afforestation*	Community Forest Conservation Planting	Reforestation-Conservation of Coastal Forests	Study of Seagrass Sources	Plant D*
Operating Area	Chaiyaphum	Chaiyaphum/Chiang Mai	Ranong	Trat	Chonburi
Total Area (Rai)	80 Rai	2022: 2,650 Rai 2023: 3,500 Rai	2022-2023: 226 Rai (BCP)	Study Area 22.3 Rai	2,229 Rai
Duration (Years)	10 Years	6 Years	20 Years	5 Years	7 Years
Key Partners	Royal Forest Department and Wat Pasukato	Community Forest Committee and Mae Fah Luang Foundation	Community Forest Committee and Mae Fah Luang Foundation	Seagrass Conservation Group / Subdistrict Administrative Organization Koh Mak / DASTA / Kasetsart University	Bangchak Cooperative Network to Combat Global Warming
Approach	Plant, Maintain, Conserve, and Restore Forest Areas	Carbon Credit Management in Forests for Community Development in Forest Conservation and Fund Management for Quality of Life Development	Plant, Maintain, Conserve, and Restore Forest Areas	Supports seagrass research through tissue culture and seed propagation, initiating pilot planting in natural seagrass habitats	Improve the planting and care process of low carbon perennial crops
Work in 2024	Engaged in forest planting and organizing “Tod Pa Paa” ceremonies	Registered T-VER / Manage Forest Career Fund	Planting and Maintenance Work T-VER registration	Constructed seagrass nursery facilities in the area and conducting pilot seagrass planting in potential habitats with high survival rates	Conducted training for farmers to collect baseline data, verify information, and prepare to register the project
Project Goals	Increase forest area	Conserve forests, reduce forest fires from upstream forests, reduce PM 2.5 pollution	Increase forest area and ownership of Carbon credits	Model for sustainable tourism community LOW CARBON DESTINATION	Farmers Care The Earth Increase income Reduce cost for low carbon

Remark: * The Company has canceled the forest planting project for carbon credit benefits in Prachinburi and Chachoengsao provinces, covering 3,172 rai, in collaboration with the Royal Forest Department. This decision was made because the areas did not align with the project’s objectives and development scope.



Plan NET: Promote NET ZERO ECOSYSTEM in Thai Society



The Bangchak Group collaborates with partners to prepare both internal and external stakeholders to understand greenhouse gas goals, carbon mechanisms, including trading systems, tax systems, and carbon credits, as well as the calculation of greenhouse gas emissions at both organizational and individual levels. Over the past year, the Bangchak Group has communicated and created diverse shared experiences, as detailed below:

Creating Awareness

- **Employees:** For the third consecutive year, the Company has integrated greenhouse gas reduction behaviors into individual performance evaluations (KPIs). Over 700 employees participated in recording their daily Climate Action behaviors, collectively reducing greenhouse gas emissions by more than 129 tons of CO₂ equivalent.
- **Public/SMEs/Organizations/Carbon Markets Club:** Now in its third year, this initiative serves as a crucial mechanism for collaboration with partners and members, encompassing over 1,326 organizations and individuals.
- **14th Greenovative Forum:** This forum aims to raise public awareness on environmental issues.

Burn Less, Breathe Clean This project employs microorganisms to decompose rice straw stubble, reducing the need for post-harvest burning. By using innovative biological products that soften the stubble for easier plowing, we return organic matter to the soil. This initiative is piloted with 2,400 farmers across 4 provinces, covering nearly 60,000 rai.

- **Low-Carbon Tourism Community** promote tourism on Koh Mak, a model low-carbon tourism community in Koh Mak Subdistrict, Koh Kood District, Trat Province. This initiative aims to enhance the capabilities of the local population and seagrass habitats, ensuring the preservation of coastal ecosystems.

Encouraging Low-Carbon Society

- **Suppliers and Customers/Public**
Waste Reduction at Source with Bangchak encourage household waste segregation and management to drive the BCG Economy, in collaboration with our partners.
- **Farmers**
Cooperative Network for Climate Change Mitigation Aomsuk Social Enterprise Company Limited, has installed solar panels on the rooftops of agricultural cooperatives that utilize electricity during the daytime. This initiative not only reduces costs but also supports the development of carbon credit projects from renewable energy.
Plant D Project provides knowledge to improve plant care and optimize fertilizer use, thereby reducing greenhouse gas emissions, lowering costs, and increasing income from carbon credits.

Low-Carbon Business

- **Public Fry to Fly Project** expands the collection points for used cooking oil from the public to produce Sustainable Aviation Fuel (SAF) through the “No Oil Left Behind” initiative. This program is implemented at our service stations, in collaboration with partner networks, local government organizations, educational institutions, and various private sector entities.
- **Winnonie** hires a purchase business for electric motorcycles and strives to be a leader in Battery as a Service (BaaS) platform.



Key Projects

Carbon Markets Club

Now in its third year, this initiative has become a crucial mechanism, collaborating with over 1,326 partners and individual members. Last year, the Company enhanced Carbon Footprint for Organizations (CFO) assessment tools and the My Carbon Footprint (MyCF) calculator for individuals, offering these services free of charge. Additionally, the Company provides carbon credit trading and Renewable Energy Certificates (RECs) services. Furthermore, the project has partnered with four ASEAN carbon market associations to support the ASEAN Joint Carbon Market initiative at COP29. Our goal is for ASEAN to emerge as a global leader in climate action, leveraging both technology and natural resources to transition towards a low-carbon economy.

Carbon Markets Club	Unit	2022	2023	2024
Number of individual members (accumulated)	People	162	593	1,070
Number of organizational members (accumulated)	Organization	53	161	256
Number of online seminars and published articles	Count	14	48	64
Support for buying and selling carbon credits and RECs	tCO ₂ e	678,260	1,411,779	225,205
Compensation for personal and event carbon credits	tCO ₂ e	454	3,000	913
Serving as guest speakers to share knowledge with partners/public forums	Event	N/A	17	18

14th Greenovative Forum



“Crafting Tomorrow’s Future with Sustainable Energy and AI.” This year’s forum aims to raise public awareness on environmental issues, highlighting the pivotal role of AI technology in advancing the energy industry. AI will assist in analyzing and forecasting energy usage, enhancing efficiency, and minimizing resource wastage. However, the challenge lies in balancing cutting-edge technology, energy, and the environment. In the era of AI Data Centers, which consume vast amounts of energy, the world must find ways to increase clean energy production and develop a global energy grid. While AI has the potential to improve quality of life and play a significant role in various industries, akin to a river connecting trade and daily life, it also possesses

a destructive power. The key to harnessing AI’s potential lies in visionary development that integrates technology infrastructure, knowledge, and systems. This approach must prioritize efficiency, sustainability, and human involvement, leading to innovations across different sectors.

Reducing Waste from the Source

Reducing waste at the source is a simple yet impactful way to drive the BCG Economy. Bangchak Group collaborates with various partners to facilitate waste management for customers and the public. This includes establishing waste collection points through our network of service stations, such as orphan waste collection points at 8 key stations across Bangkok and other provinces, as well as at Bangchak offices and refineries, and with various partners. The Company continuously promotes waste segregation, collecting and recycling waste and UHT beverage cartons. Additionally, the Company is expanding collection points for used cooking oil to support the production of Sustainable Aviation Fuel (SAF). This program is implemented at our service stations and in collaboration with partner networks, restaurants, local government organizations, and various private sector entities.

Reducing Waste from the Source	Unit	2022	2023	2024
Community satisfaction near Bangchak service station towards being an environmental model / waste management / safety	Percentage	80	79	84
Waste collection point at the service station / Bangchak office, refinery and network	Ton	80	162.4	400
Sorting of recyclable waste and beverage cartons at service stations / schools around the refinery / and schools in the Bai Mai Pan Suk Foundation network helps reduce greenhouse gas emissions.	Kg. tCO ₂ e	80 -	805 3.4	8,000 35

Cooperative Network for Climate Change Mitigation

Oam Suk Social Enterprise Company Limited. collaborates with agricultural cooperatives that operate Bangchak service stations and require daytime electricity by installing rooftop solar panels. These installations, done through both EPC contracts and Private PPA agreements, help reduce costs. In 2024, small-scale rooftop solar projects were completed with five cooperatives: Phimai Agriculture Cooperative Limited, Non Sung Agricultural Cooperative in Nakhon Ratchasima, Muang Laplae Agricultural Cooperative Limited in Uttaradit, Nihom San Sai Cooperative in Chiang Mai. Additionally, the Plant D Project was developed to generate carbon credits from perennial agricultural plants with cooperatives whose members own rubber and oil palm plantations. This project aims to improve plant care processes, optimize fertilizer use, reduce production costs, and enhance knowledge of carbon credits. It also involves developing an online platform for managing plot data, making it easier for farmers and cooperatives to access and maintain records for carbon credit certification at the project’s end. The pilot project with the Ban-Khaosok Rubber Fund Co-Operative Limited in Nong Yai District, Chonburi, covers 2,229 rai and is expected to generate approximately 8,000 tons of CO₂ equivalent per year.

Burn Less, Breathe Clean

This project supports farmers in adopting environmentally friendly innovations. In collaboration with BBGI Public Company Limited, a member of the Bangchak Group, has developed microorganisms that can decompose rice straw within seven days. This reduces the need for burning and helps restore soil quality. Besides reducing PM 2.5 dust, it also enhances soil fertility in the long term. Bangchak is committed to creating a low-carbon society with everyone’s participation, promoting Thai farmers to adopt eco-friendly agricultural practices, and positively impacting air pollution reduction and climate change. The pilot area covers 59,000 rai in 4 provinces around Bangkok: Pathum Thani, Lopburi, Chainat, and Suphanburi, aiming to help over 2,400 farmers sustainably transition to environmentally friendly farming practices.

Koh Mak Low Carbon Destination

To enhance the capacity for seagrass habitat restoration (blue carbon), the project builds on the goal of “Koh Mak as a Model for Low Carbon Tourism Community” (The Green Destination Top 100 of the World). In collaboration with the Faculty of Fisheries, Kasetsart University, and various partners, the project focuses on one of the three key areas: restoring and conserving marine ecosystems to absorb carbon. This year, discussions were held to develop a seagrass cultivation building and enhance community capacity in seagrass habitat conservation, building on their existing expertise in coral conservation. Additionally, the Company partnered with the Department of Marine and Coastal Resources to hold public hearings and meetings with relevant agencies to develop a sustainable management plan for Koh Mak, defining the scope and goals for sustainable natural resource utilization.

Koh Mak Low Carbon Destination	Unit	2023	2024
Green Entrepreneurs (Accommodation / Restaurants / Shops / Cooking School) (Greenhouse gases calculated from electricity and guidelines for reducing greenhouse gases) (Accumulated)	Places	11	11
Study, conservation, restoration of seagrass sources, Koh Mak islands (Accumulated)	Rai	22.3	22.3

Low Carbon Business Development
(Platform for Growth)



The development of the Platform for Growth for sustainability reflects that every growth phase of the Bangchak Group maintains a balance of value and worth, ensuring energy accessibility and security while advancing towards a low-carbon society. The synergy of business benefits not only enhances production efficiency and reduces costs, creating economic value, but also adds value to society and the environment. This approach delivers a positive experience to consumers, communities, and society by providing environmentally friendly products and services. For example:

- BSGF Company Limited (BSGF) operates a business producing Sustainable Aviation Fuel (SAF) from used cooking oil. SAF is a sustainable energy alternative that meets the needs of the transportation sector.
- Winnonie Company Limited operates a business of leasing electric motorcycles and aims to become a leader in providing the Battery as a Service (BaaS) platform With 108 battery switching stations and 946 accumulated lessees, and cut greenhouse gas emissions by 3,500 tons of CO₂ equivalent when compared to using fuel.

In addition to these key projects, the year 2024 witnessed severe natural disasters, clearly demonstrating the impacts of climate change. The Company promptly responded by providing aid, relief, and rehabilitation to disaster-affected areas through the Bangchak Pun Nam Jai (Sharing Kindness) initiative. Collaborating with various partners, the Company mobilized resources, both physical and financial, to assist those affected and restore normalcy. Starting with ‘what is close at hand,’ the Company utilized Bangchak fuel cards, which were distributed through local partners to ensure rapid access to affected areas. Additionally, Bangchak Green Miles members participated in the initiative by donating accumulated points and complimentary drinking water from fuel purchases to the disaster-stricken areas.

Bai Mai Pun Suk Foundation



The Bai Mai Pun Suk Foundation is a public charity organization that collaborates with partners to advance youth development in both education and environmental sectors. One of its key initiatives is the “Fun Reading and Writing Project: Transforming Little Kids into Great Kids,” which aligns with SDG4: Quality Education. This project involves training first-grade teachers and developing students’ literacy skills, ultimately creating “model schools and exemplary teachers” within the program. This year, over

70 schools have joined the project, which operates in two formats: on-site in 40 remote schools in the highlands of Mae Hong Son Province, and online with 30 schools nationwide. Additionally, the foundation has developed an environmental curriculum and a circular economy program for upper primary school students. This initiative aims to establish a “Fry to Fly” station to promote the collection of used cooking oil from households.

Special Projects

The Fulfilling Societal Happiness Project



The project was initiated to commemorate His Majesty the King’s 6th cycle, 72nd Birthday Anniversary and to commemorate Bangchak’s 40th anniversary, as part of the Company’s journey towards becoming a sustainable organization for the next 100 years, known as Bangchak 100X. In collaboration with partners, the “Fulfilling Societal Happiness” project aims to spread endless happiness, or ‘Regenerative Happiness,’ to Thai society through various missions. It invites customers, employees, and the general public to participate in creating a sharing society and promoting green spaces, supporting innovation, and enhancing biodiversity. Key activities include donating a mobile blood donation vehicle to enhance the blood collection capacity of the National Blood Center, Thai Red Cross Society, providing fuel cards to 72 social organizations, installing solar power systems and improving the landscape of the Chang Hua Man Royal Project in Phetchaburi Province, creating 15-minute gardens and improving the landscape of small parks around operational areas (Phra Khanong, Khlong Toei, and Bang Na districts),

developing green spaces in Bang Kachao, and distributing over 36,000 saplings to the public through the “Punsook Urban Greenery” activity to create shades.









Genwit - New Generation Geniuses Presented by Bangchak Group

In celebration of Bangchak’s 40th anniversary, the Bangchak Group is organizing the Genwit academic competition, which awards the prestigious trophy of Her Royal Highness Princess Maha Chakri Sirindhorn. This competition follows the principles of STEM education (Science, Technology, Engineering, and Mathematics) to foster interest and lay the foundation for national development. The aim is to create a platform that propels the new generation, brimming with intelligence, to grow into quality professionals in the future. The program showcases the brilliance of Thai children in both IQ and EQ, emphasizing that 21st-century youth must possess leadership, communication, and teamwork skills. It also demonstrates that science is an accessible and exciting subject, transforming academic perceptions into fun, thrilling, and unique experiences. This competition has gained significant popularity and interest.



Table showing the percentage and proportion of expenses in business activities and processes that respond to society:

Type of Philanthropy Activities	Percentage of Total Costs		
	2022	2023	2024
 Charitable Donations	2.83	2.27	7.93
 Community Investment	11.72	29.55	32.28
 Commercial Initiatives	85.45	68.18	59.79

Type of Contribution	Total Amount in THB Million		
	2022	2023	2024
 Cash	214.6	196.5	191.0
 Time	2.1 (9,375 hours)	2.6 (11,296 hours)	3.32 (11,985 hours)
 In-kind	4.4	14.2	35.0
 Management Overheads	14.7	17.7	20.2
Total	235.8	231.0	249.5

Human Capital Development

The Company places great importance on sustainable human resource management. Over the past year, the acquisition of shares in Bangchak Sriracha Public Company Limited not only strengthened business synergy and operations management but also posed challenges in human resource management. This challenge is comparable to two individuals from different households and upbringings coming together as one family. The focus is on fostering harmony and advancing both employees and the organization. By fostering understanding, open-mindedness, two-way communication, and collaborative efficiency under the **100XHappiness** strategy through the **BEST Employer** framework, the Company aligns operations with its organizational values, “**i am bcp,**” to drive organizational agility, focus on employee development (Talent Focus), engage leadership skills and effectiveness, foster employee engagement.

Management Structure

The Company has developed strategies for employee care and development through the Management Development Committee (MDC) and the Management Development Subcommittee (Sub MDC) for each business group. These committees oversee the implementation of employee care and development policies, ensuring compliance with the Labor Protection Act. Policies are established in the employee work regulations and adhere to the respect for human rights, clearly stated by the Company. For example, the policies specify working hours, holidays, overtime conditions, and holiday work requirements, which must have the employee’s consent. In cases of overtime or holiday work, the Company provides benefits beyond legal requirements, including cost-of-living assistance and commuting allowances.



This ensures a discrimination-free work environment where employees can find happiness and pride in their contributions. It promotes a learning-supportive workplace, prepares employees to adapt to technological changes in the digital age, and encourages diversity and equality to create an inclusive culture that embraces differences. Employee quality of life is prioritized through the development of comprehensive and balanced welfare programs, supporting long-term work efficiency. The Company also instills moral and ethical values in employees, fostering a culture of being good, knowledgeable, and helpful to others. This empowers employees to contribute to the organization, society, and the environment, ensuring long-term sustainable success.

The Company also encourages employees to share constructive feedback through various channels, such as the Employee Engagement Survey, CEO Box, Web-board, Town Hall meetings, and representation by the Employee Committee. In 2024, elections were held for the Employee Committee for the 2024-2027 term, comprising 6 elected employees and 7 representatives appointed by the labor union, totaling 13 members. This committee acts as the employees’ voice, collaborating with executive representatives to improve employee benefits and welfare. Quarterly meetings are held as required by law, with the Company supporting committee and union activities, providing facilities and election equipment, and ensuring the freedom to establish and participate in labor unions.

The Company communicates news through internal communication channels and ensures freedom of expression and negotiation as permitted by law. Information obtained through these processes is used to enhance employee care policies, aligning with business directions and rapidly changing circumstances. As of now, the labor union consists of 439 Company employees, representing 32.42% of the workforce. All employees are covered by the same collective bargaining agreement and are supported under the 100xHappiness.

Moreover, the Company has established a Well-being Working Committee to align with the labor potential development guidelines for organizational well-being as set forth by the Ministry of Labor and the Thai Health Promotion Foundation (ThaiHealth). This working committee plays a key role in driving employee care initiatives, participating in labor relations evaluations, and assessing organizational well-being. It also engages in experience-sharing activities on labor relations management alongside organizational well-being promotion in collaboration with the Ministry of Labor.

As a result of these efforts, the Company received the National Large Enterprise Excellence Award from the Ministry of Labor in 2024 and the National Excellence Award for Organizational Well-being at the highest level in 2024 from the Department of Labor Protection and Welfare, in collaboration with ThaiHealth.



Workforce Planning and Recruitment

The Company applies the “i am bcp” values in its recruitment process to select talented individuals capable of growing sustainably alongside the organization. Special focus is placed on recruiting the next generation of talent with creative thinking, adaptability, boldness in ideas, actions, and decision-making, as well as customer understanding. These candidates also exhibit strong commitment and a sense of ownership in their work. Amid the challenges of business expansion, the Company has adopted Proactive Recruitment strategies, employing diverse recruitment methods, including:

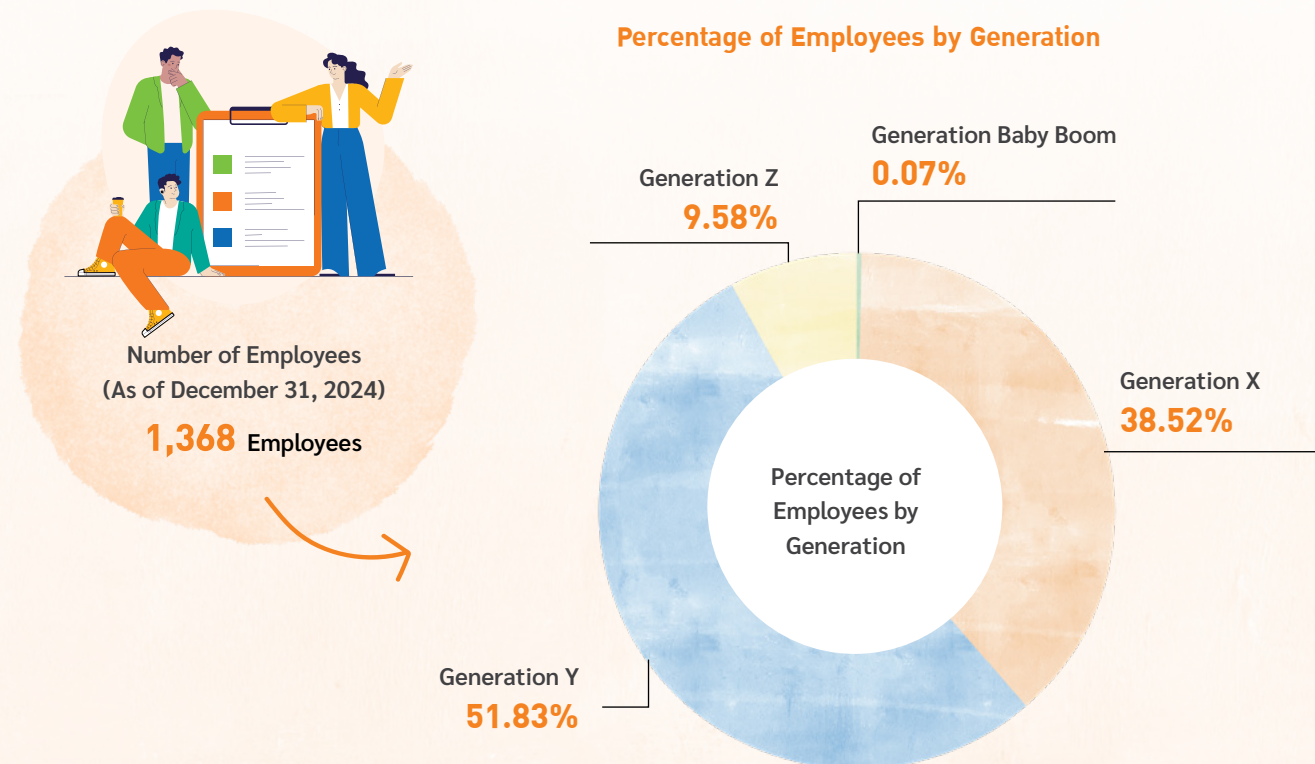
Key Strategy

- Aligning workforce planning and capabilities with the Company’s three-year strategic plan.
- Ensuring valuable and equitable hiring practices.
- Attracting younger generations by promoting the Company’s positive image through online media, increasing awareness and interest in joining the organization.
- Reducing recruitment time.

Projects and Activities

- Conducted roadshows at educational institutions and participated in various job fairs, attracting interest from over 1,000 students, undergraduates, and members of the general public.
- Support for undergraduate to postgraduate scholarships in STEM fields.
- Bangchak Talent Internship Program 2024 which welcomed students from both domestic and international institutions for internships. With over 1,000 applicants, 125 candidates were selected to participate. Those selected gained hands-on work experience and had the opportunity to join the “Bangchak Young Greenovator” program. In this program, participants engaged in real-world business case studies from Bangchak Group, involving the design, development, and data exploration in real environments. They presented their solutions to a panel of senior executives, who acted as mentors and judges. Winning teams received supportive awards, and their projects were given opportunities for further development and practical application within Bangchak Group’s business operations.

The Company upholds the principle of selecting candidates based on knowledge, abilities, and potential that align with the organization culture. It supports full-time employment for all employees, offering comprehensive benefits. The recruitment policy is inclusive, targeting diverse age groups and emphasizing equality in all dimensions, including gender, age, ethnicity, religion, and educational background. The Company also employs individuals with disabilities in appropriate positions, with a total of 12 persons hired. This number corresponds to 1% of the total workforce, adhering to Section 33 of the Persons with Disabilities Empowerment Act, B.E. 2550 (2007).



With all these commitments, the Company was recognized as one of the Top 50 Companies in Thailand for 2024. Additionally, it ranked among the top 10 most desirable companies for younger generations to work for, according to a survey conducted by WorkVenture Technologies Company Limited, which gathered responses from over 11,000 young individuals. This recognition reflects the Company's success in establishing itself as an attractive workplace in today's environment.

Employee Development by Bangchak Learning Academy

The Company is committed to developing future leaders and fostering rapid business growth across all business groups through the Bangchak Learning Academy. This academy designs courses that prepare employees at all levels to meet competency standards efficiently, following the Best Employer approach. It systematically plans for the development of future leaders, enhancing knowledge, skills, and attributes that align with the organizational values, "i am bcp." The academy adopts a blended learning system, enabling participants to enhance creativity and innovation through design thinking processes, as well as hands-on learning. Participants receive guidance from senior executives, learn from expert instructors, and exchange experiences with peers. Training also includes strengthening digital and AI knowledge and supporting the use of digital tools to transform workflows into digitalization. Activities promoting practical experience include initiatives like the Bangchak Group Digital Contest, held consecutively for 3 years, and the AI & Digital Challenge 2024.

Furthermore, the Company has developed the My Career Passport system to assist employees in planning their career path development. It involves creating individualized learning plans aligned with the competencies required for each position, while enhancing employees' mindset, skillset, and toolset. The Company has also established a Talent Development & Succession Plan to nurture high-potential employees and plan for succession in critical positions, including roles in new business ventures. In addition, it expands educational opportunities by introducing part-time scholarships for Bangchak Group employees to pursue short courses, as well as master's and doctoral degrees, under the Company's specified conditions. This initiative complements the existing full-time scholarship program, promoting well-rounded employee development and fostering personal and professional growth. These efforts aim to prepare employees to become professional leaders capable of driving the organization sustainably into the future.

Employee Development Programs

- Mandatory Program: Designed to support the organization's business growth and to develop leadership qualities across all employee levels.** This program includes mandatory courses tailored to each level of the workforce, aligning with the organization's Vision, Mission, and Values (VMV) with key focus on equipping employees with knowledge and skills in management, business understanding, mindset development, and internal organizational knowledge.
- Talent Development & Succession Planning:** Nurturing high-potential employees for readiness of successors for critical positions within the organization in the future by evaluating performance, growth potential, strategic planning, and leadership skills.
- Leadership Development:** Enhancing leadership among executives from the managerial level upwards through internal training courses on coaching & mentoring, alongside external programs to learn best practices from leading companies. Special lectures on various topics are also organized to strengthen managerial concepts in employee management and provide tools and methods for fostering strong internal relationships.
- Online Learning:** The Company emphasizes flexible learning for employees, enabling them to access educational resources anytime, anywhere. Employees can select courses based on their personal interests, facilitated by Conicle, the platform provider for the Company's online learning system.
- Knowledge Management System (BCP-KMS):** The Company enables employees to exchange and share knowledge related to their work, lessons learned, and practical tips and tricks to preserve the organization's critical knowledge and align with long-term strategic goals essential for business operations. In 2024, the system saw the addition of more than 15 new knowledge topics.
- Employee Scholarship:** In 2024, the Company expanded educational opportunities by introducing part-time scholarships for Bangchak Group employees. These scholarships support studies in short courses, as well as master's and doctoral programs, under conditions specified by the

Company. This initiative complements the existing full-time scholarship program, which already provides funding for employees of the Company and Bangchak Group to pursue master's and doctoral degrees both domestically and internationally, in accordance with the Company's terms.

- **Innovation & Design Thinking Program:** The Company emphasizes this program as a part of employee training at all levels, targeting new hires and employees preparing for role advancements. It is conducted as a hands-on workshop aimed at enhancing work efficiency, reducing costs, adding value to the business, and promoting innovation to develop new ventures. Beyond providing knowledge

through structured training plans, the program evaluates learning outcomes through pitching projects, where employees present innovative proposals in the Wrong DI (Wrong Deliver Innovation) project.

- **Digital Transformation Organization:** The Company has initiated the Bangchak Group Digital Contest, titled the AI & Digital Challenge, to encourage employees to integrate various digital tools into their workflows, transforming processes through digitalization. Before the competition, the IT team provides training sessions to educate employees on the effective use of digital tools. This year marks the fourth season of the program, which has been held consecutively for the past 3 years.



Through systematic development efforts, the Company was rewarded with the Global Most Innovative Knowledge Enterprise (MIKE) Award 2023, recognized as one of the world's leading organizations in knowledge management and innovation for the second consecutive year. This reflects the Company's dedication to fostering knowledge management, driving innovation, and promoting knowledge exchange among employees. Over 1,000 organizations worldwide participated in the MIKE Award selection process.

Performance Evaluation and Compensation Management

The Company promotes an equitable work environment that embraces diversity in gender, age, religion, race, and other dimensions. Compensation, growth opportunities, and evaluations are determined primarily by knowledge, abilities, and the expectations of each job level. The Company benchmarks compensation and benefits against the petroleum industry, related sectors, and external conditions to ensure that adjustments align with organizational strategy, enhance competitiveness, manage costs efficiently, foster fairness, and satisfy employees. Additionally, the Company encourages engagement and supports the development of a "High-Performance Culture" in line with Best Employer practices.

Survey results indicate that the Company's compensation structure is competitive in the labor market and exceeds the minimum wage. Employee compensation is determined based on the annual performance management system, which includes:

1. Individual Key Performance Indicator (KPI)
2. Desired work behaviors evaluated by supervisors
3. Potential Assessment conducted by colleagues to provide diverse perspectives

The Company employs a diverse performance evaluation system to suit the nature of each role and comprehensively reflect performance. Key Performance Indicators (KPIs) are utilized as the primary tool under the Balanced Scorecard framework

(Kaplan & Norton), encompassing four perspectives: Financial, Customer, Internal Process, and Learning & Growth. Additionally, processes and outcomes are designed and executed according to the Thailand Quality Award (TQA) criteria, developed from the Baldrige National Quality Award (MBNQA) of the United States, which is recognized in over 90 countries worldwide. Employees are required to take responsibility for KPIs at 3 levels: Organization KPIs, Business Group KPIs, and Individual KPIs, to ensure alignment with organizational goals and support the establishment of a High-Performance Organization (HPO). Furthermore, the Company has adopted Multidimensional Performance Appraisals, such as:

- Potential Assessment for employees at various levels, conducted by direct supervisors, colleagues, and managers from other departments to provide diverse perspectives
- Team-based Appraisal and Agile Conversations, focusing on continuous exchange of feedback and ideas.

The performance evaluation is conducted equitably and free from discrimination where the process includes goal-setting, performance monitoring, and annual performance review in collaboration with supervisors. It promotes a culture of constructive feedback to help employees recognize their strengths and areas for improvement, both in the form of formal evaluations, conducted twice a year, and supportive activities. With up to 94% of employees engaging in discussions with their supervisors and informal feedback is available at all times through the i am bcp Point system, which applies the STAR (Situation, Task, Action, Result) principle for feedback exchanges.

Evaluation results are not only used to determine compensation but also to enhance potential, knowledge, skills, and career progression planning. The Company has established High Potential & Fast Track criteria for promotions, considering past performance, growth potential, and completion of mandatory courses at specified levels. This framework fosters motivation and supports sustainable employee development within the organization.

Employee Engagement Management

The results will be analyzed to develop employee care strategies aimed at continuously enhancing engagement and involvement. The focus is on fostering happiness across 4 dimensions, driven in parallel with the promotion of the Company's core values, "i am bcp." The details are as follows:



Dimension 1 Happy Stay

- Continuously developing the Sport Complex project on an area over 30 rai, with internationally standard sports facilities that accommodate up to 12 types of sports to enhance convenience for employees.
- Carrying out workplace environment enhancement projects across more than 20 locations, receiving employee feedback to guide renovations.



Dimension 2 Happy DNA, which is developed under i am bcp

- Promoting ownership and understanding of the "i am bcp" values through the Core Value Journey plan, focusing on building awareness and encouraging action through commitments. This involves communicating via the "i am bcp story," the "i am bcp" handbook, and hosting workshops like "Cultivating i am bcp Values."
- Integrating core values with human resource management systems by designing the "Behavior Index for Recruitment", incorporating it into performance management, and implementing the Performance Feedback Challenge.
- Driving the initiative alongside Transformation & Synergy efforts, supporting the Company's 2024 goals as the major shareholder in Bangchak Sriracha Public Company Limited (BSRC).



Dimension 3 Happy Me

- The Company enhances employee benefits (Disclosure 401-2) by providing the following:
 1. Medical expenses for employees and their families (inpatient and outpatient services)
 2. Medical expenses for parents (inpatient and outpatient services)
 3. Dental care for employees and their families
 4. Life and accident insurance
 5. Social security
 6. Annual health check-ups
 7. Onsite medical facilities
 8. Provident fund/pension
 9. Educational support for children
 10. Childcare allowances
 11. Housing loan benefits
 12. Funeral assistance
 13. Income replacement for non-work-related disabilities
 14. Service awards policy
 15. Annual leave, personal leave, sick leave, and birthday leave
 16. Maternity and parental leave (Disclosure 401-3):
Female employees are entitled to 98 days (16 weeks) of paid leave for prenatal check-ups, childbirth, and childcare. Male employees can take 1 day of paid leave to care for their spouse after childbirth and 15 days (2 weeks) of paid leave for childcare.
- The Company has been continuously implementing employee health and well-being initiatives for over 5 years, and this year, additional services and activities have been introduced. These include an online psychiatric consultation platform, relaxation massage services, and acupuncture by traditional Chinese medicine practitioners. Moreover, mobile dental care and cervical cancer screening are being provided at workplaces, the working hours of the in-house physicians have been extended, with specialized medical clinics scheduled every month. In addition, monthly health knowledge sessions are organized by the in-house medical team to address current health issues and flu vaccinations are provided.



Dimension 4 Happy Heart

- BCP Town Hall activities are organized to directly communicate business directions, performance, and significant updates from the CEO and the Senior Executive Vice President. In 2024, a total of 3 sessions were conducted and internal Town Halls were held across all business groups.
- CEO Box channel: The Company has established the CEO Box as a channel for all employees to anonymously share their opinions or ideas which the CEO directly responds to employees through this platform.
- Restructuring and Retirement: In cases of organizational adjustments involving production, sales, or services that result in workforce reductions, the Company provides employees with at least 60 days' notice and compensation as required by law (Disclosure 402-1 a). This is outlined in the employee handbook and is reviewed and jointly agreed upon by the Employee Committee, representing the labor union, and the Company's executives (Disclosure 402-1 b). Additionally, the Company has expanded the option for employees to retire starting from the age of 55. For employees nearing retirement, the Company places significant emphasis on preparing them for retirement.
- The "Me Money" project promotes financial stability for employees, focusing on financial management, fund management, tax planning, and retirement planning. It also includes personalized financial consultation clinics.
- The "50 Families, 50 Good Deeds" project was launched to celebrate the Company's 50th decade. It encourages employees and their families to engage in various forms of good deeds and honors the "Best of Goodness" as a model of inspiration for both the organization and society.
- Relationship-building activities were organized throughout the year to strengthen relationships between senior executives and employees, fostering organizational unity and promoting the "i am bcp" values. Employees were encouraged to take part in designing these activities to enhance engagement.



In 2024, the Company conducted a survey on employee quality of life, focusing on benefits and financial management, leading to improvements in 4 key areas. These included expanding the scope and criteria of flexible benefits to cover outpatient medical expenses, such as prescription eyeglasses, fitness memberships, exercise equipment, and sports shoes, aimed at promoting employee health. In addition, housing benefits were enhanced by adjusting loan limits and structures, along with financial programs to support personal stability and allowances for child education and meal expenses for overtime and holiday work were also increased. Furthermore, systems were developed to streamline benefit usage, including a funeral notification system, a travelling request system, an emergency financial assistance system, and a child assistance reimbursement system. These projects collectively aim to enhance employees' physical and mental well-being while fostering sustainable living within the organization.

In 2024, the Company participated in an evaluation by Kincentric (Thailand) Company Limited, a global expert in human resource assessment and development. Key factors influencing organizational sustainability were considered, including employee feedback, human resource management processes, corporate policies, and overall organizational alignment. A total of 1,306 employees out of 1,327 participated in the survey, representing 98%. In the same year, the Company was honored with the "Kincentric Best Employer Thailand 2024" award, becoming the first and only company in Thailand's oil industry to receive this distinction, reaffirming its excellence in employee care with an employee engagement score of 82%.

Additionally, the Company received the HR Asia Best Companies to Work For in Asia 2024 award for the third consecutive year, the Thailand Corporate Excellence Awards 2024 for Excellence in Human Resource Management from TMA, and, for the first time, the Excellence in Employee Engagement award from the HR Excellence Awards 2024.

Performances in Human Resource Management

Workforce Planning and Recruitment	2021	2022	2023	2024
Proportion of successful hires achieved according to the plan (Target)	90% (90%)	92% (90%)	100% (94%)	95% (95%)
Employment of persons with disabilities (Target)	11 person (11 person)	11 person (11 person)	12 person (11 person)	12 person (11 person)
New employees recruitment period (Target)	42 days (42 days)	42 days (42 days)	40 days (42 days)	40 days (40 days)
New employee hiring rate	43 person	57 person	124 person	238 person
Retention Rate (The rate of retaining new employees from leaving within their 1 st and 2 nd years of employment) (Target)	97% (85%)	85.86% (85%)	87.22% (85%)	87.66% (85%)

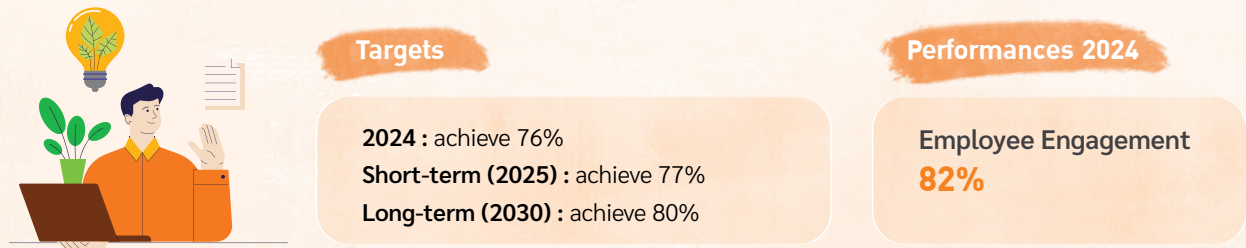


Employee Development	2022	2023	2024
Success in developing competency & skill set	≥ 70%	≥ 75%	≥ 76%
Success in developing Career Development Plan for Talent & Successor employees	≥ 80%	≥ 85%	≥ 80%
Number of employees enrolled in online learning and BCP-KMS system within the organization	≥ 80%	≥ 85%	≥ 89%

Performance Evaluation and Compensation Management



Employee Engagement Management



These achievements stem from employee care under the 100XHappiness strategy, which aims to deliver 100 times the happiness to all employees while driving the Company toward the Bangchak100X goal of sustainable growth for 100 years as a leading business group in energy transition.



Unity under “One Leaf”: The Company has implemented its approach and expanded operations across the Bangchak Group, especially through its acquisition of shares in Bangchak Sriracha Public Company Limited (BSRC). This initiative focuses on fostering unity under the concept of “One Leaf” and enhancing the capabilities of employees at all levels. During this organizational transition, efforts are being made to synergize operations, strengthen organizational culture, and align employee values with the Company’s growth objectives. The process began with the hiring of expert external consultants to study human resource management, salary structures, job responsibilities, organizational culture, communication methods, and team preparation to welcome employees into the Bangchak family. Post-integration, key operational structures have been established as follows:

- **Establishing a centralized structure for human resource management and services (Shared Services),** providing HR-related functions such as recruiting, managing benefits, conducting training, and evaluating performance. This approach focuses on enhancing efficiency, reducing redundancies, and creating consistent standards across the group.



- **Integrating Organizational Culture:** The Company integrates the i am bcp values with BSRC’s culture, resulting in the establishment of “I AM BSRC” values. This aims to create mutual understanding and instill unity within the organization.
- **Developing Skills and Potential by the Bangchak Learning Academy:** Expanding its training programs to include skill development initiatives, such as digital transformation and the use of digital technologies in which a total of 60 BSRC employees participated in workshops.



- **Promoting Employee Engagement:** Conducting Employee Engagement Survey using standardized formats and gathering employee feedback through activities like “CEO Teatime.” The results were used to implement improvements such as enhancing workplace environments and introducing additional employee care programs, including pre-retirement preparation, financial planning, and utilizing social security benefits.

Human Rights

The Company recognizes the importance of managing human rights and environmental issues systematically in its business operations. The business is conducted on the basis of respecting the rights of stakeholders, including those with diverse gender identities (LGBTQ+), and embracing differences in thoughts as well as other social equality aspects such as religion, color, race, nationality, and vulnerable populations such as people with disabilities, children, and indigenous peoples. It also respects the environment. These principles are integrated into business operations with a commitment to preventing risks and impacts arising from human rights and environmental violations affecting stakeholders. To ensure that the business respects human rights and the environment, the Company has a business responsibility policy for human rights and environment, strictly adhering to international human rights organizations which serves as a framework for the Board of Directors, executives, and employees at all levels to follow.



Key Strategy	Performances in 2024	Short-term / Long-term Targets 2025 / 2030
 Assessing impact at every stage of business operations impacting human rights covering 5 human rights risk groups.	<ul style="list-style-type: none">Assessed impact covering 5 groups of stakeholders: employees, communities, contractors, suppliers, and customers.No complaints regarding harassment and discrimination.No complaints regarding labor and human rights.	<ul style="list-style-type: none">No complaints regarding harassment and discrimination.No complaints regarding labor and human rights.

Remark: Specified only widespread complaints.


Human Rights Due Diligence




Frequency: Continuously carried out every year, with the results published on the Company's website.






Operating Activities in 2024

- 


1 Conducted annual human rights and environmental risk assessments. The Company shall perform comprehensive human rights due diligence based on the Human Rights Commission’s guidelines, covering significant human rights risks during operations and their impact on various vulnerable groups.
- 


2 Included human rights risk assessment topics in the Supplier Code of Conduct to promote sustainable business development to support practices and confirm that suppliers respect human rights. It also supported organizational employees in addressing issues if there are human rights violations by supplier entities.




More Information Available in
 [Bangchak Supplier Code of Conduct](#)
- 

3 Communicated, built understanding, and instilled responsibility for human rights by conducting training both within and outside the organization.

Percentage of stakeholders who received communication and knowledge in 2024	Communicated the policy	Engaged in learning and testing
Employee <ul style="list-style-type: none">Engaged in learning on harassment and sexual harassment, and conducted human rights knowledge tests at least once a year.	100	100
Security Guard	100	-
- 

4 The Company has developed a comprehensive Human Rights Due Diligence (HRDD) manual to establish operational guidelines, prevent and mitigate impacts, and avoid human rights violations, including those affecting the environment and communities resulting from the Company’s activities and supply chain. This includes assigning responsible parties, establishing remediation mechanisms, allocating budgets, and implementing measures in cases of violations leading to compensation.
- 

5 Implemented the National Action Plan (NAP) on Business and Human Rights, such as employing people with disabilities and promoting breastfeeding projects by providing appropriate spaces and refrigeration to preserve milk quality.
- 

6 Reviewed the process, mitigation measures, and measures for handling complaints and whistleblower reports.

Human Rights Risk Assessment Performances	Employees	Suppliers (Tier 1 Contractors and Suppliers)	Group Companies
Percentage of risk assessments conducted over the past 3 years	100	100	100
Percentage of identified risk issues	0	0	0
Percentage of identified risks with mitigation measures	0	0	0

Major Awards for Promoting Corporate Human Rights in 2024



Winner of the Women’s Empowerment Principles (WEPs) Award in the category of Innovative Financing for Gender Equality, awarded by UN Women.

Bangchak’s Digital Debentures Development project, through the Paotang system, aims to address sustainable investment by leveraging digital technology to create equal access to investment opportunities. The convenience, inclusiveness, and equality of this initiative are evident, as investors fully subscribed within just 3 minutes on the first trading day. This project has enabled people from all sectors to access high-potential investments, with investors ranging in age from 20 to 91 years old, and over 64% of investors being women. This reflects the Company’s stable business growth alongside sustainable social and community care.



Outstanding Role Model Organization for Human Rights 2024 in the large-scale business organization category, from the Ministry of Justice

Reflects comprehensive human rights practices within business processes and various stakeholder groups.

Human Rights Issues of 5 Stakeholders Groups

The Company has identified the risk issues for 5 stakeholder groups, covering the following aspects:

Employees

- Equality in various issues
- Employee rights and benefits
- Training
- Negotiations etc.

Contractors (Suppliers that provide service/ labor)

- Equality in recruitment, employment, wages, etc.
- Receiving fair treatment
- Safety training
- Expressing opinions etc.

Suppliers (Suppliers of Raw Materials/ Products)

- Production in high-risk areas for severe rights violations
- Child labor
- Non-compliance with labor, safety and environmental laws
- Non-discrimination etc.

Communities

- Acquisition and management of land
- Survey on demands and expectations
- Community engagement and activities

Customers

- Set criteria for treating customers equally
- Processes to prevent various violations, such as data protection, sexual harassment, and the violation of children’s or women’s rights, etc.

Review of Human Rights Risks and Mitigation Measures

Although there have been no complaints or disputes related to human rights, and no complaints regarding land acquisition and management being contrary to law or affecting community lifestyles in terms of resources and culture (Sector Standard Ref. 11.16.2), and the Company’s operational areas have no indigenous people living nearby (Sector Standard Ref. 11.17.3), the Company continues to review business processes to improve and reduce the chance of violations. The risk issues presented and reviewed in the key processes this year are:




Risk Issues: Ensuring that land acquisition and management comply with laws and do not impact community lifestyles, resources, and culture.

- Construction of Bangchak Service Stations:** The Company develops new Bangchak service stations in various areas, averaging 40-50 stations per year. There is a possibility of overlooking the assessment of environmental impacts, safety, and the health of communities near the project areas. To ensure compliance with relevant laws, the Company has established operational guidelines covering the construction of new service stations, both by the Company and operators, including:
- Checking land use zones with local administrative organizations
 - Submitting construction permit applications and business opening requests to relevant government agencies
 - Surveying the opinions of nearby residents
 - Publicizing project information boards at construction sites, specifying the operation period and contact numbers

Development of New Business: In cases where the business requires an Environmental Impact Assessment (EIA), the Company shall hire external parties to conduct the assessment. This includes studies covering 4 aspects of the environmental system: physical resources, biological resources, human utility value, and community quality of life value. Additionally, the Company conducts community needs surveys, develops strategic plans for sustainable community development, and establishes community development funds (if applicable). It also sets up channels for receiving complaints through various methods.

- Additionally, the Company reviews risks and human rights impact mitigation measures on various issues, such as:
- Workplace conditions of suppliers and contractors, ensuring safe and hygienic working conditions.
 - Equality in social care, covering vulnerable groups, women, indigenous people, children, disabled individuals, or other disadvantaged groups in the community.
 - Safety at service stations, preventing customer harassment, ensuring equality in service provision, and preventing violations through advertising or promotional activities.
 - Violence and sexual harassment in operational areas.



More Information Available in
 [Measures to Mitigate Human Rights Impacts](#)

Disputes and Complaints

- There have been no complaints or disputes related to human rights from the Company’s business operations and its suppliers. This includes issues related to forced labor, labor disputes, violations of freedom of negotiation, discrimination, violations of the rights of vulnerable groups (such as persons with disabilities, children, indigenous people), and significant violations of social laws or regulations. The Company has established mechanisms and remedies in case of human rights violations, such as:
- Apologies
 - Compensation in monetary and non-monetary forms
 - Halting related operations
 - Implementing damage control measures to prevent recurrence



Complaints and Whistleblowing

The Company provides channels for whistleblowing or complaints regarding human rights issues, illegal actions, and code of conduct violations from employees and stakeholders. Protective mechanisms are in place for employees and whistleblowers, including a confidential database accessible only to relevant personnel. Additionally, the Company sets up an investigation committee, composed of representatives from units without conflicts of interest, to review complaints and provide feedback within a specified timeframe, depending on the severity of the complaint. The channels for receiving complaints and whistleblowing are as detailed below.

Stakeholder-related risk issues and channels for receiving complaints and whistleblower reports	Employees	Contractors	Suppliers	Communities	Customers	Others
Hotline 1651 and Customer Service Department 0-2335-4410	●	●	●	●	●	●
Company’s Website Whistleblowing Channel:	●	●	●	●	●	●
 More Information Available in  Whistleblowing Portal						
Internal Audit Department Email: ico@bangchak.co.th	●	●	●	●	●	●
Intranet System: Labor Relations Category Form for Filing Appeals/ Complaints/ Concerns	●					
Labor Union or Employee Committee	●					
CEO BOX	●					
Facebook: Bangchak/ Bangchak Member Club		●	●		●	●
Community Relations Division: 0 2335 4102-5 and Refinery Operation: 0 2335 4051				●		

Sustainability Performance Statistics

Governance and Economic Performance	154
Environmental Performance	158
Social Performance	179

Governance and Economic Performance

Revenue						
Indicator	Material Aspect	Unit	2021	2022	2023	2024
GRI 201-1	Revenue from sales and service ¹	million THB	199,417.00	328,017.36	385,853.02	589,877.43
	Total revenue ¹	million THB	200,695.74	329,871.06	388,632.44	594,200.29
	Net Profit	million THB	9,844.72	15,152.48	11,908.38	4,040.30
	EBITDA	million THB	25,818.00	44,724.00	41,680.00	40,409.05

Expenditure for income distribution to stakeholders						
Indicator	Material Aspect	Unit	2021	2022	2023	2024
GRI 201-1	Operating expenses ¹	million THB	175,744.43	281,748.69	352,114.90	560,039.17
	Interest expenses paid to financial institution creditors and debentures	million THB	2,395.39	2,975.74	3,947.09	5,515.77
	Tax payment to government and local authorities	million THB	32,300.83	25,944.78	27,262.44	35,836.37
	Financial supports for membership of associations	million THB	2.72	3.20	3.73	4.93
	Community and social development	million THB	27.74	25.68	68.36	72.93
	Donation to society and schools	million THB	16.00	6.20	5.24	17.92
	Dividend payment to shareholders	million THB	2,672.18	4,260.85	3,208.98	3,984.90
		THB/share	2.00	2.25	1.50	2.10
	Wages and employee benefits	million THB	4,572.62	6,302.61	8,464.76	10,529.29

Remarks:

1. The subsidy from oil fuel fund has been categoried within the Revenue from sales and service since 2022.

Supply chain management						
Indicator	Material Aspect	Unit	2021	2022	2023	2024
GRI 204-1	Local purchases of goods and services ¹	million THB	1,814	5,688	3,838	3,355
	Percentage of local purchases of goods and services ¹	%	98	93	92	96

Remarks:

1. Purchasing of non-hydrocarbon goods and services in Thailand.

Compliance with laws and regulations						
Indicator	Material Aspect	Unit	2021	2022	2023	2024
GRI 417-3	Incidents of non-compliance regarding marketing communications					
	Significant case of customers data breach	case	0	0	0	0
	Significant case of non-compliance in marketing communication laws	case	0	0	0	0
GRI 2-27	Incidents of non-compliance with laws and regulations in the social, economic, and environmental areas					
	Significant case associated with economic and social law violation	case	0	0	0	0
	Significant case associated with environment law violation	case	0	0	0	0

Corporate income tax (Bangchak Corporation Public Company Limited) (unit: million THB)																										
Indicator	Tax jurisdiction	Number of employees (person)	Revenue												Profit / (loss) before income tax				Income tax paid (on a cash basis)				Income tax expense current year			
			Related party				Unrelated party				Total															
			2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
GRI 207-4	Thailand	6,596	57,899	73,173	69,920	156,761	149,192	237,935	311,748	460,724	207,091	311,108	381,668	617,441	11,239	21,173	13,419	(5,665)	275	1,192	1,186	2,343	19	115	1,864	259
	Japan	-	675	571	620	60	953	1,048	1,130	524	1,628	1,619	1,750	583	(220)	(55)	717	96	16	(6)	108	66	19	82	117	8
	Singapore	16	29,520	76,827	104,305	246,890	42,643	53,684	54,703	97,438	72,164	130,511	159,008	344,322	1,350	808	2,329	2,370	46	41	162	86	47	149	177	131
	The Philippines	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Australia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	The Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(5)	(5)	(5)	-	-	-	-	-	-	-	-
	British Virgin Islands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Norway	488	-	-	-	-	-	24,720	30,246	39,512	-	24,720	30,246	39,512	-	11,787	3,641	14,961	-	8,273	4,121	10,455	-	1,683	7,237	9,807
	Taiwan	7	-	12	15	18	-	-	-	9	-	12	15	27	-	(37)	(20)	(379)	-	-	-	-	-	-	-	-
	Laos	8	-	7	10	10	35	1,180	817	1,256	35	1,187	827	1,267	13	80	(12)	202	-	(38)	1	8	1	1	8	15
	The United State of America	1	-	-	-	-	-	-	-	390	-	-	-	390	-	-	236	1,274	-	-	-	166	-	-	-	116

Environmental Performance

Energy Consumption						
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited ¹			
			2021	2022	2023	2024
GRI 301-1	Raw materials used					
	Total raw materials used	tonne	6,774,151.55	8,440,006.03	8,033,064.18	10,568,568.32
	• Renewable materials	tonne	370,105.24	384,790.11	370,516.40	401,488.01
	• Non-renewable materials	tonne	6,404,046.31	8,055,215.91	7,662,547.78	10,167,080.31
GRI 2-6	Product sales and transportation					
	Products sales	ML	10,894.40	13,190.74	13,431.64	17,222.21
	Product trasportation	ML				
GRI 302-1	Energy consumption within the organization ^{2, 3}					
	Net energy consumption	TJ	12,241.19	13,687.68	13,647.46	13,605.10
		MWh	3,400,330.02	3,802,162.54	3,790,992.60	3,779,223.36
	Total non-renewable energy consumption	TJ	12,241.11	13,687.60	13,647.39	13,605.04
		MWh	3,400,307.15	3,802,142.27	3,790,973.21	3,779,208.19
	Total stationary combustion	TJ	12,192.15	13,640.78	13,590.41	13,534.78
		MWh	3,386,706.96	3,789,136.27	3,775,145.47	3,759,690.69
	Total stationary combustion	TJ	12,184.17	13,632.88	13,583.65	13,528.30
	• Fuel gas and LPG	TJ	4,086.32	5,080.25	4,942.27	4,379.36
	• Natural gas	TJ	8,097.24	8,552.13	8,640.92	9,148.45
	• Other fuels	TJ	0.61	0.49	0.46	0.49
	Total mobile combustion	TJ	7.98	7.90	6.76	6.48
	• Mobile fuel	TJ	7.98	7.90	6.76	6.48

Energy Consumption						
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited ¹			
			2021	2022	2023	2024
GRI 302-1	Energy consumption within the organization ^{2, 3}					
	Total electricity and steam consumption	TJ	48.96	46.82	56.98	70.26
		MWh	13,600.19	13,006.00	15,827.61	19,517.49
	• Electricity	TJ	48.96	46.82	56.98	70.26
	• Steam	TJ	0	0	0	0
	Total renewable energy consumption	TJ	0.08	0.07	0.07	0.05
		MWh	22.87	20.27	19.39	15.17
	• Wind and solar energy	TJ	0.08	0.07	0.07	0.05
	Total energy sold	TJ	0	0	0	0
		MWh	0	0	0	0
GRI 302-3	Energy Consumption for Production (%FOEB)					
	Energy Consumption for Production (%FOEB)	% FOEB	5.24	4.83	4.90	5.20

Remarks:

1. Main operating areas consist of Bangchak Refinery and Oil Depot at Sukhumvit 64, Bang Pa-in Oil Depot, Surat Thani Oil Depot, Refinery Office, Head Office Building, Central Business Center, Northeast Business Center, Northern Business Center, and Southern Business Center.

2. Conversion of fuel to energy by applying heating value provided by the Department of Alternative Energy Development and Efficiency.

3. Transporting finished petroleum products is included in the refinery business's downstream transportation and distribution, excluding heavy fuel oil and lubricant transportation.

Energy Consumption ^{1,5}											
Indicator	Material Aspect	Unit	Bangkok Fuel Pipeline and Logistics Co., Ltd. ²		BCP Trading Pte. Ltd. ²		Bangchak Green Net Co., Ltd. and Bangchak Retail Co., Ltd.				
			2023	2024	2023	2024	2021	2022	2023	2024	
GRI 301-1	Raw materials used										
	Total raw materials used	tonne	N/A	N/A	N/A	N/A		1,403,423.88	922,044.68		
	• Renewable materials	tonne	N/A	N/A	N/A	N/A		0		0	
	• Non-renewable materials	tonne	N/A	N/A	N/A	N/A		1,403,423.88	922,044.68		
GRI 2-6	Product sales and transportation ³										
	Products sales	ML	N/A	N/A	N/A	N/A					
	Product trasportation	ML	4,416.80	5,452.44	N/A	N/A	N/A	N/A	N/A	N/A	
GRI 302-1	Energy consumption within the organization ⁴										
	Net energy consumption	TJ	41.46	58.31	0.02	0.03	91.12	65.53	60.90	63.71	
		MWh	11,517.71	16,196.12	4.76	8.22	25,310.01	18,091.27	16,916.74	17,697.54	
	Total non-renewable energy consumption	TJ	41.46	58.31	0.02	0.03	91.12	64.34	60.16	62.63	
		MWh	11,517.71	16,196.12	4.76	8.22	25,310.01	17,873.21	16,712.55	17,396.72	
	Total stationary combustion	TJ	0	0	0	0	7.53	8.88	8.31	8.51	
		MWh	0	0	0	0	2,092.74	2,466.67	2,309.24	2,363.52	
	Total stationary combustion	TJ	0	0	0	0	0	0	0	0	
	• Fuel gas and LPG	TJ	0	0	0	0	0	0	0	0	
	• Natural gas	TJ	0	0	0	0	0	0	0	0	
	• Other fuels	TJ	0	0	0	0	0	0	0	0	
	Total mobile combustion	TJ	0	0	0	0	7.53	8.88	8.31	8.51	
	• Mobile fuel	TJ	0	0	0	0	7.53	8.88	8.31	8.51	
	Total electricity and steam consumption	TJ	41.46	58.31	0.02	0.03	83.58	55.46	51.85	54.12	
		MWh	11,517.62	16,196.12	4.76	8.22	23,217.26	15,406.54	14,403.19	15,033.20	
	• Electricity	TJ	41.46	58.31	0.02	0.03	83.58	55.46	51.85	54.12	
	• Steam	TJ	0	0	0	0	0	0	0	0	
	Total renewable energy consumption	TJ	0	0	0	0	0	1.19	0.74	1.08	
		MWh	0	0	0	0	0	218.07	204.19	300.82	
	• Wind and solar energy	TJ	0	0	0	0	0	0.00	0.74	1.08	
	Total energy sold	TJ	0	0	0	0	0	0	0	0	
		MWh	0	0	0	0	0	0	0	0	
	GRI 302-3	Energy Consumption for Production (%FOEB)									
		Energy Consumption for Production (%FOEB)	% FOEB	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Remarks:

1. Performances of subsidiaries in the refinery and oil trading segment and the marketing segment that are significant to the business operations.

2. The energy consumption of Bangkok Fuel Pipeline and Logistics Co., Ltd. and BCP Trading Pte. Ltd. has been reported since 2023.

3. The volume of sales of oil products through Bangchak Green Net Co., Ltd. is reported at the Bangchak Corporation Public Company Limited boundary.

4. Conversion of fuel to energy by applying heating value provided by the Department of Alternative Energy Development and Efficiency.

5. N/A means not applicable.

Direct and indirect GHG emissions (scope 1 and scope 2) ^{4, 5-6, 8-12}						
Indicator	Material Aspects	Unit	Bangchak Corporation Public Company Limited ^{1,2}			
			2021	2022	2023	2024
GRI305-1	Total direct GHG emission (scope 1)					
	Total direct GHG emission (scope 1)	tCO ₂ e	821,630.61	931,381.93	940,847.78	976,280.59
	Direct GHG emission (separately reporting)	tCO ₂ e	57.50	52.32	192.98	720.97
GRI305-2	Total Indirect GHG emission (scope 2)					
	Total Indirect GHG emission (scope 2)	tCO ₂ e	6,443.53	5,843.94	7,074.94	8,612.34
	Total Indirect GHG emission (scope 2) (Location-based)	tCO ₂ e	6,443.53	5,843.94	7,074.94	8,612.34
	Total Indirect GHG emission (scope 2) (Market-based)	tCO ₂ e	6,443.53	5,843.94	7,074.94	8,612.34
GRI305-1 GRI305-2	Total GHG emission (scope 1 and 2)	tCO ₂ e	828,074.14	937,225.87	947,922.72	984,892.94
GRI305-4	GHG intensity (scope 1 and 2)					
	GHG intensity (scope 1 and 2) of production processes	tCO ₂ e/tonne of raw materials	0.12	0.11	0.12	0.09
		tCO ₂ e/ML of products				
	GHG intensity (scope 1 and 2) of office buildings	tCO ₂ e/m ²			0.08	0.09
GRI305-5	Reduction of GHG emissions					
	Reduction of GHG emissions	tCO ₂ e	8,308.62	3,531.85	12,101.63	2,406.41
GRI305-1	Total direct GHG emission (scope 1)					
	Total direct GHG emission (scope 1)	tCO ₂ e	821,630.61	931,381.93	940,847.78	976,280.59
	Direct GHG emission (separately reporting)	tCO ₂ e	57.50	52.32	192.98	720.97
GRI305-2	Total Indirect GHG emission (scope 2)					
	Total Indirect GHG emission (scope 2)	tCO ₂ e	6,443.53	5,843.94	7,074.94	8,612.34
	Total Indirect GHG emission (scope 2) (Location-based)	tCO ₂ e	6,443.53	5,843.94	7,074.94	8,612.34
GRI305-1 GRI305-2	Total Indirect GHG emission (scope 2) (Market-based)	tCO ₂ e	6,443.53	5,843.94	7,074.94	8,612.34
	Total GHG emission (scope 1 and 2)	tCO ₂ e	828,074.14	937,225.87	947,922.72	984,892.94

Other relevant indirect GHG emission (scope 3) ^{3, 4, 7}							
Indicator	Material Aspects	Unit	Bangchak Corporation Public Company Limited ^{1,2}				
			2021	2022	2023	2024	
GRI305-3	Operational control approach	Other relevant indirect GHG emission (scope 3)					
		Other relevant indirect GHG emission (scope 3)	tCO ₂ e	2,839,414.39	3,120,812.01	4,431,753.23	4,611,367.38
		• Upstream activities	tCO ₂ e	396,271.15	570,047.08	1,880,686.60	1,848,859.23
		• Purchased goods and services	tCO ₂ e	1,678.31	1,407.78	1,372,632.91	1,125,034.06
		• Upstream transportation and distribution	tCO ₂ e	394,592.84	568,639.30	440,453.88	653,518.56
		• Waste generated in operations	tCO ₂ e			67,454.64	70,097.68
		• Business Travel	tCO ₂ e			145.17	208.92
		• Downstream activities	tCO ₂ e	2,443,143.24	2,550,764.93	2,551,066.63	2,762,508.15
GRI305-3		• Downstream transportation and distribution	tCO ₂ e	28,535.84	32,147.71	39,233.27	120,447.29
		• Use of sold products	tCO ₂ e	2,414,607.39	2,518,617.22	2,511,833.36	2,642,060.86
		• End-of-life treatment of sold products	tCO ₂ e				
		Other relevant indirect GHG emission (scope 3) (separately reporting)	tCO ₂ e			375,700.74	159,913.63
GRI305-3	Equity share approach	Other relevant indirect GHG emission (scope 3)					
		Other relevant indirect GHG emission (scope 3)	tCO ₂ e	2,839,414.39	3,120,812.01	4,431,753.23	4,611,367.38
		• Upstream activities	tCO ₂ e	396,271.15	570,047.08	1,880,686.60	1,848,859.23
		• Purchased goods and services	tCO ₂ e	1,678.31	1,407.78	1,372,632.91	1,125,034.06
		• Upstream transportation and distribution	tCO ₂ e	394,592.84	568,639.30	440,453.88	653,518.56
		• Waste generated in operations	tCO ₂ e			67,454.64	70,097.68
		• Business Travel	tCO ₂ e			145.17	208.92
		• Downstream activities	tCO ₂ e	2,443,143.24	2,550,764.93	2,551,066.63	2,762,508.15
		• Downstream transportation and distribution	tCO ₂ e	28,535.84	32,147.71	39,233.27	120,447.29
		• Use of sold products	tCO ₂ e	2,414,607.39	2,518,617.22	2,511,833.36	2,642,060.86
		• End-of-life treatment of sold products	tCO ₂ e			0	0
		Other relevant indirect GHG emission (scope 3) (separately reporting)	tCO ₂ e			375,700.74	159,913.63

Remarks:

1. Main operating areas consist of Bangchak Refinery and Oil Depot at Sukhumvit 64, Bang Pa-in Oil Depot, Surat Thani Oil Depot, Refinery Office, Head Office Building, Central Business Center, Northeast Business Center, Northern Business Center, and Southern Business Center.
2. The reporting boundary of GHG emissions has been expanded to Bang Pa-in and Surat Thani Oil Depot since 2023.
3. The reporting boundary of scope 3 emissions has been expanded to crude oil purchasing and business travel activities since 2023. The GHG calculation of business travelling based on the ICAO Carbon Emissions Calculator (ICEC) principle.
4. The report of scope 1, 2, and 3 emissions data are calculated by using the BCP GHG calculation tool following IPCC 2006.
5. The emission factors from IPCC 2006 and API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry 2009 are used for scope 1 emissions calculation.
6. The emission factors from Energy Policy and Planning Office, Ministry of Energy, Thailand (EPPO) are used for scope 2 emissions calculation.
7. The emission factors from Thailand Greenhouse Gas Management Organization (TGO), IPCC, and Thai National LCI Database are used for scope 3 emissions calculation.
8. Conversion of fuel to energy by applying heating value provided by the Department of Alternative Energy Development and Efficiency.
9. Global Warming Potential (GWP) values are based on the Fifth Assessment Report (AR5) of the Greenhouse Gas Protocol.
10. Transporting finished petroleum products is included in the refinery business's downstream transportation and distribution, excluding heavy fuel oil and lubricant transportation.
11. The gases included in the green house gas calculation are CO2, CH4, N2O, and HFC.
12. N/A means not applicable.

Direct and indirect GHG emissions (scope 1 and scope 2) ^{1, 3-5, 7-11}												
Indicator	Material Aspects ¹	Unit	Bangkok Fuel Pipeline and Logistics Co., Ltd. ²		BCP Trading Pte. Ltd. ²		Bangchak Green Net Co., Ltd. and Bangchak Retail Co., Ltd.					
			2023	2024	2023	2024	2021	2022	2023	2024		
GRI305-1	Total direct GHG emission (scope 1)											
	Total direct GHG emission (scope 1)	tCO ₂ e	0	0	0	0	490.30	898.99	730.53	1,733.18		
	Direct GHG emission (separately reporting)	tCO ₂ e	0	0	0	0	56.92	241.18	123.19	234.57		
GRI305-2	Total Indirect GHG emission (scope 2)											
	Total Indirect GHG emission (scope 2)	tCO ₂ e	5,148.38	7,126.29	1.86	3.20	10,215.60	7,701.17	6,438.23	6,614.61		
	Total Indirect GHG emission (scope 2) (Location-based)	tCO ₂ e	5,148.38	7,126.29	1.86	3.20	10,215.60	7,701.17	6,438.23	6,614.61		
	Total Indirect GHG emission (scope 2) (Market-based)	tCO ₂ e	5,148.38	7,126.29	1.86	3.20	10,215.60	7,701.17	6,438.23	6,614.61		
GRI305-1	Operational control approach	Total GHG emission (scope 1 and 2)	tCO ₂ e	5,148.38	7,126.29	1.86	3.20	10,705.89	8,600.16	7,168.76	8,347.79	
GRI305-2												
GRI305-4		GHG intensity (scope 1 and 2)										
		GHG intensity (scope 1 and 2) of production processes	tCO ₂ e/tonne of raw materials	N/A	N/A	N/A	N/A		0.01	0.01		
			tCO ₂ e/ML of products	1.17	1.31	N/A	N/A	N/A	N/A	N/A		
		GHG intensity (scope 1 and 2) of office buildings	tCO ₂ e/m ²	N/A	N/A	0.03	0.02	N/A	N/A	N/A		
GRI305-5	Reduction of GHG emissions											
	Reduction of GHG emissions	tCO ₂ e										
GRI305-1	Equity share approach	Total direct GHG emission (scope 1)										
		Total direct GHG emission (scope 1)	tCO ₂ e	0	0	0	0	283.02	560.47	473.72	1,002.60	
		Direct GHG emission (separately reporting)	tCO ₂ e	0	0	0	0	39.07	181.91	75.24	141.55	
Total Indirect GHG emission (scope 2)												
Total Indirect GHG emission (scope 2)		tCO ₂ e	5,148.38	7,126.29	1.86	3.20	6,198.69	4,890.31	4,072.81	4,192.72		
GRI305-2		Total Indirect GHG emission (scope 2) (Location-based)	tCO ₂ e	5,148.38	7,126.29	1.86	3.20	6,198.69	4,890.31	4,072.81	4,192.72	
		Total Indirect GHG emission (scope 2) (Market-based)	tCO ₂ e	5,148.38	7,126.29	1.86	3.20	6,198.69	4,890.31	4,072.81	4,192.72	
GRI305-1			Total GHG emission (scope 1 and 2)	tCO ₂ e	5,148.38	7,126.29	1.86	3.20	6,481.71	5,450.78	4,546.53	5,195.32
GRI305-2												

Other relevant indirect GHG emission (scope 3) ^{1, 3, 6-11}											
Indicator	Material Aspects ¹	Unit	Bangkok Fuel Pipeline and Logistics Co., Ltd. ²		BCP Trading Pte. Ltd. ²		Bangchak Green Net Co., Ltd. and Bangchak Retail Co., Ltd.				
			2023	2024	2023	2024	2021	2022	2023	2024	
GRI305-3	Operational control approach	Other relevant indirect GHG emission (scope 3)									
		Other relevant indirect GHG emission (scope 3)	tCO ₂ e	6.26	2.34	0.00	0.00	327,709.17	378,384.31	414,073.96	266,956.93
		• Upstream activities	tCO ₂ e	6.26	2.34	0.00	0.00	327,709.17	378,384.31	414,073.96	266,956.93
		• Purchased goods and services	tCO ₂ e	6.26	2.34	0.00	0.00	327,295.77	378,329.90	413,970.98	266,475.82
		• Upstream transportation and distribution	tCO ₂ e					413.40	54.41	102.98	481.10
		• Waste generated in operations	tCO ₂ e								
		• Business Travel	tCO ₂ e								
		• Downstream activities	tCO ₂ e							0	0
		• Downstream transportation and distribution	tCO ₂ e								
		• Use of sold products	tCO ₂ e								
		• End-of-life treatment of sold products	tCO ₂ e							0	0
		Other relevant indirect GHG emission (scope 3) (separately reporting)		tCO ₂ e	0	0	0	0	0	0	0
GRI305-3	Equity share approach	Other relevant indirect GHG emission (scope 3)									
		Other relevant indirect GHG emission (scope 3)	tCO ₂ e	6.26	2.34	0.00	0.00	162,156.19	187,142.10	203,271.78	131,419.63
		• Upstream activities	tCO ₂ e	6.26	2.34	0.00	0.00	162,156.19	187,142.10	203,271.78	131,419.63
		• Purchased goods and services	tCO ₂ e	6.26	2.34	0.00	0.00	161,742.79	187,087.69	203,168.80	130,938.53
		• Upstream transportation and distribution	tCO ₂ e					413.40	54.41	102.98	481.10
		• Waste generated in operations	tCO ₂ e								
		• Business Travel	tCO ₂ e								
		• Downstream activities	tCO ₂ e							0	0
		• Downstream transportation and distribution	tCO ₂ e								
		• Use of sold products	tCO ₂ e								
		• End-of-life treatment of sold products	tCO ₂ e							0	0
		Other relevant indirect GHG emission (scope 3) (separately reporting)		tCO ₂ e	0	0	0	0	0	0	0

Remarks:

1. Performances of subsidiaries in the refinery and oil trading segment and the marketing segment that are significant to the business operations.

2. The reporting boundary of GHG emissions has been expanded to Bangkok Fuel Pipeline and Logistics Co., Ltd. and BCP Trading Pte. Ltd. since 2023.

3. The report of scope 1, 2, and 3 emissions data are calculated by using the BCP GHG calculation tool following IPCC 2006.

4. The emission factors from IPCC 2006 and API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry 2009 are used for scope 1 emissions calculation.

5. The emission factors from Energy Policy and Planning Office, Ministry of Energy, Thailand (EPPO) are used for scope 2 emissions calculation.

6. The emission factors from Thailand Greenhouse Gas Management Organization (TGO), IPCC, and Thai National LCI Database are used for scope 3 emissions calculation.

7. Conversion of fuel to energy by applying heating value provided by the Department of Alternative Energy Development and Efficiency.

8. Global Warming Potential (GWP) values are based on the Fifth Assessment Report (AR5) of the Greenhouse Gas Protocol.

9. Transporting finished petroleum products is included in the refinery business's downstream transportation and distribution, excluding heavy fuel oil and lubricant transportation.

10. The gases included in the green house gas calculation are CO2, CH4, N2O, and HFC.

11. N/A means not applicable.

Remarks:	
1. Calculated from production capacity using a third-party entity.	4. Calibrated measurement tools
2. Include VOC Inventory from combustion, flare, tank, marketing and terminal, and wastewater.	5. Include flared hydrocarbon from Plant 2, 3, 4.
3. Use emission factors from AP 42-US EPA, for VOC inventory calculation from combustion, flare, and marketing and terminal. Tank 4 program and Water 9 program are used as tools for VOC inventory calculation from tank and wastewater respectively.	6. The reporting boundary of air emissions has been expanded to the Oil Depot at Bang Pa Inn in 2024.
	7. N/A means not applicable.

Water Management						
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited ^{1, 2}			
			2021	2022	2023	2024
GRI 303-4 (2018)	Total water discharge ⁸					
	Total water discharge	million m ³	0.828	0.899	0.948	0.983
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million m ³	0.207	0.103	0.482	0.540
	• Other water > 1000 mg/L Total Dissolved Solids	million m ³	0.621	0.796	0.465	0.443
	Total water discharge by destination ⁹					
	• Surface water	million m ³	0.827	0.897	0.945	0.980
	• Third-party water	million m ³	0.001	0.002	0.003	0.003
	Total water discharge in water stressed areas					
	Total water discharge in water stressed areas	million m ³	0	0	0	0.983
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0.540
	• Other water > 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0.443
GRI 303-5 (2018)	Total water consumption					
	Total water consumption (excluding brine water from crude oil extraction)	million m ³	1.582	1.445	1.848	1.783
	Total water consumption (including brine water from crude oil extraction)	million m ³	1.616	1.484	1.859	1.789
	Total water consumption in water stressed areas	million m ³	0	0	0	1.789
	Change in water storage, if water storage has been identified as having a significant water-related impact	million m ³	0	0	0	0

Water Management						
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited ^{1, 2}			
			2021	2022	2023	2024
GRI 303-4-d (2018)	Waste water quality ^{10, 11}					
	COD	tonne	28.98	33.53	38.15	41.55
	BOD	tonne	4.86	5.76	6.62	4.40
	Oil and Grease	tonne	2.49	2.69	2.84	3.00
	TSS	tonne	4.89	5.65	8.34	6.58
	TDS	tonne	1,101.27	1,273.70	999.73	1,033.78
	Sulfude	tonne	0.26	0.45	0.47	0.49
	Mercury	tonne	0.00	0.00	0.00	0.00

Remarks:

1. Main operating areas consist of Bangchak Refinery and Oil Depot at Sukhumvit 64, Bang Pa-in Oil Depot, Surat Thani Oil Depot, Refinery Office, Head Office Building (M Tower), Central Business Center, Northeast Business Center, Northern Business Center, and Southern Business Center.
- 2.The reporting scope has been expanded to the Regional Business Centers since 2023.
3. No seawater withdrawal.
4. Collect data from pump capacity and tank volume.
5. Collect data from meter reading and invoices.
6. The total produced water withdrawal volume is collected from crude oil extraction and processing and calculated from the ratio of oil and brine.
7. The 3rd party water of all areas is withdrawn from the surface water source.
8. The total amount of water discharge was collected from the water flow meter readings and calculation of wastewater treatment system design.
9. No water discharge to groundwater and seawater sources.
10. Characteristics of water is collected from analysis result from 3rd party laboratory which is licensed by department of Industry work.
11. N/A means not applicable.

Water Management ¹							
Indicator	Material Aspect	Unit	Bangkok Fuel Pipeline and Logistics Co., Ltd. ²	BCP Trading Pte. Ltd. ²		Bangchak Green Net Co., Ltd. and Bangchak Retail Co., Ltd. ²	
			2024	2023	2024	2023	2024
GRI 303-3 (2018)	Total water withdrawal						
	Total water withdrawal (excluding brine water from crude oil extraction)	million m ³	0.006	0.000	0.000	0.507	0.546
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million m ³	0.006	0.000	0.000	0.507	0.546
	• Other water > 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0	0
	Total water withdrawal (including brine water from crude oil extraction)	million m ³	0.006	0.000	0.000	0.507	0.546
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million m ³	0.006	0.000	0.000	0.507	0.546
	• Other water > 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0	0
	Total water withdrawal by source ³						
	Surface water ⁴	million m ³	0.002	0	0	0	0
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million m ³	0.002	0	0	0	0
	• Other water > 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0	0
	Groundwater ⁵	million m ³	0.001	0	0	0.062	0.065
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million m ³	0.001	0	0	0.062	0.065
	• Other water > 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0	0
	Produced water ⁶	million m ³	0	0	0	0	0
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0	0
	• Other water > 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0	0
	Third-party water ^{5,7}	million m ³	0.003	0.000	0.000	0.445	0.481
	• Surface water	million m ³	0.003	0.000	0.000	0.445	0.481
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million m ³	0.003	0.000	0.000	0.445	0.481
	• Other water > 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0	0
GRI 303-3 (2018)	Total water withdrawal in water stressed areas						
	Total water withdrawal in water stressed areas	million m ³	0.006	0	0	0.258	0.485
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million m ³	0.006	0	0	0.258	0.485
	• Other water > 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0	0
	Total water withdrawal in water stressed areas by source ³						
	Surface water ⁴	million m ³	0.002	0	0	0	0
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million m ³	0.002	0	0	0	0
	• Other water > 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0	0
	Groundwater ⁵	million m ³	0.001	0	0	0.029	0.035
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million m ³	0.001	0	0	0.029	0.035
	• Other water > 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0	0
	Produced water ⁶	million m ³	0	0	0	0	0
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0	0
	• Other water > 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0	0
	Third-party water ^{5,7}	million m ³	0.003	0	0	0.229	0.449
	• Surface water	million m ³	0.003	0	0	0.229	0.449
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million m ³	0.003	0	0	0.229	0.449
	• Other water > 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0	0

Water Management ¹							
Indicator	Material Aspect	Unit	Bangkok Fuel Pipeline and Logistics Co., Ltd. ²	BCP Trading Pte. Ltd. ²		Bangchak Green Net Co., Ltd. and Bangchak Retail Co., Ltd. ²	
			2024	2023	2024	2023	2024
GRI 303-4 (2018)	Total water discharge ⁸						
	Total water discharge	million m ³	0.004	0.000	0.000	0.405	0.437
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million m ³	0.004	0.000	0.000	0.405	0.437
	• Other water > 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0	0
	Total water discharge by destination ⁹						
	• Surface water	million m ³	0.004	0	0	0.078	0.022
	• Third-party water	million m ³	0	0.000	0.000	0.328	0.415
	Total water discharge in water stressed areas						
	Total water discharge in water stressed areas	million m ³	0.004	0	0	0.206	0.388
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million m ³	0.004	0	0	0.206	0.388
	• Other water > 1000 mg/L Total Dissolved Solids	million m ³	0	0	0	0	0
GRI 303-5 (2018)	Total water consumption						
	Total water consumption (excluding brine water from crude oil extraction)	million m ³	0.001	0.000	0.000	0.101	0.109
	Total water consumption (including brine water from crude oil extraction)	million m ³	0.001	0.000	0.000	0.101	0.109
	Total water consumption in water stressed areas	million m ³	0.001	0	0	0.052	0.097
	Change in water storage, if water storage has been identified as having a significant water-related impact	million m ³	0	0	0	0	0
GRI 303-4-d (2018)	Waste water quality ^{10, 11}						
	COD	tonne	0.53	0.00	0.00	60.26	28.40
	BOD	tonne	0.09	0.00	0.00	19.86	6.78
	Oil and Grease	tonne	0.09	0.00	0.00	2.57	2.18
	TSS	tonne	0.22	0.00	0.00	8.92	11.58
	TDS	tonne	2.21	0.01	0.01	285.27	64.74
	Sulfude	tonne	0.00	0.00	0.00	N/A	0.35
	Mercury	tonne	N/A	0.00	0.00	N/A	N/A

Remarks:

1. Performances of subsidiaries in the refinery and oil trading segment and the marketing segment that are significant to the business operations.

2. The reporting boundary has been expanded to BCP Trading Pte. Ltd., Bangchak Green Net Co., Ltd. and Bangchak Retail Co., Ltd. since 2023 and Bangkok Fuel Pipeline and Logistics Co., Ltd. in 2024.

3. No seawater withdrawal.

4. Collect data from pump capacity and tank volume.

5. Collect data from meter reading and invoices.

6. The total produced water withdrawal volume is collected from crude oil extraction and processing and calculated from the ratio of oil and brine.

7. The 3rd party water of all areas is withdrawn from the surface water source.

8. The total amount of water discharge was collected from the water flow meter readings and calculation of wastewater treatment system design.

9. No water discharge to groundwater and seawater sources.

10. Characteristics of water is collected from analysis result from 3rd party laboratory which is licensed by department of Industry work.

11. N/A means not applicable.

Industrial Waste Management at the Bangchak Phra Khanong Refinery and Oil Depots ¹						
Indicator	Material Aspect	Unit	2021	2022	2023	2024
GRI306-3	Total waste generated by category					
	Total waste generated ²	tonne/year	2,940.80	1,729.64	12,723.76	5,819.86
	• Total hazardous wate	tonne/year	2,618.73	1,584.44	3,435.37	5,379.88
	• Total non-hazardous wate	tonne/year	322.07	145.20	9,288.39	439.98
	Total waste generated by activity					
	Routine waste ²	tonne/year	1,681.67	1,102.96	911.65	1,348.11
	• Hazardous waste	tonne/year	1,414.61	957.76	821.86	1,205.27
		percentage	48.10	55.37	6.46	20.71
	• Non-hazardous waste	tonne/year	267.06	145.20	89.79	142.84
		percentage	9.08	8.39	0.71	2.45
	Non-routine waste	tonne/year	1,259.13	626.68	11,812.12	4,471.75
	• Hazardous waste from non-routine activity ²	tonne/year	0	626.68	2,078.18	1,621.57
		percentage	0	36.23	16.33	27.86
	• Non-hazardous waste from non-routine activity ²	tonne/year	0	0	10.89	15.92
		percentage	0	0	0.09	0.27
	• Hazardous waste from oil and chemical spill clean-up ³	tonne/year	0	0	0	0
		percentage	0	0	0	0
	• Hazardous waste from construction activities ³	tonne/year	0	0	535.34	248.88
		percentage	0	0	4.21	4.28
	• Non-hazardous waste from construction activities ³	tonne/year	0	0	9,187.71	194.86
		percentage	0	0	72.21	3.35
	• Hazardous waste for Turnaround Maintenance ³	tonne/year	1,204.12	0	0	2,304.16
		percentage	40.95	0	0	39.59
	• Non-hazardous waste for Turnaround Maintenance ³	tonne/year	55.01	0	0	86.36
		percentage	1.87	0	0	1.48
BCP Indicators	Industrial waste diverted from landfilling	percentage	100	100	100	100
	• Reuse and recycling	percentage	47.16	56.67	19.20	30.13
	• Other recovery operation methods	percentage	8.85	7.80	70.95	33.03
	• Energy recovery (alternative fuels/ fuel blending)	percentage	43.77	35.52	9.85	36.00
	• Incineration without energy recovery	percentage	0.22	0.01	0	0.83
	• Other disposal operation	percentage	0	0	0	0
	• Landfilling	percentage	0	0	0	0

Industrial Waste Management at the Bangchak Phra Khanong Refinery and Oil Depots ¹						
Indicator	Material Aspect	Unit	2021	2022	2023	2024
GRI 306-3	Total waste generated by category and disposal/recovery operation					
	Hazardous waste by disposal/recovery operation ²	tonne/year	2,618.73	1,584.44	3,435.37	5,379.88
GRI 306-4	Hazardous waste diverted from disposal (offsite)	tonne/year	1,462.86	991.38	2,192.93	3,307.97
	• Reuse	tonne/year	0	0	0	0
	• Recycling	tonne/year	1,220.57	856.42	1,101.73	1,616.90
	• Recovery (reclamation, regeneration of metal and metallic compounds)	tonne/year	242.29	134.96	1,091.20	1,691.07
GRI 306-5	Hazardous waste directed to disposal (offsite)	tonne/year	1,155.87	593.06	1,242.45	2,071.91
	• Incineration with energy recovery ^{*DIW}	tonne/year	1,149.29	592.95	1,242.45	2,023.44
	• Incineration without energy recovery	tonne/year	6.58	0.11	0	48.47
	• Landfilling	tonne/year	0	0	0	0
	• Other disposal operations	tonne/year	0	0	0	0
GRI 306-3	Non-hazardous waste by disposal/recovery operation ²	tonne/year	322.07	145.20	9,288.39	439.98
GRI 306-4	Non-hazardous waste diverted from disposal (offsite)	tonne/year	184.26	123.77	9,277.50	368.00
	• Reuse	tonne/year	0	0	0	0
	• Recycling	tonne/year	166.28	56.06	1,340.99	136.74
	• Other recovery operation (other recovery unlisted materials)	tonne/year	17.98	0	0	0
	• Other recovery operation (land reclamation: using construction waste)	tonne/year	0	0	7,899.16	189.10
	• Sorting	tonne/year	0	67.71	37.35	42.16
	• Composting	tonne/year		0	0	0
	• Other disposal operations ³	tonne/year	0	0	0	0
GRI 306-5	Non-hazardous waste directed to disposal (offsite)	tonne/year	137.81	21.43	10.89	71.98
	• Incineration with energy recovery	tonne/year	137.81	21.43	10.89	71.98
	• Incineration without energy recovery	tonne/year	0	0	0	0
	• Landfilling	tonne/year	0	0	0	0
	• Other disposal operations ³	tonne/year	0	0	0	0
*DIW	Hazardous waste directed to disposal (offsite) ^{4, 5}	tonne/year	1,155.87	593.06	1,242.45	2,071.91
04	• Recycle (042, 041, 044 and 049)	tonne/year	1,149.29	592.95	1,242.45	2,023.44
	• 041: Use as fuel substitution or burn for energy recovery					
	• 042: Fuel blending					
	• 044: Use as co-material in cement kiln or rotary kiln					
07	• Disposal (075: Incineration in hazardous waste incinerator)	tonne/year	6.58	0.11	0	48.47

Remarks:

1. The reporting boundary of industrial waste management has been expanded to Oil Depot at Bang Pa Inn in 2024.
2. Weight from the waste manifest.
3. The volume of waste sent to disposal is calculated from the number of packages per container and average weight per package.
4. According to Department of Industrial Works (DIW), Bangchak refinery have complied with DIW's Announcement of Waste processor B.E. 2550, Best Practice of Waste Management and Disposal B.E. 2551 and Hazardous Substance Act. 2535 and the waste management have been classified and managed according to Notification of Ministry of Industry Re: Industrial Waste Disposal B.E. 2548 (2005). Waste management can be classified into 8 methods as follows: Method 01 Sorting, Method 02 Storage, Method 03 Reuse, Method 04 Recycle, Method 05 Recovery, Method 06 Treatment, Method 07 Disposal and Method 08 Others.
5. Disposal methods and quantity from DIW waste disposal permit documents and manifests

Social Performance

Office Waste Management						
Indicator	Material Aspect	Unit	2021	2022	2023	2024
GRI 306-3	Total waste generated by category and disposal/recovery operation					
	Total waste generated	tonne/year		55.32	74.70	95.27
	• Total hazardous waste	tonne/year		0.15	0.05	0.06
	• Total non-hazardous waste	tonne/year		55.17	74.65	95.22
GRI 306-3	Hazardous waste by disposal/recovery operation ¹					
GRI 306-4	Hazardous waste diverted from disposal (offsite)	tonne/year		0	0	0
	• Reuse	tonne/year		0	0	0
	• Recycling	tonne/year		0	0	0
	• Recovery (reclamation, regeneration of metal and metallic compounds)	tonne/year		0	0	0
GRI 306-5	Hazardous waste directed to disposal (offsite)	tonne/year		0.15	0.05	0.06
	• Incineration with energy recovery	tonne/year		0	0	0
	• Incineration without energy recovery	tonne/year		0	0	0
	• Landfilling	tonne/year		0	0	0
	• Other disposal operations ²	tonne/year		0.15	0	0.11
GRI 306-3	Non-hazardous waste by disposal/recovery operation ¹					
GRI 306-4	Non-hazardous waste diverted from disposal (offsite)	tonne/year		15.96	30.08	34.48
	• Reuse	tonne/year		0	0	0
	• Recycling	tonne/year		5.57	17.37	11.22
	• Composting	tonne/year		10.39	12.71	23.26
GRI 306-5	Non-hazardous waste directed to disposal (offsite)	tonne/year		39.21	44.57	60.74
	• Incineration with energy recovery	tonne/year		0.36	6.21	12.46
	• Incineration without energy recovery	tonne/year		0	0	0
	• Landfilling	tonne/year		38.85	38.36	48.28
	• Other disposal operations	tonne/year		0	0	0

Remarks:

1. Office waste is managed to be offsite disposal.

2. Office hazardous which are batteries have been collected since 2023 and were recycled by an authorized disposal vendor in 2024.

Employee										
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited							
			2021		2022		2023		2024	
			Person	%	Person	%	Person	%	Person	%
GRI 2-7 and GRI 405-1	Employment ¹									
	Total employee	person, %	1,103	100	1,098	100	1,184	100	1,368	100
	Employee by gender									
	• Male	person, %	759	68.81	752	68.49	773	65.29	859	62.79
	• Female	person, %	344	31.19	346	31.51	411	34.71	509	37.21
	Employee by age group									
	Less than 30 years old	person, %	154	13.96	126	11.48	148	12.50	135	9.87
	• Male	person, %	109	9.88	87	7.92	88	7.43	76	5.56
	• Female	person, %	45	4.08	39	3.55	60	5.07	59	4.31
	Between 30-50 years old	person, %	809	73.35	804	73.22	828	69.93	943	68.93
	• Male	person, %	555	50.32	549	50.00	542	45.78	588	42.98
	• Female	person, %	254	23.03	255	23.22	286	24.16	355	25.95
	More than 50 years old	person, %	140	12.69	168	15.30	208	17.57	290	21.20
	• Male	person, %	95	8.61	116	10.56	143	12.08	195	14.25
	• Female	person, %	45	4.08	52	4.74	65	5.49	95	6.94
	Employee by greligion									
	• Buddhism	person, %	1060	96.10	1055	96.08	1135	95.86	1312	95.91
	• Christian - Catholic	person, %	19	1.72	20	1.82	23	1.94	27	1.97
	• Islam	person, %	20	1.82	21	1.91	23	1.94	25	1.83
	• Others	person, %	4	0.36	2	0.18	3	0.26	4	0.29
	Employee by level									
	Manager level and above	person, %	158	14.32	169	15.39	191	16.13	233	17.03
	• Male	person, %	97	8.79	102	9.29	108	9.12	132	9.65
	• Male	person, %	61	5.53	67	6.10	83	7.01	101	7.38
	• Female	person, %	231	20.94	243	22.13	268	22.64	344	25.15
	• Male	person, %	148	13.42	154	14.03	166	14.02	208	15.20
	• Female	person, %	83	7.52	89	8.11	102	8.61	136	9.94
	Officer	person, %	390	35.36	382	34.79	429	36.23	505	36.92
	• Male	person, %	227	20.58	225	20.49	231	19.51	262	19.15
	• Female	person, %	163	14.78	157	14.30	198	16.72	243	17.76
	Operator	person, %	324	29.37	304	27.69	296	25.00	286	20.91
	• Male	person, %	287	26.02	271	24.68	268	22.64	257	18.79
	• Female	person, %	37	3.35	33	3.01	28	2.36	29	2.12
	Employee by area									
	Bangkok and metropolitan area	person, %	1027	93.11	1020	92.90	1105	93.33	1289	94.23
	Head office	person, %	476	43.16	492	44.81	575	48.56	713	52.12
	• Male	person, %	219	19.85	229	20.86	247	20.86	295	21.56
	• Female	person, %	257	23.30	263	23.95	328	27.70	418	30.56
	Refinery	person, %	551	49.95	528	48.09	530	44.76	576	42.11
	• Male	person, %	480	43.52	461	41.99	464	39.19	502	36.70
	• Female	person, %	71	6.44	67	6.10	66	5.57	74	5.41
	Northern region	person, %	10	0.91	10	0.91	10	0.84	11	0.80
	• Male	person, %	8	0.73	8	0.73	7	0.59	8	0.58
	• Female	person, %	2	0.18	2	0.18	3	0.25	3	0.22

Employee										
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited							
			2021		2022		2023		2024	
			Person	%	Person	%	Person	%	Person	%
GRI 2-7 and GRI 405-1	Employment ¹									
	Employee by area									
	Central region	person, %	46	4.17	47	4.28	47	3.97	46	3.36
	• Male	person, %	34	3.08	35	3.19	35	2.96	34	2.49
	• Female	person, %	12	1.09	12	1.09	12	1.01	12	0.88
	Northeastern region	person, %	12	1.09	12	1.09	12	1.01	12	0.88
	• Male	person, %	10	0.91	10	0.91	10	0.84	10	0.73
	• Female	person, %	2	0.18	2	0.18	2	0.17	2	0.15
	Southern region	person, %	8	0.73	9	0.82	10	0.84	10	0.73
	• Male	person, %	8	0.73	9	0.82	10	0.84	10	0.73
	• Female	person, %	0	0	0	0	0	0	0	0
	Eastern region	person, %	0	0	0	0	0	0	0	0
	• Male	person, %	0	0	0	0	0	0	0	0
	• Female	person, %	0	0	0	0	0	0	0	0
	Employee by race									
	• Asian	% of total workforce	99.91		99.91		99.91		100	
		% of total management workforce ²	99.87		99.87		99.89		100	
	• White	% of total workforce	0.09		0.09		0.09		0	
		% of total management workforce ²	0.13		0.13		0.11		0	
	• Black or African American	% of total workforce	0		0		0		0	
		% of total management workforce ²	0		0		0		0	
	• Hispanic or Latino	% of total workforce	0		0		0		0	
		% of total management workforce ²	0		0		0		0	
	• Indigenous or Native	% of total workforce	0		0		0		0	
		% of total management workforce ²	0		0		0		0	

Employee										
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited							
			2021		2022		2023		2024	
			Person	%	Person	%	Person	%	Person	%
BCP Indicators	Disability hiring									
	Total disability hiring	person	11		11		12		12	
	Disabled employee by race	person	11		11		12		12	
	• Male	person, %	4	36.36	4	36.36	4	33.33	4	33.33
	• Female	person, %	7	63.64	7	63.64	8	66.67	8	66.67
	Disabled contractoe by race	person	0		0		0		0	
	Empowerment for Person with Disabilities Fund Contribution	Yes/No	Yes		No		No		No	
Employee										
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited							
			2021		2022		2023		2024	
BCP Indicators	Diversity of employees									
	Share of women in total workforce	%	31.19		31.51		34.71		37.21	
	Target of share of women in all management positions	%	39.79		39.79		39.79		39.79	
	Share of women in all management positions ²	%	37.79		37.96		40.39		41.17	
	Share of women in junior management positions	%	35.93		37.96		38.06		39.53	
	Share of women in top management positions ³	%	36.36		43.48		40.74		39.28	
	Share of women in management positions in revenue-generating functions	%	24.15		26.52		26.43		19.35	
	Share of women in STEM-related positions (STEM: Science Technology Engineering and Mathematics)	%	24.64		27.14		36.03		35.51	
	Share of workforce on minority group - people with disability	%	1.00		1.00		1.00		1.00	
	Share of LGBTQI+	%	The respondents did not wish to disclose survey results.		The respondents did not wish to disclose survey results.		The respondents did not wish to disclose survey results.		The respondents did not wish to disclose survey results.	

Employee										
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited							
			2021		2022		2023		2024	
			Person	%	Person	%	Person	%	Person	%
GRI 401-1	Employee turnover									
	Employee turnover rate	%	163	14.68	55	5.05	34	2.99	50	3.72
	Voluntary employee turnover rate	%	57	5.13	49	4.50	34	2.99	38	2.83
	Data Coverage	%	100		100		100		100	
	Voluntary employee turnover by gender									
	• Male	person, %	37	64.91	25	51.02	19	55.88	23	60.53
	• Female	person, %	20	35.09	24	48.98	15	44.12	15	39.47
	Voluntary employee turnover by age group									
	• Less than 30 years old	person, %	27	47.37	20	40.81	14	41.18	9	23.68
	• Between 30-50 years old	person, %	28	49.12	26	53.06	20	58.82	27	71.05
• More than 50 years old	person, %	2	3.51	3	6.12	0	0.00	2	5.26	
GRI 401-1	Employee turnover									
	Voluntary employee turnover by level									
	• Manager level and above	person, %			6	12.24	3	8.82	2	5.26
	• Senior officer and officer	person, %			38	77.55	30	88.23	34	89.47
	• Operator	person, %			5	10.20	1	2.95	2	5.26
	Voluntary employee turnover by race									
	• Asian	person, %			49	100	34	100	38	100
	• White	person, %			0	0	0	0	0	0
	• Black or African American	person, %			0	0	0	0	0	0
	• Hispanic or Latino	person, %			0	0	0	0	0	0
	• Indigenous or Native	person, %			0	0	0	0	0	0
	New Employee									
	New Employee	person, %	43	100	57	100	123	100	238	100
	New employee by gender									
	• Male	person, %	21	48.84	28	49.12	43	34.96	119	50.00
	• Female	person, %	22	51.16	29	50.88	80	65.04	119	50.00
	New employee by age group									
	• Less than 30 years old	person, %	24	55.81	30	52.63	67	54.47	57	23.95
	• Between 30-50 years old	person, %	17	39.53	26	45.61	55	44.71	137	57.56
	• More than 50 years old	person, %	2	4.65	1	1.75	1	0.81	44	18.49
	New employee by level									
	• Manager level and above	person, %			9	15.79	9	7.31	39	16.39
	• Senior officer and officer	person, %			46	80.70	114	92.68	194	81.51
• Operator	person, %			2	3.51	0	0	5	2.10	
New employee by race										
• Asian	person, %			57	100	123	100	238	100	
• White	person, %			0	0	0	0	0	0	
• Black or African American	person, %			0	0	0	0	0	0	
• Hispanic or Latino	person, %			0	0	0	0	0	0	
• Indigenous or Native	person, %			0	0	0	0	0	0	
BCP Indicators	Percentage of open position filled by internal candidates (internal hires)	%	11.11		10.71		11.20		12.75	
	Average hiring cost per person ⁴	THB/person	42,812		41,000		96,000		64,900	

Employee										
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited							
			2021		2022		2023		2024	
			Person	%	Person	%	Person	%	Person	%
GRI401-3	Parental leave									
	Employees who are entitled to parental leave				1098	100	1184	100	1368	100
	Female employees who were entitled to parental leave	person, %			346	100	411	100	509	100
	• Female employees who took parental leave ⁵	person, % in entitled female employees	8	0.73	4	1.16	5	1.22	8	1.57
		person, % in all entitle employees			4	0.36	5	0.42	8	0.58
	Male employees who were entitled to parental leave	person, %			752	100	773	100	859	100
	• Male employees who took parental leave	person, % in entitled male employee			16	2.13	0	0	23	2.68
		person, % in all entitle employees			16	1.46	0	0	23	1.68
	Female employees who returned to work after parental leave	person, %	8	100	4	100	5	100	8	100
	Male employees who returned to work after parental leave	person, %			16	100	0	0	23	100
	Female employees who returned to work after parental leave that were still employed 12 months after their return to work	person, %			4	100	5	100	8	100
	Male employees who returned to work after parental leave that were still employed 12 months after their return to work	person, %			16	100	0	0	23	100

Employee						
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited			
			2021	2022	2023	2024
GRI 404-1	Employee development					
	Total training and development hour	hour	30,870	31,932	42,334	35,728
		hour/person	27.99	29.08	35.75	27.00
	Training and development expense	THB	15,935,541	17,491,887	28,209,700	44,929,566
		THB/person	14,447	15,931	23,826	32,843
	Training and development hour by gender					
	• Male	hour/person	29.03	31.97	36.82	34.00
	• Female	hour/person	25.69	22.80	33.75	28.00

Employee						
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited			
			2021	2022	2023	2024
GRI 404-1	Training and development hour by level					
	• Manager level and above	hour/person	53.66	25.08	22.19	18.19
	• Senior officer and officer	hour/person	24.87	27.11	24.31	20.03
	• Operator	hour/person	21.46	35.36	36.31	38.00
	Training and development hour by business category					
	• President & Chief Executive Officer (PS)	hour/person	31.84	26.18	37.84	32.05
	• Corporate Sustainability Development and Strategic Synergy (CSBU)	hour/person	0.00	14.55	29.21	25.59
	• Corporate Management and Organization Development (MDBU)	hour/person	23.47	25.23	39.57	33.70
	• Accounting and Finance (AFBU)	hour/person	27.00	46.10	32.71	20.86
	• Marketing Business Group (MKBG)	hour/person	29.56	13.05	18.31	16.22
	• Refinery Business Group (RFBG)	hour/person	28.09	37.22	46.39	42.78
	Employee Engagement Score	%	70.00	75.00	85.00	82.00
		data coverage (%)	89.00	98.00	93.00	98.00
	Labour and Human rights Complaints	case	0	0	0	0
	Harassment and Discrimination Complaints	case	0	0	0	0
	Training to increase awareness of harassment and discrimination	frequency	1 time/year	1 time/year	1 time/year	1 time/year
	BCP Indicators	KPIs on employee development (Targets)				
KPI 1: Average training hours per person						
KPI 1: Average training hours per person by level						
• Manager level and above		hour/person	54	25	22	19
• Senior officer and officer		hour/person	25	27	24	20
• Operator		hour/person	22	35	36	38
KPI 1: Average training hours per person by training category						
• Hard skills		hour/person	11	20	25	18
• Soft skills		hour/person	17	15	10	12
KPI 2: Average amount spent per person						
KPI 2: Average amount spent per person by level						
• Manager level and above		THB/person	30,000	50,000	50,000	50,000
• Senior officer and officer		THB/person	8,000	15,000	20,000	20,000
• Operator		THB/person	3,000	8,000	10,000	10,000
KPI 2: Average amount spent per person by training category						
• Hard skills		THB/person	5,000	10,000	20,000	20,000
• Soft skills		THB/person	3,000	15,000	15,000	15,000
Human Capital Return on Investment						
Total revenue	THB	199,416,997,279	328,017,357,411	385,853,022,710	589,877,433,369	
Total operating expenses	THB	175,744,433,215	281,748,692,278	352,114,899,628	560,039,168,970	
Total employee-related expenses	THB	2,066,886,200	2,466,797,249	2,517,022,106	2,877,092,544	
Human Capital Return on Investment (HC ROI)	ratio	12.45	19.76	14.40	11.37	

Employee										
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited							
			2021		2022		2023		2024	
GRI 405-2	Ratio of basic salary and remuneration (women : men)									
	Ratio of basic salary and remuneration									
	• Ratio of basic salary	women : men	1.16		1.18		1.16		1.12	
	• Ratio of remuneration	women : men			1.08		1.00		1.01	
	Ratio of basic salary by age group									
	• Less than 30 years old	women : men	1.33		1.25		1.18		1.08	
	• Between 30-50 years old	women : men	1.20		1.22		1.25		1.24	
	• More than 50 years old	women : men	0.96		1.06		1.16		1.08	
	Ratio of remuneration by age group									
	• Less than 30 years old	women : men			0.96		0.78		0.92	
	• Between 30-50 years old	women : men			1.09		1.08		1.10	
	• More than 50 years old	women : men			1.05		1.03		1.02	
	Ratio of basic salary by religion									
	• Buddhism	women : men	1.17		1.19		1.19		1.13	
	• Others	women : men	0.78		0.87		0.78		0.93	
	Ratio of remuneration by religion									
	• Buddhism	women : men			1.09		1.02		1.01	
	• Others	women : men			0.85		0.68		0.81	
	Ratio of basic salary by level									
	• Manager level and above	women : men	0.89		0.92		0.95		0.98	
	• Senior Officer	women : men	0.98		0.98		0.94		0.93	
	• Officer	women : men	0.94		0.95		0.94		0.97	
	• Operator	women : men	1.13		1.05		0.98		0.98	
	Ratio of remuneration by level									
	• Manager level and above	women : men			0.92		0.87		0.98	
	• Senior Officer	women : men			0.95		0.87		0.88	
	• Officer	women : men			0.81		0.74		0.80	
	• Operator	women : men			0.82		0.79		0.74	
	Ratio of basic salary by area									
	• Head office	women : men	0.79		0.83		0.85		0.87	
	• Refinery	women : men	1.35		1.37		1.30		1.24	
	• Others (Northern, Central, Northeastern, Southern region)	women : men	0.78		0.77		0.77		0.79	
	• Head office	women : men			0.82		0.79		0.86	
	• Refinery	women : men			1.22		1.16		1.10	
	• Others (Northern, Central, Northeastern, Southern region)	women : men			0.72		0.70		0.76	
GRI 202-1	Ratio of employee mean pay (based on basic salary) to legal minimum pay	ratio			1.45	1.37	1.55	1.40	1.62	1.48
	Ratio of contractor mean pay (based on basic salary) to legal minimum pay	ratio			Omission		Omission		Omission	
GRI 202-2	Share of native (Thai) employees on manager and above level.	%			99.41		99.48		100.00	

Employee						
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited			
			2021	2022	2023	2024
BCP Indicators	Ratio of basic salary and remuneration (men : women)					
	Mean gender pay gap (based on basic salary)	%	-15.66	-17.55	-16.57	-12.48
	Median gender pay gap (based on basic salary)	%	-18.88	-21.34	-19.40	-15.35
	Mean gender pay gap (based on remuneration)	%		-8.03	-0.08	-1.44
	Median gender pay gap (based on remuneration)	%		-2.90	2.98	5.85
	Mean bonus gap	%	-14.47	-17.31	-8.18	-11.22
	Median bonus gap	%	-17.83	-18.96	-12.67	-11.49

Employee										
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited							
			2021		2022		2023		2024	
			Person	%	Person	%	Person	%	Person	%
BCP Indicators	Provident Fund									
	Employee contrubution in the Provident Fund	person, %	1066	96.65	1072	97.63	1136	95.95	1291	94.37
	Company contribution in the Provident Fund	THB	92,028,092		95,988,146		102,404,524		132,179,411	

Remarks:

1. The Company has an exclusive full-time employment policy. There are no self-employment, temporary, part-time, non-guaranteed-hours employments with no seasonal variations in manpower. The number of employees is reported in headcount, the average number across the reporting period.

2. Employee in all management positions cover officer, senior officer, and manager and above.

3. Top management positions are all management-level positions with a reporting line 2 levels or less from the CEO.

4. The average cost of the new employee hiring process in 2023 increased from the previous year due to an increase in recruitment.

5. The percentage of parental leave has been reported as a percentage of all female employees since 2020. In 2022, the parental leave welfare has been expanded to cover female and male employees. Male employees is eligible for 15 days parental leave. Thus, the reporting of the percentage of parental leave as a percentage of all employees has been presented since 2022.

Occupational Health and Safety										
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited							
			2021		2022		2023		2024	
			Male	Female	Male	Female	Male	Female	Male	Female
GRI 2-8	Workers covered by an occupational health and safety management system									
	Workers who are not employees	person					640		6,155	
		person					461	179	4,333	1,822
GRI 403-9	Total working hour									
	• Employee	hour	1,258,971		2,043,252		2,130,210		2,570,331	
		hour	1,149,250	109,722	1,448,331	594,921	1,464,011	666,200	1,713,944	856,387
	• Contractor	hour	2,810,961		1,777,186		1,995,614		5,850,099	
		hour	2,238,418	572,543	1,401,309	375,877	1,536,011	459,603	4,490,623	1,359,476
	Work-related injuries									
	Fatality as a result of work-related injury									
	• Employee	case	0		0		0		0	
			0	0	0	0	0	0	0	0
		case/million working hours	0		0		0		0	
			0	0	0	0	0	0	0	0
		data coverage (%)	100		100		100		100	
	• Contractor	case	0		0		0		0	
			0	0	0	0	0	0	0	0
		case/million working hours	0		0		0		0	
			0	0	0	0	0	0	0	0
		data coverage (%)	100		100		100		100	
	Total Recordable Injury Frequency Rate (TRIFR)									
	• Employee	case	0		2		0		0	
			0	0	2	0	0	0	0	0
		case/million working hours	0		0.98		0		0	
			0	0	1.38	0	0	0	0	0
		data coverage (%)	100		100		100		100	
	• Contractor	case	4		2		3		7	
4			0	2	0	3	0	6	1	
case/million working hours		1.42		1.13		1.50		1.20		
		1.79	0	1.43	0	1.95	0	1.34	0.74	
data coverage (%)		100		100		100		100		

Occupational Health and Safety										
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited							
			2021		2022		2023		2024	
			Male	Female	Male	Female	Male	Female	Male	Female
GRI 403-9	Work-related injuries									
	Lost-Time Injury Frequency Rate (LTIFR) ¹									
	• Employee	case	0		0		0		0	
			0	0	0	0	0	0	0	0
		case/million working hours	0		0		0		0	
			0	0	0	0	0	0	0	0
			data coverage (%)	100		100		100		100
	• Contractor	case	1		2		0		1	
			1	0	2	0	0	0	0	1
		case/million working hours	0.36		1.13		0		0.17	
			0.45	0	1.43	0	0	0	0	0.74
			data coverage (%)	100		100		100		100
	High-Consequence Work-Related Injuries									
	• Employee	case	0		0		0		0	
			0	0	0	0	0	0	0	0
		data coverage (%)	100		100		100		100	
	• Contractor	case	0		1		0		0	
			0	0	1	0	0	0	0	0
		data coverage (%)	100		100		100		100	
	Near Miss Incident									
	Total cases	case	24		12		11		0	
	• Employee	case	21		8		11		0	
	• Contractor	case	3		4		0		0	
	Data coverage	%	100		100		100		100	
GRI 403-10	Work-Related Illnesses									
	Occupational Illness Frequency Rate (OIFR)									
	• Employee	case	0		0		0		0	
			0	0	0	0	0	0	0	0
		case/million working hours	0		0		0		0	
			0	0	0	0	0	0	0	0
		fatality case	0		0		0		0	
		data coverage (%)	100		100		100		100	

Occupational Health and Safety						
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited			
			2021	2022	2023	2024
Process Safety Management (PSM)	Process Safety Events					
	Process Safety Events - Tier 1	event	0	0	0	0
		event/million working hours	0	0	0	0
		data coverage (%)	100	100	100	100
	Process Safety Events - Tier 2	event	0	0	0	0
		event/million working hours	0	0	0	0
		data coverage (%)	100	100	100	100
	PSM Assessment Score					
	PSM Assessment Score (Target in 2023: 4.0)	score	3.5	4.0	4.0	4.0

Remarks:

1.The lost day counts from the work day after the accident.

Hydrocarbon Spill						
Indicator	Material Aspect	Unit	Bangchak Corporation Public Company Limited			
			2021	2022	2023	2024
GRI306-3 ¹ (2016)	Hydrocarbon spill > 100 barrels per time					
	Number of significant hydrocarbon spill-related cases (> 100 barrels/time)	case	0	0	0	0
	Volume of significant hydrocarbon spill (> 100 barrels / time)	barrel	0	0	0	0
		L	0	0	0	0
	Hydrocarbon spill > 1 barrels per time (but not over 100 barrels)					
	Number of significant hydrocarbon spill-related cases (> 1, but not over 100, barrels per time)	case	0	0	0	0
	Volume of significant hydrocarbon spills (> 1, but not over 100, barrels per time)	barrel	0	0	0	0
		L	0	0	0	0
	Volume of hydrocarbon over 1 barrel spilled into the environment	barrel	0	0	0	0
		L	0	0	0	0
Sector standard reference 11.8.3	Number of Tier 1 cases related to significant spills (LOPC) ²	case	0	0	0	0
	Number of Tier 2 cases related to significant spills (LOPC) ²	case	0	0	0	0

Remarks:

1. Content related to wastewater and waste according to GRI Standard - GRI306 (2016) has been replaced by GRI Standard - GRI 303: Water and Wastewater (2018) and GRI 306: Waste (2020), but content related to leakage in GRI 306 (2016) is still in effect.

2. Process safety performance indicators (Leading and Lagging), such as indicators regarding Tier 1 and Tier 2 loss of primary containment (LOPC), following API RP 754 (American Petroleum Institute Recommended Practice 754) guidelines.

Loss of Primary Containment (LOPC) is an unplanned or uncontrolled release of any material from primary containment, including non-toxic and non-flammable materials.

- Tier1 : LOPC Events of Greater Consequence, the count of Tier 1 process safety events is the most lagging performance indicator and represents incidents with greater consequence resulting from actual losses of containment.

- Tier2 : LOPC Events of Lesser Consequence, the count of Tier 2 process safety events represents loss of primary containment events with a lesser consequence, but may be predictive of future, more significant incidents.



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About This report

Bangchak Corporation Public Company Limited has prepared an integrated sustainability report to disclose its sustainability performance since 2006, covering the reporting period from January 1st to December 31st, 2024 (Disclosure 2-3)


The Company follows the GRI Sustainability Reporting Standards (GRI Standards), including GRI1 (Foundation 2021), GRI2 (General disclosures 2021), GRI3 (Material topics 2021), and GRI11 (Oil and Gas sector 2021), as well as the highest level of the United Nations Global Compact (Advance Level) criteria. Additionally, the Company has integrated the Sustainable Development Goals (SDGs) into its organizational strategy and operations to demonstrate its commitment to addressing sustainable development goals. This integration aims to focus and respond to the needs and expectations of stakeholders. In the process of compiling the integrated sustainability report for the year 2024, there have been no alterations to any data or methodologies, such as variables or calculation methods, that would necessitate amendments to the previous edition of the integrated sustainability report for the year 2023. (Disclosure 2-4)

Assurance of Reporting

This report has undergone a comprehensive review of its key contents by senior management of each business unit and department (Disclosure 2-14), ensuring confidence in the completeness, accuracy, and coverage of the reported information, responsive to all stakeholders. Furthermore, the Company has arranged for third-party certification and performance measurement of key operational indicators by external experts specializing in certifying and providing independent assurance regarding business practices related to the oil and natural gas industry. This is to enhance credibility, transparency, and alignment with the reporting guidelines of the GRI Standards. In 2024, the Company underwent an audit as detailed in the assurance statement on page 207

Contact Details (Disclosure 2-3)





Should there be any questions or additional suggestions, please contact
“Corporate Sustainability Management”,
Bangchak Corporation Public Company Limited.

 Tel: 0 2335 4608



The Reporting Boundary

This report provides an overview of the performance data for the year 2024, along with the GRI Standards of Bangchak Corporation Public Company Limited, focusing on the refinery, trading, and marketing businesses operating in Thailand and Singapore. The report covers 58.5% of the revenue structure of the Bangchak Group, with operational statistics provided for each scope, as indicated in the table. (Disclosure 2-2)

No.	Business Group / Company	Energy	GHG Emissions	GHG Reduction	Water use	Waste Water	Air Emissions	Waste	OHS	Supply Chain	Diversity and Equal Opportunity
Bangchak Corporation Plc. (Head Quarter)		●	●	●	●	●		●	●	●	●
1	Refinery and Oil Trading Business Group										
1.1	Bangchak Corporation Plc.	●	●	●	●	●	●	●	●	●	●
1.2	BCP Trading Pte. Ltd.	●	●		●	●					
1.3	Bangkok Fuel Pipeline and Logistics Co., Ltd.	●	●		●	●					
1.4	BSRC Plc.	For details regarding the sustainability operating results of Bangchak group, please refer to information as follows:									
2	Marketing Business Group										
2.1	Bangchak Corporation Plc.	●	●		●	●				●	●
2.2	Bangchak Green Net Co., Ltd.	●	●		●	●					
2.3	Bangchak Retail Co., Ltd.	●	●		●	●					
3	Clean Power Business Group										
3.1	BCPG Plc.	For details regarding the sustainability operating results of Bangchak group, please refer to information as follows:									
4	Bio-Based Products Business Group										
4.1	BBGI Plc.	For details regarding the sustainability operating results of Bangchak group, please refer to information as follows:									
5	Natural Resources Business Group										
5.1	OKEA ASA	For details regarding the sustainability operating results of Bangchak group, please refer to information as follows:									
5.2	BTSG Co., Ltd.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

- Remarks :
- The data is disclosed in this report and verified by third party
 - NR = non-relevance indicates that the data provided is not significant for business operations and does not impact the Bangchak group overall, or it was not included in this reporting period.
 - No. 1.1 includes Phra Khanong Refinery and Oil Depot, Phra Khanong Refinery office, Oil Depot at Bang Pa Inn, and Oil Depot at Surat Thani. For Surat Thani Oil Depot, the boundary is limited to energy, GHG emission scope 2, supply chain and Diversity and Equal Opportunity. GHG emission scope 1&3, GHG reduction, air emission, water, waste, spill, emergency preparedness cand OHS are not included.
 - No. 2.1 including 4 Region Business Centers

GRI Content Index

Statement of use	Bangchak Corporation Public Company Limited has reported in accordance with the GRI Standards for the period 1 January 2024 - 31 December 2024
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standard(s)	GRI 11: Oil and Gas Sector 2021

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT (S) OMITTED	REASON	EXPLANATION	
General disclosures						
GRI 2: General Disclosures 2021	2-1 Organizational details	12	A gray cell indicates that reasons for omission are not permitted for the disclosure or that a GRI Sector Standard reference number is not available.			
	2-2 Entities included in the organization’s sustainability reporting	193				
	2-3 Reporting period, frequency and contact point	192				
	2-4 Restatements of information	192				
	2-5 External assurance	207-209				
	2-6 Activities, value chain and other business relationships	AR 25				
	2-7 Employees	179				
	2-8 Workers who are not employees	187				
	2-9 Governance structure and composition	AR 174				
	2-10 Nomination and selection of the highest governance body	AR 211				
	2-11 Chair of the highest governance body	AR 175				
	2-12 Role of the highest governance body in overseeing the management of impacts	16				
	2-13 Delegation of responsibility for managing impacts	16				
	2-14 Role of the highest governance body in sustainability reporting	16				
	2-15 Conflicts of interest	AR 163				
	2-16 Communication of critical concerns	20-29				
	2-17 Collective knowledge of the highest governance body	AR 212				
	2-18 Evaluation of the performance of the highest governance body	AR 215				
	2-19 Remuneration policies	AR 203				
	2-20 Process to determine remuneration	AR 218				
	2-21 Annual total compensation ratio	AR 203-204	a,b,c	Confidentiality constraints	CEO compensation is confidential.	
	2-22 Statement on sustainable development strategy	6-7				
	2-23 Policy commitments	17				
	2-24 Embedding policy commitments	17				
	2-25 Processes to remediate negative impacts	32-35				
	2-26 Mechanisms for seeking advice and raising concerns	20-29				
	2-27 Compliance with laws and regulations	155				
	2-28 Membership associations	12				
	2-29 Approach to stakeholder engagement	20-29				
	2-30 Collective bargaining agreements	149				

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT (S) OMITTED	REASON	EXPLANATION	
Material topics						
GRI 3: Material Topics 2021	3-1 Process to determine material topics	30-31	A gray cell indicates that reasons for omission are not permitted for the disclosure or that a GRI Sector Standard reference number is not available.			
	3-2 List of material topics	30-31				
Economic impacts						
GRI 3: Material Topics 2021	3-3 Management of material topics	123-135				11.14.1
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	154				11.14.2
GRI 202: Market Presence 2016	202-2 Proportion of senior management hired from the local community	185				11.14.3
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	123-135				11.14.4
	203-2 Significant indirect economic impacts	123-135				11.14.5
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	155				11.14.6
Anti-corruption & Anti-competitive behavior						
GRI 3: Material Topics 2021	3-3 Management of material topics	53-55				11.19.1, 11.20.1
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	AR 167				11.19.2
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	53-55				11.20.2
	205-2 Communication and training about anti-corruption policies and procedures	53-55				11.20.3
	205-3 Confirmed incidents of corruption and actions taken	53-55				11.20.4
	Additional Sector: Contract transparency	AR 165				11.20.5
	Additional Sector: The organization’s beneficial owners	n/a	Additional Sector Disclosure Requirement of GRI 11.20	Confidentiality constraints	PDPA	11.20.6
Payments to governments						
GRI 3: Material Topics 2021	3-3 Management of material topics	81				11.21.1
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	154				11.21.2
	201-4 Financial assistance received from the government	AR 343				11.21.3
GRI 207: Tax 2019	207-1 Approach to tax	81				11.21.4
	207-2 Tax governance, control, and risk management	81				11.21.5
	207-3 Stakeholder engagement and management of concerns related to tax	81				11.21.6
	207-4 Country-by-country reporting	155				11.21.7
Supplier chain management						
GRI 3: Material Topics 2021	3-3 Management of material topics	66-75				11.10.1, 11.12.1
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	66-75				
	308-2 Negative environmental impacts in the supply chain and actions taken	66-75				
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	66-75				11.10.8, 11.12.3
	414-2 Negative social impacts in the supply chain and actions taken	66-75				11.10.9
Information technology and cybersecurity						
GRI 3: Material Topics 2021	3-3 Management of material topics	76-80				
	Number of information security breaches/cybersecurity incidents	76-80				

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT (S) OMITTED	REASON	EXPLANATION	
Product and service quality & customer relationship						
GRI 3: Material Topics 2021	3-3 Management of material topics	41-52				
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	41-52				11.3.3
GRI 417: Marketing and Labeling 2016	417-3 Incidents of non-compliance concerning marketing communications	155				
GHG Emissions & Climate adaptation, resilience, and transition						
GRI 3: Material Topics 2021	3-3 Management of material topics	84-92				11.1.1
GRI 201: Economic Performance 2016	201-2 Financial implications and other risks and opportunities due to climate change	84-92				11.2.2
GRI 302: Energy 2016	302-1 Energy consumption within the organization	158-159				11.1.2
	302-2 Energy consumption outside of the organization	n/a	a, b, c	Confidentiality constraints	Energy data provides confidence to suppliers, transporters, customers, and other stakeholders in the value chain.	11.1.3
	302-3 Energy intensity	159				11.1.4
	302-4 Reduction of energy consumption	84-92				
	305-1 Direct (Scope 1) GHG emissions	162				11.1.5
GRI 305: Emissions 2016	305-2 Energy indirect (Scope 2) GHG emissions	162				11.1.6
	305-3 Other indirect (Scope 3) GHG emissions	163			- Reporting boundary for Scope 3 GHG of Upstream transport Via Ship cover domestic and oversea transportation. - Reporting scope of Scope 3 GHG of downstream product transportation via truck also does not include transportation of lube oil product.	11.1.7
	305-4 GHG emissions intensity	162				11.1.8
	305-5 Reduction of GHG emissions	162				11.2.3
	Additional Sector: The organization’s approach to public policy development and lobbying on climate change	84-92				11.2.4
	Air emissions					
	GRI 3: Material Topics 2021	3-3 Management of material topics	100-103			
GRI 305: Emissions 2016	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	168				11.3.2
	OG6: Volume of flared and vented hydrocarbon	168				
Biodiversity						
GRI 3: Material Topics 2021	3-3 Management of material topics	106-107				11.4.1
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	n/a	Omission on GRI 304-1 a (vi, vii)	Information unavailable/ incomplete	The data of biodiversity value characterized will begin to be collected in 2025	11.4.2
	304-2 Significant impacts of activities, products and services on biodiversity	106-107				11.4.3
	304-3 Habitats protected or restored	106-107				11.4.4
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	106-107				11.4.5

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT (S) OMITTED	REASON	EXPLANATION	
Waste						
GRI 3: Material Topics 2021	3-3 Management of material topics	104-105				11.5.1
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	104-105				11.5.2
	306-2 Management of significant waste-related impacts	104-105				11.5.3
	306-3 Waste generated	176-178				11.5.4
	306-4 Waste diverted from disposal	176-178				11.5.5
	306-5 Waste directed to disposal	176-178				11.5.6
Water and effluents						
GRI 3: Material Topics 2021	3-3 Management of material topics	93-98				11.6.1
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	93-98				11.6.2
	303-2 Management of water discharge-related impacts	93-98				11.6.3
	303-3 Water withdrawal	169-170				11.6.4
	303-4 Water discharge	169-170				11.6.5
	303-5 Water consumption	169-170				11.6.6
Asset integrity and critical incident management						
GRI 3: Material Topics 2021	3-3 Management of material topics	98-99				11.8.1
GRI 306: Effluents and Waste 2016	306-3 Significant spill	189				11.8.2
	Additional sector: Number of Tier 1 and Tier 2 process safety events, and a breakdown of this total by business activity	189				11.8.3
Occupational health and safety						
GRI 3: Material Topics 2021	3-3 Management of material topics	114-119				11.9.1
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	114-119				11.9.2
	403-2 Hazard identification, risk assessment, and incident investigation	114-119				11.9.3
	403-3 Occupational health services	114-119				11.9.4
	403-4 Worker participation, consultation, and communication on occupational health and safety	114-119				11.9.5
	403-5 Worker training on occupational health and safety	114-119				11.9.6
	403-6 Promotion of worker health	114-119				11.9.7
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	114-119				11.9.8
	403-8 Workers covered by an occupational health and safety management system	114-119				11.9.9
	403-9 Work-related injuries	188				11.9.10
	403-10 Work-related ill health	188				11.9.11
	OGSS: Emergency Preparedness	114-119				

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT (S) OMITTED	REASON	EXPLANATION	
Employment Practices						
GRI 3: Material Topics 2021	3-3 Management of material topics	136-145				11.10.1, 11.11.1
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	182				11.10.2
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	142				11.10.3
	401-3 Parental leave	142				11.10.4, 11.11.3
GRI 402: Labor/Management Relations 2016	402-1 Minimum notice periods regarding operational changes	142				11.10.5
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	183-184				11.10.6, 11.11.4
	404-2 Programs for upgrading employee skills and transition assistance programs	139-140				11.10.7
	404-3 Percentage of employees receiving regular performance and career development reviews	144				
Non-discrimination and equal opportunity						
GRI 3: Material Topics 2021	3-3 Management of material topics	146-151				11.11.1
GRI 202 : Market Presence 2016	202-2 Proportion of senior management hired from the local community	185				11.11.2
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	179-180				11.11.5
	405-2 Ratio of basic salary and remuneration of women to men	185				11.11.6
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	151				11.11.7
Forced labor and modern slavery						
GRI 3: Material Topics 2021	3-3 Management of material topics	146-151				11.12.1
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	146-151				11.12.2
Freedom of association and collective bargaining						
GRI 3: Material Topics 2021	3-3 Management of material topics	146-151				11.13.1
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	146-151				11.13.2
Local communities						
GRI 3: Material Topics 2021	3-3 Management of material topics	123-135				11.15.1
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	123-135				11.15.2
	413-2 Operations with significant actual and potential negative impacts on local communities	123-135				11.15.3
	Additional Sector: Number and Type of grievances from local communities	123-135				11.15.4
Land and Resource Rights						
GRI 3: Material Topics 2021	3-3 Management of material topics	146-151				11.16.1
GRI 412: Human Rights Assessment 2016	Additional Sector: List the locations of operations that caused or contributed to involuntary resettlement or where such resettlement is ongoing. For each location, describe how peoples' livelihoods and human rights were affected and restored.	146-151				11.16.2

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION			GRI SECTOR STANDARD REF. NO.
			REQUIREMENT (S) OMITTED	REASON	EXPLANATION	
Rights of indigenous peoples						
GRI 3: Material Topics 2021	3-3 Management of material topics	146-151				11.17.1
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples	146-151				11.17.2
	Additional Sector: List the locations of operations where indigenous peoples are present or affected by activities of the organization	146-151				11.17.3
	Additional Sector: Report if the organization has been involved in a process of seeking free, prior and informed consent (FPIC) from indigenous peoples for any of the organization activities	146-151				11.17.4
Conflict and security						
GRI 3: Material Topics 2021	3-3 Management of material topics	146-151				11.18.1
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures	146-151				11.18.2
Public policy						
GRI 3: Material Topics 2021	3-3 Management of material topics	AR 230				11.22.1
GRI 415: Public Policy 2016	415-1 Political contributions	AR 230				11.22.2
Energy Accessibility & Security						
GRI 3: Material Topics 2021	3-3 Management of material topics	120-122				

Topics in the applicable GRI Sector Standards determined as not material	
TOPIC	EXPLANATION
GRI 11: Oil and Gas Sector 2021	
Topic 11.7 Closure and rehabilitation	There is no any closure and rehabilitation plan in the near future (> 10 years).

The Adherence of the Ten Principles of the UN Global Compact

The Principle of UNGC	Disclosed on
<div><p>Human Rights สิทธิมนุษยชน</p></div> <div><p>Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights.</p><p>Principle 2: Make sure that they are not complicit in human rights abuses.</p></div>	<ul style="list-style-type: none">Human Rights page 146
<div><p>Labour มาตรฐานแรงงาน</p></div> <div><p>Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.</p><p>Principle 4: The elimination of all forms of forced and compulsory labour.</p><p>Principle 5: The effective abolition of child labour.</p><p>Principle 6: The elimination of discrimination in respect of employment and occupation.</p></div>	<ul style="list-style-type: none">Occupational Health and Safety page 114Human Capital Development page 136Human Rights page 146
<div><p>Environment การปกป้องสิ่งแวดล้อม</p></div> <div><p>Principle 7: Businesses should support a precautionary approach to environmental challenges.</p><p>Principle 8: Undertake initiatives to promote greater environmental responsibility.</p><p>Principle 9: Encourage the development and diffusion of environmentally friendly technologies.</p></div>	<ul style="list-style-type: none">Sustainable Product and Service Development page 41Environmental Dimension page 83
<div><p>Anti-Corruption ต่อต้านการทุจริต</p></div> <div><p>Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.</p></div>	<ul style="list-style-type: none">Good Corporate Governance and Anti-Corruption page 53



External Assurance Statement



LRQA Independent Assurance Statement Relating to Bangchak Corporation Public Company Limited’s Integrated Sustainability Report for the calendar year 2024

This Assurance Statement has been prepared for Bangchak Corporation Public Company Limited in accordance with our contract but is intended for the readers of this Report.

Terms of engagement

LRQA was commissioned by Bangchak Corporation Public Company Limited (BCP) to provide independent assurance on its Integrated Sustainability Report (“the report”) against the assurance criteria below using LRQA’s verification procedure. LRQA’s verification procedure is based on current best practice, is in accordance with ISAE 3000 and ISAE 3410 and uses the following principles of - inclusivity, materiality, responsiveness and reliability.

Our assurance engagement covered BCP’s operations and activities under its operational control in Thailand, which consists of two businesses which are Refinery and Oil Trading, and Marketing⁽¹⁾ and an Oil Trading business in Singapore and specifically the following requirements:^{a, b}

- Confirming that the report is in accordance with:
 - GRI Standard 2021
 - GRI 11: Oil and Gas Sector 2021
- Evaluating the reliability of data and information, to a limited level of assurance at the materiality of the professional judgement of the verifier, for only the selected indicators listed below:
 - GRI 303-3: Water withdrawal⁽²⁾ (2018)
 - GRI 303-4: Water discharge⁽²⁾ (2018)
 - GRI 303-5: Water consumption⁽²⁾ (2018)
 - GRI 305-3 Other indirect (Scope 3) GHG emissions⁽²⁾⁽³⁾ (2016)
 - GRI 305-5: Reduction of GHG emissions⁽⁴⁾ (2016)
 - GRI 305-7: Nitrogen Oxides (NOx), Sulfur Oxides (SOx), and other significant air emissions (VOC and H2S)⁽⁵⁾ (2016)
 - GRI 306- 3: Waste generated⁽⁶⁾ (2020)
 - GRI 306- 4: Waste diverted from disposal⁽⁶⁾ (2020)
 - GRI 306- 5: Waste directed to disposal⁽⁶⁾ (2020)
 - GRI 306-3: Significant spills⁽⁷⁾ (2016)
 - GRI 403-9: Work-related injuries⁽⁶⁾ (2018)
 - GRI 403-10: Work-related ill health⁽⁶⁾ (2018)
 - GRI 405-2: Ratio of basic salary and remuneration of women to men⁽⁸⁾ (2016)
 - GRI 308-1: New suppliers that were screened using environmental criteria⁽⁹⁾ (2016)
 - GRI 308-2: Negative environmental impacts in the supply chain and actions⁽⁹⁾ (2016)
 - GRI 414-1: New suppliers that were screened using social criteria⁽⁹⁾ (2016)
 - GRI 414-2: Negative social impacts in the supply chain and actions taken⁽⁹⁾ (2016)
 - OG6: Volume of Flared and Vented Hydrocarbon⁽⁷⁾
 - OGSS Emergency Preparedness⁽⁷⁾
- Evaluating the accuracy of data and information, to a reasonable level of assurance and 5% materiality, for only the selected indicators listed below:
 - GRI 302-1: Energy consumption within the organization⁽¹⁰⁾(2016)
 - GRI 305-1: Direct (Scope 1) GHG emissions⁽¹⁰⁾ (2016)
 - GRI 305-2: Energy indirect (Scope 2) GHG emissions⁽¹⁰⁾ (2016)
 - GRI 305-4 GHG emission intensity⁽¹⁰⁾ (2016)

Our assurance engagement excluded the data and information of BCP’s suppliers, contractors and any third parties mentioned in the report.

Notes:

- Companies within Refinery and Oil Trading Business in Thailand are BCP, Bangkok Fuel Pipeline and Logistics Company Limited (BFPL). Companies within Marketing business in Thailand are Bangchak Green Net Co., Ltd. (BGN) and Bangchak Retail Co., Ltd. (BCR). The verification engagement also includes BCP Trading Pte Ltd (BCPT) which is in under Refinery and Oil Trading Business that has only an office in Singapore.

^a <https://www.globalreporting.org>

^b GHG quantification is subject to inherent uncertainty.



2. Reporting scope for scope 3 GHG emissions, water withdrawal, water discharge, and water consumption includes BGN, BCR, BFPL and almost business units within Refinery and Oil Trading Business i.e. BCP Prakanong Refinery and Oil Depot, Prakanong Refinery's office, Bang Pa Inn Oil Depot, Region Business Offices, Bangchak's HQ office at M Tower, and an office of BCPT but exclude Surat Thani Oil Depot.
3. Reporting of Scope 3 GHG emissions include emissions from Upstream crude oil transportation, Downstream fuel products transportation and distribution, Waste transportation of BCP Prakanong refinery and oil depot, Purchased goods and services (i.e. crude oil and municipal water) of BCP Prakanong refinery and oil depot, Purchased goods and services (i.e. municipal water, office paper, and tissue paper) of Prakanong refinery's office, headquarter office, regional business offices and Bang Pa Inn Oil Depot, Purchased goods and service (i.e. municipal water) of BCPT, BFPL, Used of sold product of Marketing business (i.e. fuel sold via BGN's petrol stations), Purchased goods and services of Marketing business (Purchased Municipal water of BGN&BCR and Purchased fine ground coffee tissue paper of BCR), and Upstream transportation and distribution of BCR (Distribution of raw material and packaging materials from warehouse to BCR shops) and BCP's Business travel by plane.
4. Limited to BCP Prakanong refinery & oil depot, Prakanong refinery's office and Headquarter office at M Tower only.
5. Limited to a BCP Prakanong refinery, oil depot at Sukhumvit64 Road and Bang PA In Oil Depot only.
6. Limited to BCP's Prakanong refinery, oil depot and refinery office on Sukhumvit 64 Road, Headquarter office at M tower and industrial wastes of Bang Pa In Oil depot only.
7. Limited to BCP's Prakanong refinery, and oil depot on Sukhumvit 64 Road only.
8. Includes BCP only.
9. Includes BCP and purchasing done by the purchase function of BCP only.
10. Reporting scope for energy consumption and greenhouse gas emissions includes BCP Refinery & Oil Depot & its Refinery office at Sukhumvit 64 Road, Bang Pa In oil depot, Surat Thani Oil Depot, BFPL, BGN, BCR, head office and all regional offices in Thailand and an office of BCPT in Singapore.

LRQA's responsibility is only to BCP. LRQA disclaims any liability or responsibility to others as explained in the end footnote. BCP is responsible for collecting, aggregating, analysing and presenting all the data and information in the report and for maintaining effective internal controls over the systems from which the report is derived. Ultimately, the report has been approved by, and remains under the responsibility of BCP.

LRQA's Opinion

Based on LRQA's approach, we believe that BCP has, in all material respects disclosed accurate data and information related to the following selected indicators:

- GRI 302-1: Energy consumption within the organization⁽¹⁰⁾ (2016)
- GRI 305-1: Direct (Scope 1) GHG emissions⁽¹⁰⁾ (2016)
- GRI 305-2: Energy indirect (Scope 2) GHG emissions⁽¹⁰⁾ (2016)
- GRI 305-4 GHG emission intensity⁽¹⁰⁾ (2016)

The above opinion expressed is formed on the basis of a reasonable level of assurance and at 5% materiality.

Also, nothing has come to our attention that would cause us to believe that BCP has not, in all material respects:

- Met the requirements above.
- Disclosed reliable performance data and information for the selected indicators listed in the terms of engagement.
- Covered all the issues that are important to the stakeholders and readers of this report.

The opinion expressed is formed on the basis of a limited level of assurance and at the materiality of the professional judgement of the verifier.

Note: The extent of evidence-gathering for a limited assurance engagement is less than for a reasonable assurance engagement. Limited assurance engagements focus on aggregated data rather than physically checking source data at sites. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

LRQA's approach

LRQA's assurance engagements are carried out in accordance with our verification procedure. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement:

- Assessing BCP's approach to stakeholder engagement to confirm that issues raised by stakeholders were captured correctly. We did this through reviewing documents and associated results of stakeholder engagements as well as interviewing a sample of business functions responsible for engaging with their relevant stakeholders; for example, communities, end users, industrial customers, suppliers/contractors and service station operators.
- Reviewing BCP's process for identifying and determining material issues to confirm that the right issues were included in their report. We did this by:
 - researching the global sustainability issues associated with BCP's business sector
 - considering the context of the organization and material issues listed in GRI 11: Oil and Gas Sectors 2021
 - benchmarking BCP with its peers to ensure that sector specific issues were included for comparability.We also tested the filters used in determining material issues to evaluate whether BCP makes informed business decisions that may create opportunities that contribute towards sustainable development.
- Auditing BCP's data management systems to confirm that there were no significant errors, omissions or mis-statements in the report. We did this by reviewing the effectiveness of data handling process, and systems.
- Interviewing people involved in reporting the data for the selected indicators within our terms of engagement. The purpose of interviewing these responsible personnel, is to verify the accuracy and reliability of the supporting evidence presented for the selected indicators.

Note: Except for energy consumption within the organization, Scope 1 GHG emission, Scope 2 GHG emission and GHG emissions intensity, LRQA did not verify the data back to its original sources, nor did it assess the accuracy and completeness of the data reported by individual locations for all selected indicators.



- Reviewing BCP's Integrated Sustainability Report 2024 based on the agreed criteria and terms of engagement.

Observations

Further observations and findings, made during the assurance engagement, are:

- Stakeholder inclusivity: We are not aware of any key stakeholder groups that have been excluded from BCP's stakeholder engagement process. Each of BCP's businesses have applied various methods for engagement with their relevant stakeholders. Engagement results are then consolidated at the corporate level. BCP's sustainability vision and strategy, and the content of this report, have been informed by the views and expectations from these stakeholder engagements. However, the disclosure information for engaging with communities, as described in the Sustainability Report, should also include neighbouring communities around other BCP operational sites rather than just the current focus on communities around Bangchak Refinery which is considered the most significant operational site.
- Materiality: We are not aware of any material issues concerning BCP's sustainability performance that have been excluded. BCP has identified its material issues by determining stakeholder views, its sustainable context, global trends and sector specific issues. All issues, both actual and potential, from this consideration were identified and prioritised by impact assessment. These identified material issues also influence BCP's sustainability strategy, management approaches and performance disclosures.
- Responsiveness: BCP has established and implemented processes for responding to concerns from various stakeholder groups as well as management approaches for addressing all of its material issues. We believe these communication processes are effective in explaining BCP's aim in contributing towards sustainable development. However, BCP should extend its reporting scope of:
 - Significant Spill (GRI 306-3 (2016)) to cover all oil terminals, BFPL and BGN. Currently, the reported performance data is only for a BCP refinery and oil terminal at Sukhumvit64 Road. Extending this reporting scope to include all applicable business units will better demonstrate BCP's responsiveness in managing this issue.
 - Waste generated, waste diverted from disposal and waste directed to disposal as well as work-related injuries, work-related ill health and emergency preparedness to cover all business units to align with the reporting boundary of energy and GHG emissions indicators. This will demonstrate responsiveness to address these issues at a broader level.
 - The reporting scope should also be extended to include all BCP business units and operations in other countries outside of Thailand and Singapore.
- Impact: BCP has implemented processes to measure, evaluate and manage impact(s) relevant to its material issues.
- Reliability: Data management systems are properly defined and implemented for collecting and calculating the data and information associated with the selected indicators.

LRQA's standards, competence and independence

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training, and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

The verification is the only work undertaken by LRQA for BCP and as such does not compromise our independence or impartiality.



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28th February 2025

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