

POWERING SUSTAINABILITY



SUSTAINABILITY
REPORT 2024



www.ratch.co.th

Vision

To become a **leading value-oriented energy and infrastructure company** in Asia Pacific.

Corporate Value



Teamwork

Excel Synergy, Collaboration
& Strengthen Partnership.



Innovation

Boost Agility
& Encourage Innovation.



Professional

Be Entrepreneurial
& Commit to Integrity.

Mission



M1 To ensure shareholders' value creation through financial return sustainably generated by accountability for environment, society and good governance.



M2 To achieve operational excellence and enhance competitiveness.



M3 To adhere fair business conduct and strict compliance to relevant laws and regulations.



M4 To raise employees' awareness and motivation of self-development for readiness in competition and business changing.



M5 To support security of national power grid and infrastructure system.



M6 To explore potential opportunities and new alternatives in energy-related and other non-power businesses to generate growth and business expansion for shareholders.

Business Strategy



STRENGTH

Efficient operations geared towards worthwhile revenue and returns and strong foundation for excellence.

SYNERGY

Integrated operations with extended collaboration with leading partners in Thailand and abroad, for sustainable growth opportunities in the Power Business and Non-Power Business in the value chain as well as value-added innovations.

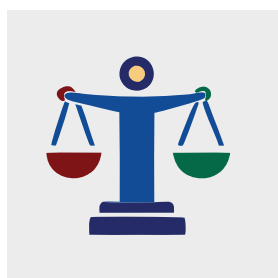
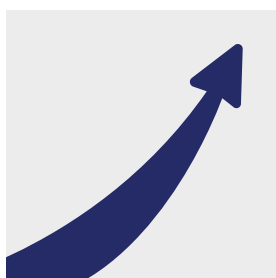
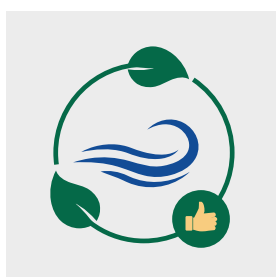


SUSTAINABILITY



Promoting renewable energy with concerns about environmental and social stewardship and governance for sustainable growth.

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Message from Chairman and Chief Executive Officer

Dear all shareholders and stakeholders,

RATCH Group PCL. remains committed to sustainable development, striving to strike a balance of economic and social prosperity and environmental factors. We hold the belief that corporate success requires both profitability and positive impacts on stakeholders, society and the environment. Our sustainability strategy has yielded concrete results as the governance, environmental and social factors have been ingrained into the operations which will further strengthen the business foundation and lead the organization towards a stable and sustainable future.

In 2024, RATCH gave a priority to competitiveness enhancement, expecting greater resilience to rapid changes and effective operations to move closer to long-term goals. We campaigned for the learning and awareness on ESG issues in work processes as well as new requirements or practices concerning climate change. Our employees were informed about the Task Force on Climate-related Financial Disclosures (TCFD), the calculation methodology of the Carbon Footprint for Organization, the internal carbon pricing, the analysis of social return on investment, etc. In addition, artificial intelligence was embraced to enhance business competitiveness and employees' adaptability to new business models. Notably, the employees worked together in inventing a total of 24 innovations, that could either raise the efficiency of internal work processes or be developed into new businesses.

Climate change is a crucial factor that demanded the launch of new policies in order to reach net zero emissions by 2050, ahead of the national target of 2065, as well as the decarbonization roadmap and other measures. RATCH has monitored and been prepared for upcoming changes in legal requirements and relevant measures, particularly those concerning the draft Thailand Climate Change Act. The draft law's key highlights have been examined and the efforts to educate employees across the enterprise have been launched. In addition, RATCH and all power plants in Thailand which are under our operational control have prepared the greenhouse gas emissions registry for Scope 1, 2 and 3 emissions and the organization's carbon footprints for Thailand Greenhouse Gas Management Organization's certification.



(Mr. Sutat Patmasiriwat)

Chairman

In this year, RATCH started the study in internal carbon pricing and explored pricing approaches together with external specialists. It will be a tool to manage climate-related risks, prepare the Company for the compulsory climate policy, and provide data for our decisions in environmental-friendly investment and the emissions reduction plan.

Regarding community and social responsibility that involves stakeholders across the value chain, RATCH emphasizes stakeholder engagement and treatments based on honesty, equitability, fairness, transparency and respect for human rights.

RATCH's operations have consistently distributed economic value to stakeholders and the community and social projects have created positive impacts on communities as well as the Company. In 2024, RATCH was bestowed the Cross of Development from Lao PDR's Ministry of Education and Sports, recognized as a foreign business that contributed to the country's vocational education development under the Education for Career Empowerment Project. The project, having been carried out since 2009 in collaboration with the Ministry of Education and Sports, has produced skilled labor in response to market demands and promoted entrepreneurship. Based on Social Value International (SVI)'s Social Return on Investment (SROI) evaluation tool, the project is not only proved financially worthwhile but also outstanding in terms of positive economic, social and environmental impacts. The benefits included lower expenses for teachers and students, modern laboratories/curricula, solar power and clean water for remote communities, lower fuel consumption for lamps and motorcycles, etc. RATCH has also recruited graduates from participating technical colleges, totaling 32 to date, and they have contributed economic value to the Company. We have achieved this thanks to the dedication of the Management and employees.

Driving the sustainability operations towards progress and our goals will remain the 5 core aspects enshrined in the Sustainability Strategy; building community engagement, respect for human rights, customer-relationship management, supply chain management, and climate change. Sustainability and climate actions will be subsequently integrated in support of our business goals.

RATCH's Board of Directors, the Management and all employees would like to thank all shareholders and stakeholders for your contribution to the Company's achievements and progress. Thank you for all recommendations beneficial to the Company's development and improvement. We believe in our capacity and readiness to create a sustainable future without leaving anyone behind and to safeguard the environment for the next generation.



A stylized, handwritten signature in white ink on a teal background.

(Mr. Nitus Voraphonpiput)

Chief Executive Officer

Sustainability Performance Highlights in 2024



Environmental dimension

GHG management

Equity installed capacity of renewable energy investment :
2,972.22 MW

Volume of saved energy :

- Heat Rate = **80,768 MMBTU**
- Electricity = **2,207 MWh**

Volume of consumed renewable energy :

17,085 MWh

Reduced GHGs :

3,142,163 tCO₂e

Certified carbon credits from T-VER projects :

- **3 Projects**
- Certified carbon credit amount **4,967 tCO₂e**

Calculated carbon credits from T-VER projects :

- **6 projects**
- Total calculated carbon credits **39,820.75 tCO₂e**

(Throughout the project duration)

Promoting forest conservation and expansion for carbon sequestration

- Forest areas conserved under “Love the Forests and the Community Project” : **37,062.61 rai**
- Community forest areas under conservation and promoted by the company for carbon credit assessment : **5,695 rai**
- Reforestation areas for carbon credit assessment : **386.94 rai**
- Mangrove areas for carbon credit assessment : **113.47 rai**



Resources and waste management

Hazardous wastes not deposited in landfills :
371.32 tons

Saved raw water consumption :
1,179,353 m³

Water reuse :
4.71%

Biodiversity assessment projects :
19 projects 31,866.7 hectares



Environmental complaints and penalties on legal non-compliance : **None**

Community benefiting from the Love the Forests and the Community Project :

- **19 Villages**
- **6,794 Households**
- Forest conservation prize of **1,450,000 Baht** used for;
 - **59.61%** for community development
 - **30.76%** for community forest conservation
 - **23.08%** for community forest restoration



Students, teachers, and communities benefiting from the vocational skill enhancement education project in the Lao PDR:

- **40 final-year** students from two colleges participated in the intensive training
- **811 students** continued their studies or secured employment, accounting for **78.26%** of the 1,035 students who completed the training between 2018 and 2024
- 33 households receiving solar power generation systems (**able to generate 4,950 watts**) providing a usable electricity output of **2,277 kWh**
- **SROI (2011-2023) = 1.36 : 1**

Communicating Human Rights Practices within the Group to reduce risks and impacts on employees and business Partners :

- **6 companies** were visited and engaged in discussions (**3 in Thailand and 3 in the Lao PDR**)



- **No** violation on human rights

- **Zero** complaint from community

Social dimension

Safety and occupational

Lost-Time Injury Frequency Rate (LTIFR) :

- Employee : **0 per 200,000 hours** worked
- Supplier : **0 per 200,000 hours** worked



Occupational illness and disease rate of Employees and Suppliers :
0

Fatalities rate :

0

Safety hours :

6,896,555 hours

Community responsibility

Social investment :

Baht 209.19 million



Economic and governance dimension

Economic value

Investment in renewable energy :

- **Baht 1,890.94 million**
- **7.34%** of total investment in 2024

Revenue from renewable electricity :

- **Baht 5,698 million**
- **13.5%** of total revenue in 2024



Investment in other business and innovation :

- **Baht 546.44 million**
- **2.12%** of total investment in 2024

Revenue from other power business and innovation :

- **Baht 2,179 million**
- **5.16%** of total revenue in 2024

Supply chain management

Spending ratio of significant suppliers :
85.92% of total spending

Significant suppliers under ESG risk assessment :
100% of all significant suppliers

Supplier assessment :

148 suppliers

Suppliers invited to participate in the Thai Private Sector Collective Action Against Corruption (CAC) :

41 suppliers



No. of incidence on personal data breach and confidential information leak : **None**

Breach of the Code of Conduct and complaint on fraud and corruption : **None**

Awards and Recognition



Cross of Development Medal presented by Ministry of Education and Sports of Lao PDR for praising the Company's support in national vocational education development

Ranked Excellence from the Corporate Governance Report of Thai Listed Companies 2024 (5 star) organized by Thai Institute of Directors Association with support from the Stock Exchange of Thailand for the 17th consecutive year



Full score in the Annual General Meeting Quality Assessment 2024 (AGM Checklist 2024) by Thai Investors Association for the 6th consecutive year



SET ESG Ratings 2024 at AAA Level by the Stock Exchange of Thailand, being in Group 2 with market capitalization between Baht 30,000 – 100,000 million (inclusion into THSI for the 10th consecutive year)



Sustainability Disclosure Award 2024 from Thaipat Institute



Medal to benefactor in Community Forest Promotion and Development 2024 from the Royal Forest Department



CFI.co Award 2024 (Capital Finance International) – ESG Financing Champion for Renewable Energy Projects APAC 2024 from Capital Finance International, United Kingdom



Ratchaburi Electricity Generating Co., Ltd.



Honorary Award for the Power Plant Sustainability Index Development Project in Thailand 2024, presented by the Energy Regulatory Commission



Happy@Moral Business Award 2024: Model Moral Wellness Learning Center selected by Morality Promotion (Public Organization) in collaboration with Thai Health Promotion Foundation



Corporate Social Responsibility (CSR) Award 2024 for Outstanding Provincial-Level Business CSR Promotion, presented by the Ministry of Social Development and Human Security



Honorary CSR-DIW Continuous Award 2024 for operator's social responsibility standard from the Department of Industrial Works, Ministry of Industry for the 11st consecutive year



RATCH Energy Rayong Co., Ltd.

Award under the Zero Accident Campaign 2024 from Thailand Institute of Occupational Safety and Health (Public Organization)



Nava Nakorn Electricity Generating Co., Ltd.

- EIA Monitoring Awards 2024 by Office of Natural Resources and Environmental Policy and Plannin
- Award under the Zero Accident Campaign 2024 from Thailand Institute of Occupational Safety and Health (Public Organization)
- Honorary CSR-DIW Award 2024 for Corporate Social Responsibility Standards, presented by the Department of Industrial Works, Ministry of Industry
- Good-Level Certification for PATHUMTHANI OCCUPATIONAL HEALTH & SAFETY PROJECT CONTEST 2024 by Pathum Thani Provincial Office of Welfare and Labor Protection



RATCH Pathana Energy PCL.

- Ranked Excellence from the Corporate Governance Report of Thai Listed Companies 2024 (5 star) organized by Thai Institute of Directors Association with support from the Stock Exchange of Thailand for the 5th consecutive year
- SET ESG Ratings 2024 at AA Level by the Stock Exchange of Thailand
- Certified membership of Thai Private Sector Collective Action Against Corruption
- Sustainability Disclosure Acknowledgement Award 2024 for Sustainability Reporting, presented by the Thaipat Institute
- Investors' Choice Award 2024 by Thai Investors Association



Sahacogen Green Co., Ltd.

- Certified membership of Thai Private Sector Collective Action Against Corruption
- Platinum-Level Certification for Occupational Health, Safety, and Workplace Environment Management System for the Second Consecutive Time, awarded by the Thailand Institute of Occupational Safety and Health (Public Organization)



Sahagreen Forest Co., Ltd.

Certified membership of Thai Private Sector Collective Action Against Corruption

Certificated

Certified Standard	Certified Entity
Carbon Footprint for Organization by Thailand Greenhouse Gas Management Organization (Public Organization)	<ul style="list-style-type: none"> • RATCH Group PCL. • RATCH Pathana Energy PCL. • Ratchaburi Electricity Generating Co., Ltd. • RATCH Cogeneration Co., Ltd. • RATCH Energy Rayong Co., Ltd. • Nava Nakorn Electricity Generation Co., Ltd. • Berkprai Cogeneration Co., Ltd. • Sahacogen Green Co., Ltd. • Sahagreen Forest Co., Ltd.
Carbon Footprint of Products by Thailand Greenhouse Gas Management Organization (Public Organization)	<ul style="list-style-type: none"> • RATCH Pathana Energy PCL. • Sahacogen Green Co., Ltd. • Sahagreen Forest Co., Ltd.
Thailand Voluntary Emission Reduction Program: Energy efficiency category by Thailand Greenhouse Gas Management Organization (Public Organization)	<p>Energy Efficiency Project through LED Lighting Replacement by Ratchaburi Electricity Generating Company Limited</p> <ul style="list-style-type: none"> • Ratchaburi Electricity Generating Company Limited (Project owner/developer) • RATCH Group Public Company Limited (Co-developer)
Thailand Voluntary Emission Reduction Program: Renewable energy category by Thailand Greenhouse Gas Management Organization (Public Organization)	<p>Solar Floating Project at Ratchaburi Electricity Generating Company Limited</p> <ul style="list-style-type: none"> • Ratchaburi Electricity Generating Company Limited (Project owner/developer) • RATCH Group Public Company Limited (Co-developer)
Thailand Voluntary Emission Reduction Program: Forestation and Green area category by Thailand Greenhouse Gas Management Organization (Public Organization)	<p>Sustainable Forestation Project of Ratchaburi Power Plant by Ratchaburi Electricity Generating Company Limited</p> <ul style="list-style-type: none"> • Ratchaburi Electricity Generating Company Limited (Project owner/developer) • RATCH Group Public Company Limited (Co-developer)
Quality Management System under ISO 9001:2015 standard	<ul style="list-style-type: none"> • Nava Nakorn Electricity Generation Co., Ltd. • RATCH Cogeneration Co., Ltd. • Berkprai Cogeneration Co., Ltd. • RATCH Pathana Energy PCL.
Environmental Management System under ISO 14001:2015 standard	<ul style="list-style-type: none"> • Ratchaburi Electricity Generating Co., Ltd. • Nava Nakorn Electricity Generation Co., Ltd. • RATCH Pathana Energy PCL.
Occupational Health and Safety Management System under ISO 45001:2018 standard	<ul style="list-style-type: none"> • Ratchaburi Electricity Generating Co., Ltd. • RATCH Pathana Energy PCL.
Green Industry Award – Level 3 (Green System) by the Department of Industrial Works, Ministry of Industry	<ul style="list-style-type: none"> • Ratchaburi Electricity Generating Co., Ltd. • Nava Nakorn Electricity Generation Co., Ltd. • RATCH Pathana Energy PCL.

About this Report



Scope of the report

Reporting standard	GRI Standards 2021
Reporting principles	Reporting “in accordance with” GRI Standards, following the Global Reporting Initiative framework and GRI Electric Utilities Sector Disclosures
Material topics	<ul style="list-style-type: none"> • Sustainability strategy, policy, operations and performance in 2024, encompassing the material topics in economic, governance, environmental and social dimensions. • Disclosure of climate actions under the framework of the Recommendation of the Task Force on Climate-related Financial Disclosures (TCFD)
Reporting boundary	Encompassing the operations of RATCH Group Public Company Limited, its operational controlled subsidiaries and joint ventures, located in Thailand and abroad, and operating in the Group’s core business (electricity), with the analysis of topics material to stakeholders and the Company.
Reporting period	Concerning the operations of the Company and operational controlled entities from 1 January 2024 to 31 December 2024.
Disclosure	Corporate website: www.ratch.co.th 
Number of covered entities	17 entities, an increase of 5 from 2023 following investment expansion.
Coverage of reporting boundary	The combined revenue of 17 entities accounted for 84.86% of total revenue in 2024.

The list of companies covered in this report is as follows:

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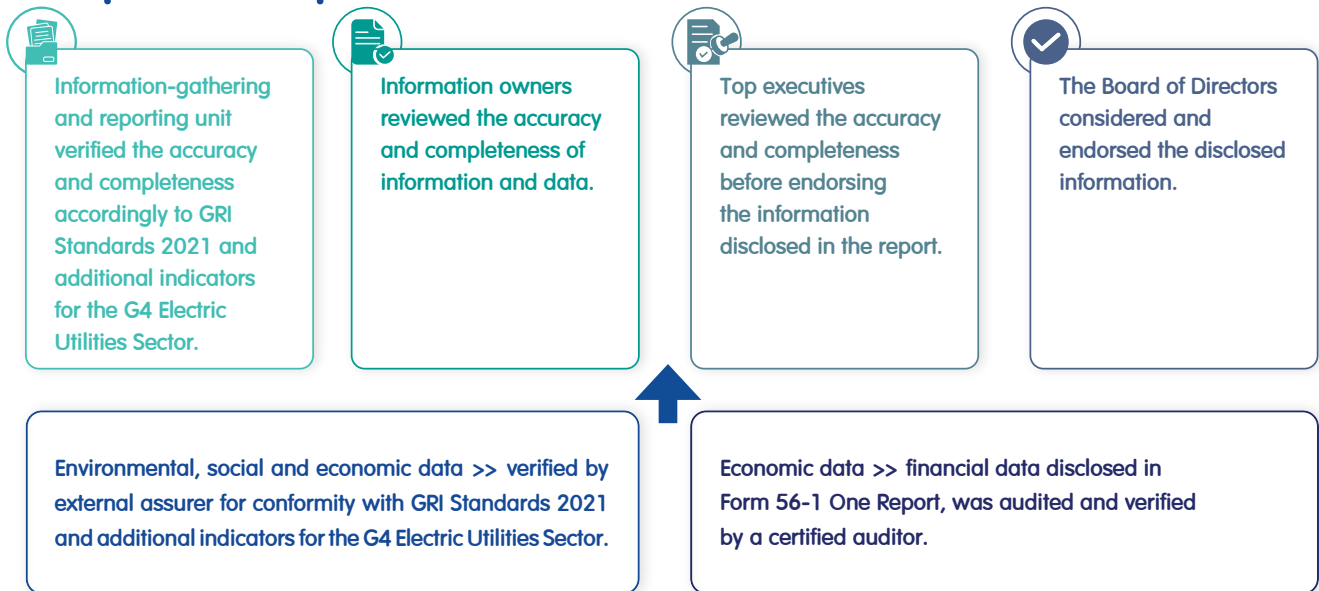
Operational controlled entities	Location	Reporting topics												
		Economic			Environment						Social			
		Stakeholder engagement	Production	Suppliers	Air	Water	Waste	Biodiversity	Energy use	GHG	Safety	Employee	Community	Human Rights
9. Songkha Biomass Co., Ltd. (SKB)	Thailand	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓
10. Solarta Co., Ltd. (SLT)	Thailand	✓	✓	✓		✓	✓				✓			✓
11. Nexif Ratch Energy Australia Pty Ltd.	Australia	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12. Ratch-Australia Corporation Pty Ltd (RAC)	Australia	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
13. Fareast Renewable Development Pte. Ltd. (FRD) (Asahan-1)	Singapore	✓	✓					✓			✓			✓
14. Chubu Ratchaburi Electric Service Co., Ltd.	Thailand													
15. Hin Kong Power Holding Co., Ltd.	Thailand	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
16. Ratch-Lao Service Co., Ltd. (RL)	Lao PDR	✓									✓	✓		✓
17. Asia Water Co., Ltd. (AWC)	Lao PDR	✓	✓			✓	✓							✓

Noted : ✓ Reporting information ■ Given information insufficient

Reporting reliability and assurance

RATCH upholds the reliability, transparency and verifiability of the information disclosed in this report. The information was gathered as indicated by the GRI Standards; verified in terms of accuracy and completeness from the Company's internal departments; and "awarded the assurance" from an independent and unrelated external assurance body. The assurance body was fairly and transparently selected under the Company's procurement rules and procedure, to verify the conformity of this report concerning the Accuracy, Balance, Clarity, Comparability, Completeness, Sustainability Context, Timeliness and Verifiability in accordance with GRI Standards 2021 and GRI G4 Electric Utilities Sector Disclosure, based on the AA1000 Assurance Standard (AA1000AS V3) methodology. The Assurance Statement appeared on Page 264

Preparation process



RATCH also sought assurance for altogether 31 environmental, social and economic indicators material to the Company and stakeholders.

Dimension	Indicator	GRI Standards	Topic Standards
Economic	1) Local spending proportion	GRI 204: Procurement practice 2016	GRI 204-1: Proportion of spending on local suppliers
	2) Anti-corruption	GRI 205: Anti-corruption	GRI 205-1: Operations assessed for risks related to corruption
Environment	3) Volume of used materials (by weight or volume)	GRI 301: Materials 2016	GRI 301-1: Materials used by weight or volume
	4) Energy consumption within the organization	GRI 302: Energy 2016	GRI 302-1: Energy consumption within the organization
	5) Energy use per unit of generated electricity		GRI 302-3: Energy intensity
	6) Reduction of energy use		GRI 302-4: Reduction of energy consumption
	7) Volume of water withdrawal	GRI 303: Water and effluents 2018	GRI 303-3: Water withdrawal
	8) Volume of water discharge		GRI 303-4: Water discharge
	9) Volume of water consumption		GRI 303-5: Water consumption
	10) Significant impact of activities, product and service on biodiversity	GRI 304: Biodiversity 2016	GRI 304-2: Significant impacts of activities, product and services on biodiversity
	11) Volume of direct greenhouse gas emission	GRI 305: Emissions 2016	GRI 305-1: Direct (Scope 1) GHG emissions
	12) Volume of energy indirect greenhouse gas emission		GRI 305-2: Energy indirect (Scope 2) GHG emissions
	13) Volume of other indirect greenhouse gas emission		GRI 305-3 Other indirect (Scope 3) GHG emissions

Dimension	Indicator	GRI Standards	Topic Standards
Environment (continue)	14) GHG emission per MWh (net generated electricity)		GRI 305-4: GHG emissions intensity
	15) Volume of GHG reduction		GRI 305-5: Reduction of GHG emissions
	16) Volume of NO _x , SO _x and other significant air emission		GRI 305-7: Nitrogen oxides (NO _x), sulfur oxides (SO _x), and other significant air emissions
	17) Volume of waste generated	GRI 306: Waste 2020	GRI 306-3: Waste generated
	18) Volume of waste diverted from disposal		GRI 306-4: Waste diverted from disposal
	19) Volume of waste disposal		GRI 306-5: Waste directed to disposal
	20) New suppliers were assessed environment risk	GRI 308: Supplier environment assessment	GRI 308-1: New suppliers that were screened using environmental criteria
Social	21) Number of new hired and resigned employees	GRI 401: Employment 2016	GRI 401-1: New employee hires and employee turnover
	22) Number of employees taking parental leave		GRI 401-3: Parental leave
	23) Work-related injuries	GRI 403: Occupational health and safety 2018	GRI 403-9: Work-related injuries
	24) Work-related ill health		GRI 403-10: Work-related ill health
	25) Volume of average employee's training hour per year	GRI 404: Training and education 2016	GRI 404-1: Average hours of training per year per employee
	26) Proportion of employees receiving annual performance appraisal and career development review		GRI 404-3: Percentage of employees receiving regular performance and career development reviews
	27) Incident of discrimination and corrective actions	GRI 406: Non-discrimination 2016	GRI 406-1: Incidents of discrimination and corrective actions taken
	28) Risk arisen from operations and negative impact on local community	GRI 413: Local Communities 2016	GRI 413-2: Operations with significant actual and potential negative impacts on local communities
	29) New suppliers were assessed social risk	GRI 414: Supplier social assessment 2016	GRI 414-1: New suppliers that were screened using social criteria
	30) Negative social impact assessment in supply chain		GRI 414-2: Negative social impacts in the supply chain and actions taken
	31) Complaints on customer privacy breach and protection	GRI 418: Customer Privacy	GRI 418-1: Substantiated complaints concerning breaches of customer privacy and losses of customer data

More information or inquiry required, please contact :

Corporate Affairs Department



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RATCH Business Profile



Company Name	RATCH Group Public Company Limited
Stock Symbol	RATCH
Establishment Date	7 March 2000
Paid-up Capital	THB 21,749,999,850
Address	Head Office 72 Ngam Wong Wan Rd, Bangkok, Muang Nonthaburi, Non-thaburi Province, 11000
Nature of Business	<p>Operating as a holding company with interests in power generation businesses and others</p> <ul style="list-style-type: none"> • Power Business: the primary contributor of revenue, with investments in entities that generate electricity from primary fuels and renewable sources as well as entities in the upstream and downstream of the power-generation business. • Other Business: the contributor of additional revenue, consisting of investments in healthcare services, transport infrastructure, and tap water production.

Investments as of 2024



















RATCH has had direct and indirect investment in a total of 77 subsidiaries and joint ventures in Thailand and abroad.

Entities	No. of power entities		No. of non-power entities	
	Thailand	Abroad	Thailand	Abroad
31 subsidiaries (share-holding above 50%)	11	16	3	1
46 joint ventures (shareholding no more than 50%)	14	15	13	4
Total	25	31	26	5






Electricity generation business



Electricity generation is the principal business that contributed 95% of total revenue in 2024. RATCH takes into consideration the national power development plan and the target on greenhouse gas emission reduction as the framework in determining new investment projects which should be aligned with the clearly-specified fuel sources. Then, the Company will consider the balancing of investment in green field and brown field projects as well as acquisitions of existing projects.

As of 31 December 2024, the Company's equity installed capacity from fossil fuels and renewable energy sources totaled 10,814.83 megawatts (MW). Details are as follows:

Classified by fuel source		Classified by development stage	
Fossil fuels	Renewable energy	Operating	Under construction and development
7,842.61 MW (72.52%)	2,972.22 MW (27.48%)	9,056.13 MW (83.74%)	1,758.70 MW (16.26%)
 Natural gas = 6,213.18 MW  Coal = 1,629.43 MW	 Solar power = 362.11 MW  Wind power = 1,643.35 MW  Hydro power = 844.93 MW  Biomass = 11.83 MW  Battery Energy Storage System = 110.00 MW	 Natural gas = 5,808.48 MW  Coal = 1,629.43 MW  Solar power = 125.11 MW  Wind power = 891.75 MW  Hydro power = 589.53 MW  Biomass = 11.83 MW	 Natural gas = 404.70 MW  Solar power = 237.00 MW  Wind power = 751.60 MW  Hydro power = 255.40 MW  Battery Energy Storage System = 110.00 MW

Classified by location

Type of power plant	Status	Classified by location						
		Thailand	Lao PDR	Vietnam	Indonesia	Philippines	Japan	Australia
 Natural gas	Operating	4,960.13	-	-	145.15	-	-	703.20
	Under construction and development	404.70	-	-	-	-	-	-
 Coal	Operating	-	751.20	136.71	741.52	-	-	-
	Under construction and development	-	-	-	-	-	-	-
 Solar power	Operating	42.29	1.94	-	-	36.36	2.02	42.50
	Under construction and development	13.95	-	-	-	71.05	-	152.00
 Wind power	Operating	41.40	-	15.16	-	-	-	835.19
	Under construction and development	-	-	59.60	-	440.00	-	252.00
 Hydro power	Operating	-	454.16	49.17	86.20	-	-	-
	Under construction and development	-	213.00	5.55	36.85	-	-	-

Type of power plant	Status	Classified by location						
		Thailand	Lao PDR	Vietnam	Indonesia	Philippines	Japan	Australia
 Biomass	Operating	11.83	-	-	-	-	-	-
	Under construction and development	-	-	-	-	-	-	-
 Battery Energy Storage System	Operating	-	-	-	-	-	-	-
	Under construction and development	-	-	-	-	-	-	110.00
Total	Operating	5,055.65	1,207.30	201.04	972.87	36.36	2.02	1,580.89
	(%)	46.75	11.16	1.86	9.00	0.34	0.02	14.62
	Under construction and development	418.65	213.00	65.15	36.85	511.05	-	514.00
	(%)	3.87	1.97	0.60	0.34	4.73	-	4.75
	Total	5,474.30	1,420.30	266.19	1,009.72	547.41	2.02	2,094.89
	(%)	50.62	13.13	2.46	9.34	5.06	0.02	19.37

Equity holdings in invested power plants

Project Type	Location	Project Name	Installed capacity (MW)	Equity (%)	Equity installed capacity (MW)	Project status	Operational control per reporting boundary
IPP Gas-fired	Thailand	Ratchaburi	3,645.00	100.00	3,645.00	Operating	✓
		Ratchaburi Power	1,490.00	25.00	372.50	Operating	✗
		Hin Kong Power Block 1	770.00	51.00	392.70	Operating	✓
		Hin Kong Power Block 2	770.00	51.00	392.70	Construction	✗
	Australia	Kemerton	315.20	100.00	315.20	Operating	✓
		Townsville	234.00	100.00	234.00	Operating	✓
		Snapper Point	154.00	100.00	154.00	Operating	✓
	Indonesia	Riau	296.23	49.00	145.15	Operating	✗
IPP Coal-fired	Lao PDR	Hongsa	1,878.00	40.00	751.20	Operating	✗
	Vietnam	Thang Long	620.00	22.05	136.71	Operating	✗
	Indonesia	Paiton	2,045.00	36.26	741.52	Operating	✗
SPP Gas-fired	Thailand	RATCH-Cogeneration	119.75	100.00	119.75	Operating	✓
		RATCH-Cogeneration (Extension Part)	31.20	100.00	31.20	Operating	✓
		Nava Nakorn	141.60	40.00	56.64	Operating	✓

Project Type	Location	Project Name	Installed capacity (MW)	Equity (%)	Equity installed capacity (MW)	Project status	Operational control per reporting boundary
SPP Gas-fired (continue)	Thailand (continue)	Nava Nakorn extension part 1	59.97	40.00	23.99	Operating	✓
		Nava Nakorn extension part 2	30.00	40.00	12.00	Construction	✓
		Ratchaburi World Co-generation	235.00	40.00	94.00	Operating	✗
		Berkprai Cogeneration	99.46	35.00	34.81	Operating	✓
		RATCH Energy Rayong	98.00	100.00	98.00	Operating	✓
		RATCH Pathana Energy	153.00	51.67	79.06	Operating	✓
		REN Korat	31.20	40.00	12.48	Operating	✗
Wind farm	Thailand	Huay Bong 2	103.50	20.00	20.70	Operating	✗
		Huay Bong 3	103.50	20.00	20.70	Operating	✗
	Australia	Collector	226.80	100.00	226.80	Operating	✓
		Mount Emerald	180.45	100.00	180.45	Operating	✓
		Yandin	214.20	70.00	149.94	Operating	✓
		Lincoln Gap 1 & 2	212.00	100.00	212.00	Operating	✓
		Lincoln Gap 3	252.00	100.00	252.00	Development	✓
		Starfish Hill	33.00	100.00	33.00	Operating	✓
		Toora	21.00	100.00	21.00	Operating	✓
		Windy Hill	12.00	100.00	12.00	Operating	✓
	Vietnam	Ecwin	29.70	51.04	15.16	Operating	✗
		Ben Tre	80.00	74.50	59.60	Construction	✗
	Philippines	Nearshore WF (San Miguel)	448.99	49.00	220.00	Development	✗
		Offshore WF (Lucena)	448.99	49.00	220.00	Development	✗
Solar farm	Thailand	Solar Power 3, 4, 7	21.60	40.00	8.64	Operating	✗
		Solarta (8 projects)	42.30	49.00	20.73	Operating	✓
		ATCE 1-5	29.00	15.53	4.50	Operating	✗
		PPS and MRS	7.40	15.53	1.15	Operating	✗
		Impact Solar	12.60	51.67	6.51	Operating	✓

Project Type	Location	Project Name	Installed capacity (MW)	Equity (%)	Equity installed capacity (MW)	Project status	Operational control per reporting boundary
Solar farm (continue)	Thailand (continue)	Solarist Thungfai	27.00	51.67	13.95	Construction	✓
		Saha Green Solar Rooftop	1.48	51.67	0.76	Operating	✓
	Australia	Collinsville	42.50	100.00	42.50	Operating	✓
		Marulan	152.00	100.00	152.00	Development	✓
	Japan	Nanao and Nogata	13.00	15.53	2.02	Operating	✗
	Lao PDR	EDL-Gen portfolio	19.20	10.11	1.94	Operating	✗
	Philippines	Calabanca	74.20	49.00	36.36	Operating	✗
		NPSI (Bacolod)	145.00	49.00	71.05	Construction	✗
Biomass	Thailand	Songkhla Biomass	9.90	40.00	3.96	Operating	✓
		Sahacogen Green Biomass Lamphun	9.60	51.67	4.96	Operating	✓
		Sahagreen Forest Biomass Kamphaengphet	5.63	51.67	2.91	Operating	✓
Hydropower	Lao PDR	Nam Ngum 2	615.00	25.00	153.75	Operating	✗
		Xe Pian-Xe Namnoy	410.00	25.00	102.50	Operating	✗
		Sekong 4A-B	355.00	60.00	213.00	Development	✗
		EDL-Gen portfolio	1,957.52	10.11	197.91	Operating	✗
	Indonesia	Asahan-1	180.00	47.89	86.20	Operating	✓
		Sibundong	73.70	50.00	36.85	Development	✗
	Vietnam	Coc San	29.70	58.48	17.37	Operating	✗
		Song Giang 1	12.00	46.23	5.55	Construction	✗
		Song Giang 2	37.00	46.23	17.10	Operating	✗
		Minh Luang	30.00	49.00	14.70	Operating	✗
Battery Energy Storage System	Australia	BESS Lincoln Gap 2	10.00	100.00	10.00	Construction	✓
		BESS Lincoln Gap 3	100.00	100.00	100.00	Development	✓
Total			20,005.07		10,814.83		

Other business

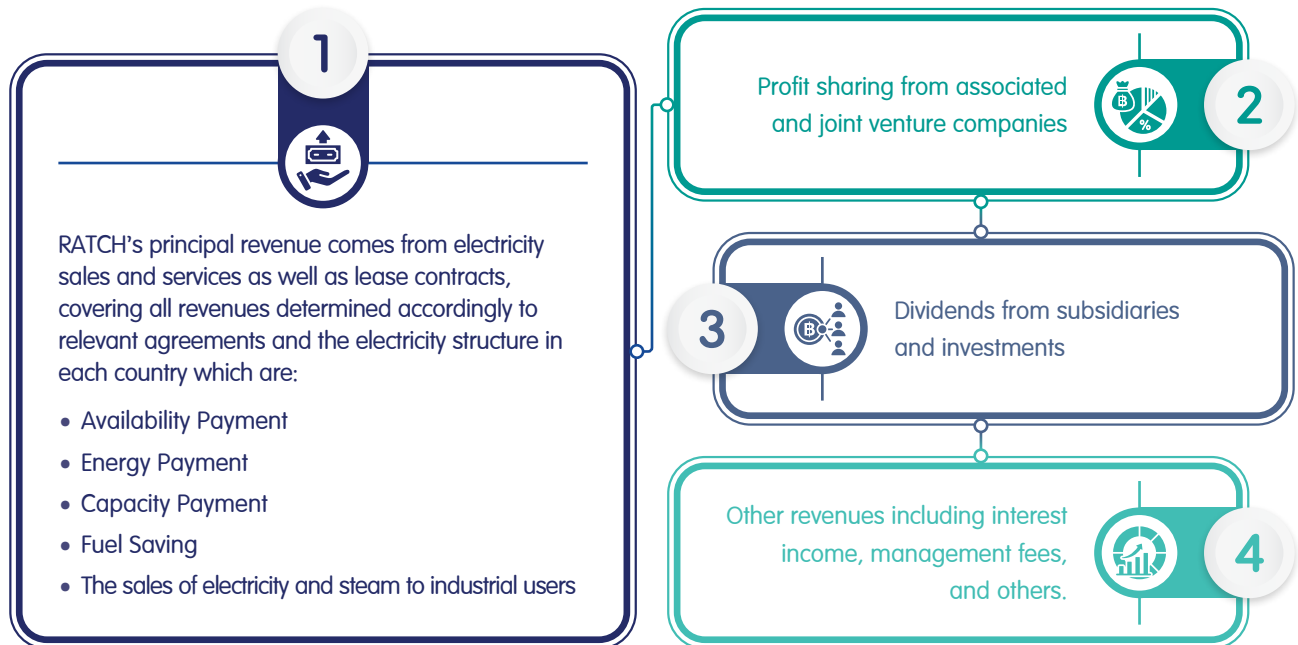
RATCH has diversified into other businesses, taking into consideration the business potential and capability in contributing stable income. The Company mostly holds a minority stake and has no operational control in these ventures. As of 2024, the Company invested in 21 entities as follows:

Project /Company	Location	Nature of business	Share holding (%)	Operational control per reporting boundary	Equity investment: (million baht)
Transport infrastructure					
MRT Monorail Pink Line (Khae Rai–Min Buri) by Northern Bangkok Monorail Co., Ltd.	Thailand	<ul style="list-style-type: none"> Provides operation and maintenance services for MRT Monorail Pink Line Project (Khae Rai–Min Buri) Under concession agreement for 33 years and 3 months 	10.00	✗	1,440.00
MRT Monorail Yellow Line (Lat Phrao–Samrong) by Eastern Bangkok Monorail Co., Ltd.	Thailand	<ul style="list-style-type: none"> Provides operation and maintenance services for MRT Monorail Yellow Line Project (Lat Phrao–Samrong) Under concession agreement for 33 years and 3 months 	10.00	✗	1,440.00
M6 Intercity Highway (Bang Pa-in – Nakhon Ratchasima) by BGSR 6 Co., Ltd.	Thailand	<ul style="list-style-type: none"> Provides operation and maintenance services for the fee-collection system of M6 Highway Under 33-year concession agreement 	10.00	✗	100.00
M81 Intercity Highway (Bang Yai – Kanchanaburi) by BGSR 81 Co., Ltd.	Thailand	<ul style="list-style-type: none"> Provides operation and maintenance services for the fee-collection system of M81 Highway Under 33-year concession agreement 	10.00	✗	85.00
Communications system and IOT					
Internet of Things by Things on Net Co., Ltd.	Thailand	Provides an integrated IoT (Sigfox) solution services from consulting to strategic planning and IoT data analytics as well as distribution of IT platform and IoT solutions	35.00	✗	180.02
Fiber optic communications networks by Smart Infranet Co., Ltd.	Thailand	Provides rental fiber optic communications networks	51.00	✗	280.50
Tap water					
Asia Water Co.,Ltd.	Lao PDR	<ul style="list-style-type: none"> Produces and distributes tap water to Nakhonluang Water Supply Enterprise of Lao, Vientiane capital Under 50-year concession agreement 	40.00	✓	179.11
Fuel supply service					
Biomass fuel supply by Songkhla Biofuel Co., Ltd.	Thailand	Provides biomass fuel to Songkhla Biomass Power Plant	40.00	✗	0.40
Bangkok Aviation Fuel Services Public Co., Ltd.	Thailand	Provides integrated aviation fuel services and invests in domestic and overseas renewable energy businesses	15.53	✗	2,712.14
Phufai Mining Co.,Ltd.	Lao PDR	Operates a lignite mine for fuel supply to Hongsa Power Plant	37.50	✗	630.00

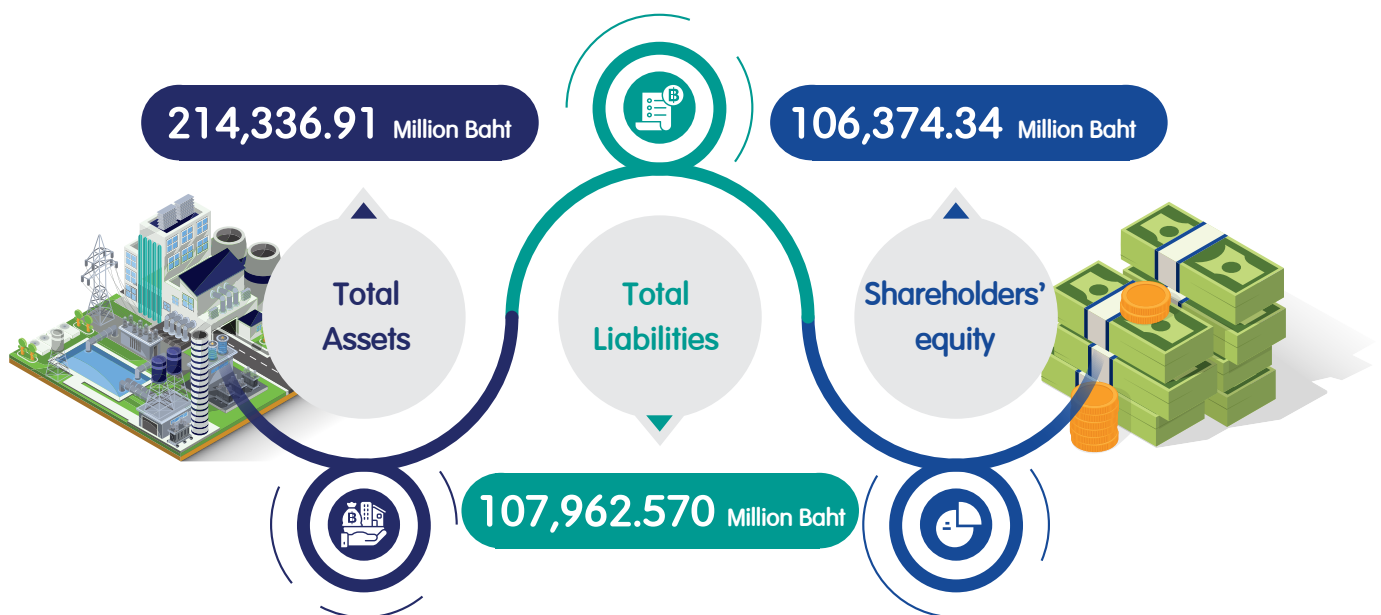
Project /Company	Location	Nature of business	Share holding (%)	Operational control per reporting boundary	Equity investment: (million baht)
Wood pellet production and distribution by Siphandone-RATCH LAO Co., Ltd.	Lao PDR	<ul style="list-style-type: none"> Cultivates fast-growing trees for wood pellet production and distributes to Japanese-base Kyuden Mirai Energy Co., Ltd Under 15-year purchase agreement 	25.00	✗	57.91
Healthcare service					
Principal Capital PCL.	Thailand	Invests in private hospitals in secondary cities across the country	10.00	✗	1,557.71
Principal Healthcare – Sakhon Nakhon Co., Ltd.	Thailand	Provides healthcare services for people in Sakhon Nakhon and nearby provinces	25.00	✗	75.00
Principal Healthcare – Mukdahan Co., Ltd.	Thailand	Provides healthcare services in Mukdahan and nearby provinces	25.00	✗	75.00
Bangkok Chain International (Lao PDR) Co., Ltd.	Lao PDR	Provides healthcare services and operates Kasemrat International Hospital in Vientiane and its vicinity	9.91	✗	190.00
Power and energy innovation					
Innopower Co., Ltd.	Thailand	Supports investment in new businesses concerning energy and innovation	30.00	✗	180.00
RATCH Tex Co., Ltd.	Thailand	Operates Solar PV Floating Systems business	60.00	✗	0.60
Power-related businesses					
Chubu Ratchaburi Electric Service Co., Ltd.	Thailand	Provides operation and maintenance services to Ratchaburi Power's Power Plant	50.00	✓	10.00
EGAT Diamond Service Co., Ltd.	Thailand	Provides gas turbine refurbishment services for power plants	10.00	✗	62.30
RATCH-Lao Services Co., Ltd.	Lao PDR	Invests in power and non-power businesses	99.99	✓	336.86
EDL – Generation Public Company	Lao PDR	Securities investment in Lao Securities Exchange via subsidiaries – RATCH-Lao Services Co., Ltd. (5.65%) and RH International (Singapore) Corporation Pte. Ltd. (4.46%)	10.11	✗	3,312.88

Revenue structure

RATCH's revenue can be grouped into four categories as follows:



Financial position (As of 31 December 2024)



Credit ratings

TRIS Ratings	Moody's	S&P Ratings
AA+	Baa1	BBB-
Outlook : Stable	Outlook : Negative	Outlook : Stable

Shareholding structure (As of 6 September 2024)

Top 10 largest shareholders

Rank	Shareholders	No. of shares	Shareholding (%)
1	Electricity Generating Authority of Thailand *	978,750,000	45.00
2	Electricity Generating Authority of Thailand Saving and Credit Cooperative Limited	118,282,293	5.44
3	Social Security Office	101,870,550	4.68
4	Thai NVDR Co., Ltd.	75,446,198	3.47
5	Mr. Prateep Tangmatitham	28,469,950	1.31
6	SOUTH EAST ASIA UK (TYPE C) NOMINEES LIMITED	26,990,961	1.24
7	Mr. Min Tienworn	23,000,000	1.06
8	Mr. Somchai Limthilakun	14,200,000	0.65
9	Electricity Generating Authority of Thailand Saving and Credit Cooperative Limited (Alpha-1)	13,049,900	0.60
10	Mrs. Sommai Limthilakun	11,600,000	0.53
Total		1,391,659,852	63.98
Other shareholders		783,340,133	36.02
Grand total		2,174,999,985	100.00

Remark: * Electricity Generating Authority of Thailand is a state enterprise operating power generation and other businesses, including those operated by joint ventures. It is RATCH's major shareholder, represented by 6 directors in 12 members of the Board of Directors.

Shareholders by nationality	No. of shareholders	No. of shares	%
Thai	54,962	2,117,438,090	97.35
Foreign	103	57,561,895	2.65
Total	55,065	2,174,999,985	100.00

Remark: Ratch Group Public Company Limited's regulation stipulates foreign ownership shall not exceed 25% of all issued shares.

No. of voting shares	% of all issued shares	No. of non-voting shares	% of all issued shares
2,099,553,787	96.53	75,446,198	3.47

Number of Employees (As of 31 December 2024)

A number of 586 full-time employees were employed by RATCH and subsidiaries for the operations in Thailand and abroad. Of total, male employees accounted for 395 (67.41%); female employees 191 (32.59%); and LGBTQIA+ 0 (0%). The number of employees increased by 21 persons or 3.72% from 2023.

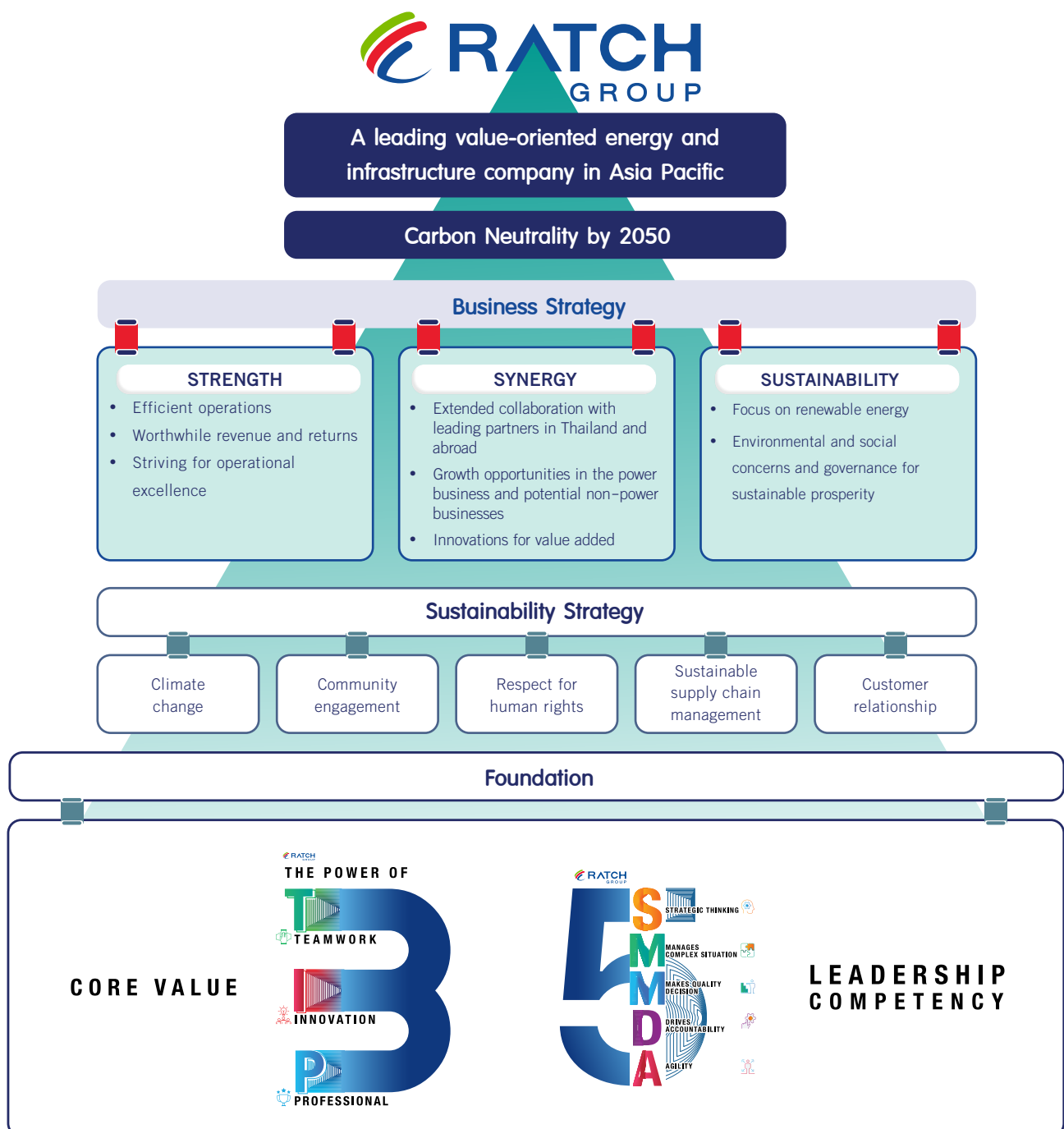
Country	Gender	No. of employees by nationality				
		Thai	Laotian	Australian	Other	Total
Thailand	Male	156	-	-	-	156
	Female	152	-	-	-	152
	LGBTQIA+	-	-	-	-	-
Lao PDR	Male	5	199	-	-	204
	Female	2	22	-	-	24
	LGBTQIA+	-	-	-	-	-
Australia	Male	4	-	20	-	24
	Female	1	-	12	-	13
	LGBTQIA+	-	-	-	-	-
Indonesia	Male	5	-	-	-	5
	Female	-	-	-	-	-
	LGBTQIA+	-	-	-	-	-
Vietnam	Male	5	-	-	-	5
	Female	1	-	-	-	1
	LGBTQIA+	-	-	-	-	-
Singapore	Male	1	-	-	-	1
	Female	1	-	-	-	1
	LGBTQIA+	-	-	-	-	-
Total		333	221	32	-	586

More information in Performance Data Page 247-248

Business Strategy and Sustainability Strategy



RATCH is on course to becoming “a leading value-oriented energy and infrastructure company in Asia Pacific”, backing on **3S Strategy – Strength, Synergy and Sustainability** and “**Sustainability Strategy**”. RATCH has strengthened the capacity and capability of human resources under the “Power of TIP” value that highlights teamwork, innovative thinking, and professionalism and “Leadership Competency: SMDA” that encompasses strategic thinking, management of complex situation, making quality decision, driving accountability and ability.



RATCH has driven the strategies by setting short-term targets that shall be achieved in 2027. Key progress points in 2024 are as follows:



Progress in Sustainability Strategy

RATCH's operations under the Sustainability Strategy in 2024 showed progress in the following 5 topics – covering economic, social and environmental dimensions – significant to both the Company and stakeholders:

Environmental dimension	
Topic	1) Climate change <ul style="list-style-type: none"> Reduce greenhouse gas emissions to achieve carbon neutrality in 2050.
2030 target	<ul style="list-style-type: none"> Reduce GHG intensity by 15% from the base year 2015. Raise renewable generation capacity to at least 30%.
Progress in 2024	<ul style="list-style-type: none"> Prepared the greenhouse gas inventory for Scope 1, 2 and 3 emissions, encompassing IPPs and SPPs in Thailand under RATCH's operational control. Raised renewable generation capacity to 27.48% of total capacity, exceeding the 25% target. Accumulated 11,381.05 tCO₂e of carbon credits in 2024.

Social dimension

Topic	2) Community engagement <ul style="list-style-type: none"> Implement social activities that create positive impacts on community and society at large and support SDGs.
2030 target	<ul style="list-style-type: none"> Positive impacts of social activities are measurable by the SROI methodology. Results are in support of SDGs.
Progress in 2024	<ul style="list-style-type: none"> Evaluated the Social Return on Investment (SROI) of the Education for Career Empowerment Project in Lao PDR and the result was 1.36:1 and supported SDG 4: Quality Education. Implemented social activities that supported SDGs, which are: <ul style="list-style-type: none"> » Goal 3, healthy lives and well-being via mobile clinic covering Ratchaburi Power Plant's neighboring areas in collaboration with Muban Chombueng Rajabhat University's Thai Traditional and Alternative Medicine Office. » Goal 13, urgent action to combat climate change via Love the Forests and the Community Project and reforestation/forest conservation for carbon credits. » Goal 14, marine resources via mangrove reforestation for carbon credits in collaboration with the Department of Marine and Coastal Resources. » Goal 15, terrestrial ecosystem via reforestation for carbon credits in collaboration with the Royal Forest Department, Mae Fah Luang Foundation and the Royal Forest Department's Community Forest Foundation.
Topic	3) Human Rights <ul style="list-style-type: none"> Apply Human Rights Due Diligence in controlling and preventing violation of human rights.
2030 target	<ul style="list-style-type: none"> Assess human rights risks and impacts on all stakeholder groups every 3 years. Zero violation of human rights.
Progress in 2024	<ul style="list-style-type: none"> Reviewed the Human Rights Policy. Communicated and promoted understanding in the Human Rights Policy among the employees of the Group's 7 business entities in Thailand and Lao PDR. Organized training and raised awareness in human rights among the Company's employees. No violation of human rights.

Economic dimension

Topic	4) Supply chain management <ul style="list-style-type: none"> Develop the sustainable supply chain management process and use it as the mechanism to control and prevent risks and impacts on the Company's supply chain.
2030 target	<ul style="list-style-type: none"> Run ESG risk assessment on all suppliers. Assess all significant suppliers.
Progress in 2024	<ul style="list-style-type: none"> All relevant job operators of RATCH and the business entities under the Company's operational control attended a training and comprehended the sustainable procurement principles. All 5 risk factors – climate change and greenhouse gas, human rights, labor's safety and occupational health, anti-corruption and personal data protection/cyber threats – were applied with the supplier screening process. The ESG operations of 148 suppliers were assessed.
Topic	5) Customer relationship <ul style="list-style-type: none"> Devise a streamlined process and tool for customer satisfaction surveys.
2030 target	<ul style="list-style-type: none"> At least 90% of customer satisfaction score
Progress in 2024	<ul style="list-style-type: none"> Monitor the customer satisfaction surveys of all business entities in the Group and disclose the results. Communicated and build good relationships with customers via channels and activities on a regular basis; and consistently improved the operations to address customer expectations.

Key sustainability actions in 2024



RATCH has given a priority to sustainability operations and has continually turned the material topics in the Sustainability Strategy into action. The topics concern climate change, human rights, supply chain management, customer relationship and community engagement. Key progress points in 2024 are summarized below:

Implementation of Environmental and Social Management System

Enforcement of Environmental and Social Management System

To put the Environmental and Social Management System (ESMS) into action, RATCH proclaimed the Environmental and Social Management System on 7 August 2024. The ESMS structure consists of the Environmental and Social Management Committee (high-level executives); the Environmental and Social Management System Manager; the Environmental and Social Management System Working Team; the Environmental and Social Management System Internal Audit Committee with clearly-defined roles and duties of responsible persons. The system is integrated into power plants' environmental departments, in order to drive and monitor the overall performance.

Review of ESMS Manual and ESMS Procedure

Besides power business, RATCH has extended ESMS Manual to cover the operations of other businesses, to ensure that significant activities' risks and impacts on the environment and society are managed, controlled, monitored and reported systematically and in line with universal standards. In addition, RATCH outlined 7 more ESMS work procedures to ensure the better alignment with universal standards. The procedures are:



Personnel capacity building for ESMS implementation

RATCH hosted capacity building sessions after the enforcement of the Environmental and Social Management System (ESMS) that set forth the roles and duties of relevant personnel as well as the improvements to the ESMS Manual and procedures. The training covering 5 groups of executives/working committees and relevant internal units focused on the significance of the ESMS, environmental and social management in each business stage and the application of ESMS Manual and procedures. Details are as follows:

Training topic	General information of ESMS	Application of ESMS in development and construction phase	Application of ESMS in operational phase	Application of ESMS in labor management and procurement	Application of ESMS in internal audits
No. of attendees (persons)	50	31	49	17	17

Plan for 2025

RATCH will conduct a gap analysis concerning the implementation of ESMS by large-scale projects that pose environmental and social risks – Hin Kong Power Plant, RATCH Cogeneration Power Plant and 4A and 4B Hydroelectric Power Project. The analysis serves as a pilot project for the internal audit of the management system.

SROI assessment

RATCH kicked off the study on social return on investment (SROI) evaluation to the job operators at the Company and business entities under the Company's operational control, based on the tools of Social Value International (SVI), an international organization that invented the SROI evaluation methodology and set related standards for the assessment of social impacts. The Social Return On Investment (SROI) concept is considered an internationally-recognized approach to assess and measure the worthiness of investment value and benefits to society as well as the outcome and impacts of social activities/projects.

RATCH applied the SROI methodology to evaluate the Education for Career Empowerment Project in Lao PDR, together with an external consultant, in response to the Sustainability Strategy's community engagement dimension. The evaluation is summarized as follows:

SROI evaluation process

SROI evaluation scope and tool

- 1) **Define social value** : identification of stakeholders of the project, activities of project, output and outcome.
- 2) **Quantify and monetize returns**: identification of indicators and financial proxy as well as data collection and the designing of tools.
- 3) **Analyze social returns** : analysis of issues relevant to the outcome and social returns on investment (SROI)
- 4) **Report the results** : Reporting of the evaluation results and improvement guidelines

SROI Analysis

The analysis is based on SVI's "A guide to Social Return on Investment (The SROI Network, 2012)", which comprises the following stages:

1. **Establishing scope and identifying key stakeholders**
2. **Mapping outcomes based on the theory of change:**
 - Establishing inputs to be implemented to create outcomes.
 - Establishing key activities of the project to achieve the targeted outcomes.
 - Identifying the output from the inputs and activities that are implemented and quantifiable.
 - Identifying the outcome resulting from the utilizations of the outputs to generate benefits and achieve the intended goals.
3. **Monetizing the value**
 - Establishing the indicators for quantitative measurement.
 - Establishing the financial proxy for some indicators that have no market prices or are not measurable.
4. **Establishing impact that may affect the project's monetary value**
 - The outcome that arises naturally even without the project implementation. (Deadweight)
 - The result may be attributable to other factors, rather than the project. (Attribution)
 - The undesirable outcome that arises beyond scope of the project. (Displacement)
 - The rate of decline in benefits if the project discontinued or the rate of deterioration. (Drop-Off)
5. **Calculation of social return on investment**

Scope of analysis

Activities covered in the analysis were implemented in the Project Phase 1 (2011-2015) and Phase 2 (2018-2023).

Activities	Phase 1 (2011-2015)	Phase 2 (2018-2023)
1. Training supports to vocational teachers in target disciplines	✓	✓
2. Training supports to senior students	✓	✓
3. Field trips for teachers in Thailand	✓	✓
4. High Vocational Certificate scholarships for teachers	✓	-
5. Collaboration with Lao PDR's Ministry of Education and Sports for training course development	✓	✓
6. Installation of modern training equipment and the workshop improvement	✓	✓
7. Solar panel installation for neighboring community	-	✓

Data collection

Conducting interviews with individuals representing 4 target groups – Department of Technical Vocational Education and Training's personnel, teachers and lecturers, participating students, and community and schools where solar panels were installed – and collecting data with a questionnaire. The process covered 22 samples.

$$\text{SROI} = \frac{\text{Net monetary value of all outcomes}}{\text{Net investment value}}$$

Calculation results and SROI

The calculation of the social return on investment (SROI) of the Education for Career Empowerment Project in Lao PDR Phase 1 and Phase 2 showed every unit of money invested creates 1.36 times of returns in economic, social and environmental dimensions, which is considered worthwhile as the outcomes exceed the investment.

Summary of positive impacts

Economic dimension	Social dimension	Environmental dimension
<ul style="list-style-type: none"> • Opportunity for career advancement for teachers/lecturers with higher educational degrees or professional skills • Additional educational development budgets for the Ministry of Education and Sports' Department of Technical and Vocational Education and Training (DTVET) • Opportunity for career advancement for the department's personnel participating in the project • Reducing expenses for teachers/lecturers and students relating to the learning and professional skill development • A reduction of electricity bills and related expenses for schools and communities where solar panels and water pumps were installed 	<ul style="list-style-type: none"> • Teachers/lecturers and students gained more access to education and professional skill improvement. • Students with comprehensive training could find jobs or start own businesses quickly after graduation, hence reducing the unemployment. • Migration dropped as participating students were recruited to work for RATCH Group's businesses in their neighborhoods. • Teachers/lecturers received modern training courses and could develop more effective teaching materials. Spending less time on the preparation for teaching, they enjoyed less burden and a better quality of life. • Students at schools equipped with solar panels enjoyed adequate lighting and good eyesight in the long term. Electricity for water pumps also increased their access to clean water and hygiene, while reducing absenteeism related to concerns about water shortage and digestive diseases. 	<ul style="list-style-type: none"> • Members of the community where solar panels were installed had electricity for the charging of mobile phones, without having to go to nearby communities by motorcycle. The subsequent decrease in fuel consumption contributed to a reduction in greenhouse gas emissions.

RATCH plans to apply the SROI calculation with other social projects or activities of the Company and affiliated business entities, to evaluate the relevance, worthiness and methods that will improve the implementation for positive impacts that more effectively respond to community and social expectations.

Internal carbon pricing

In 2024, RATCH emphasized the capacity building on response to climate change. A training course was focused on internal carbon pricing (ICP Capacity Building), for relevant job operators of the Company and power plants under operational control, for their understanding in the methodology and procedure and application of the pricing in the assessment of risks, opportunities and operating cost relating to the carbon cost hidden in the development and investment of projects.

ICP implementation

- Studied the 4 types of carbon pricing: Shadow Price, Implicit Price, Internal Fee and Internal Trading.

- Selected and agreed to the Shadow Price mechanism, by assigning a hypothetical price for the assessment of risks and opportunities in the investment decision-making process as well as the formulation of the organization's strategy on greenhouse gas emissions.

- Analyzed the carbon pricing based on data or benchmarks from external sources, from peer industry and internal discussions.

- Set the Company Group's shadow price at USD 5.6–15/tCO₂e and prepared for the upcoming carbon pricing regulations.

Utilization of ICP

- Drive the Climate Change Strategy particularly concerning the carbon neutrality goal, production efficiency enhancement and investment in low-carbon businesses.

- Cushion the impacts from external carbon pricing, either in the form of carbon tax or Emission Trading Scheme (ETS), following the enactment of climate change legislation in Thailand and other countries where the Group invests.

- Incorporate it in the disclosure of information on climate-related risk management and impacts, to meet universal disclosure standards.

- Address the expectations of stakeholders and investors that place concerns on climate action.

Material Topics in 2024



Materiality identification process

In accordance with	Global Reporting Initiative Standards 2021 (GRI Standards 2021)
Reporting boundary	<ul style="list-style-type: none"> RATCH and all subsidiaries, affiliates and joint ventures located in Thailand, Lao PDR, Australia, Vietnam, Indonesia, the Philippines, Singapore, and Japan. Operating in power generation and related businesses.

Steps to identify material topics

1. Study of business context

Nature of business/investments

- Vision, missions, strategies and goals
- Corporate business strategies and goals
- Power development plans of target countries
- Global, Asia-Pacific and country-specific conditions concerning the macroeconomy as well as the power generation/energy industry: risks and opportunities
- Target country's structure of electricity system and future prospects
- Competition in the electricity and energy industry of target country
- Innovations or new businesses supporting the energy transition
- Changes in consumer behaviors
- News updates on domestic and international electricity/energy industry
- Direct interviews with stakeholders

Relevant legislation

- Relevant laws, rules and regulations imposed in Thailand, foreign countries and the locality where RATCH invests/operates
- Relevant universal standards and best practices for the electricity/energy industry
- Legal amendments concerning the energy transition

Relevant stakeholders

- Relationship with business partners and their expectations
- Relationship with majority-owned subsidiaries and joint ventures under operational control in Thailand and abroad in power and non-power businesses, and their expectations
- Financial institutions' and investors interest and expectations
- Expectations of employees and workers of RATCH, subsidiaries and joint ventures

Relevant ESG aspects

- Corporate strategies on sustainability and climate change as well as targets
- Domestic and universal requirements and standards on sustainability disclosure/ESG
- Legal issues concerning climate change and human rights
- Reference tool in the classification system of economic activities deemed as environmentally-sustainable (Thailand Taxonomy)
- Environmental and social management standards
- Framework of recommendations on the climate-related financial disclosures (TCFD)
- Internal carbon pricing to assign a monetary value to carbon emissions
- Thailand Voluntary Emission Reduction Program
- Criteria for Carbon Footprint for Organization and greenhouse gas reporting
- Sustainability rankings by regulatory bodies and sustainability organizations – the Stock Exchange of Thailand, S&P Global, FTSE RUSSEL
- Power plants' Environmental Impact Assessment and compliance reports
- Safety statistics of RATCH, subsidiaries and joint ventures under operational control
- ESG issues gathered from media, stock analysts, institutional investors, ESG rating agencies, financial institutions, and ESG analysis reports/articles
- Human rights risk and impact assessment methodology
- Assessment methodology for the value/returns on social investment
- Global trends and emerging risks
- ESG-related complaints
- Direct interviews with stakeholders

- Expectations of stakeholders in the value chain and supply chain of RATCH and business entities it invests in
- Satisfaction of employees, customers and community
- Complaints and solutions

2. Identification of material issues

- Gathering the environmental, social, human rights and governance issues concerning RATCH and owned entities/projects from various information sources and classifying them into 4 main groups which are Environment, Society, Human Rights and Governance.
- Analyzing both actual and potential negative and positive impacts on the Company accordingly to the involvement: direct cause of the impacts (Cause), playing a part to create the impacts (Contribute to) and direct connection with the impact (Directly linked to).

3. Assessment of material issues

- Establish assessment criteria based on:
 - > Severity concerning the scale, scope and remediability of impacts
 - > Likelihood of the impacts
- Interview key stakeholders to hear their views on the impacts/severity from business operations; concerns; and recommendations. The interviews involved the representatives of business partners, electricity customers, suppliers, community, public health institutions, educational institutions, environmental academics, local environmental offices, the Senate's energy sub-committee, and analysts/investors. The results were assessed to give scores to the impacts, in order to reconfirm the material issues.

4. Prioritization of impacts

- Set the threshold of impacts.
- Classify impacts, positive and negative, and setting material topics.
- Prioritize the topics of negative and positive impacts material to stakeholders.

5. Disclosure

- Assess the alignment of material topics with GRI indicators and supplement indicators for the Electric Utilities Sector.
- Prepare a summary of material topics for the Chief Executive Officer's consideration and endorsement.
- Submit the Sustainability Report for the Board of Directors' consideration and endorsement, prior to disclosure.

Material topics in 2024

Topics	GRI indicators	Topic in this report	Page	Reporting boundary		
				Internal		External
				Power Business	Non-power Business	Community/customer/ supplier/partner/ shareholder/creditor /regulator
Negative impacts						
Safety of stakeholders from power plants’ operations <ul style="list-style-type: none">Safety of community	GRI 403: Occupational Health and Safety 2018	<ul style="list-style-type: none">Management of Key Material Topics	38	✓	✓	✓
		<ul style="list-style-type: none">Safety and Occupational Health	145			

Topics	GRI indicators	Topic in this report	Page	Reporting boundary		
				Internal		External
				Power Business	Non-power Business	Community/customer/ supplier/partner/ shareholder/creditor /regulator
	<ul style="list-style-type: none"> GRI 305-3: Other indirect (Scope 3) GHG emissions GRI 305-4: GHG emissions intensity GRI 305-5: Reduction of GHG emissions 					
Changes in community quality of life after power plant construction <ul style="list-style-type: none"> Changes to way of life/ livelihood Increase in population Migration Fight for resources 	<ul style="list-style-type: none"> GRI 2-27: Compliance with laws and regulations GRI 2-29: Approach to stakeholder engagement GRI 406-1: Incidents of discrimination and corrective actions taken GRI 413-1: Operations with local community engagement, impact assessments, and development programs 	<ul style="list-style-type: none"> Management of Key Material Topics Safety and Occupational Health Community and Social Stewardship 	38 145 189	✓	-	✓
Business ethics <ul style="list-style-type: none"> Non-compliance of operations with relevant laws and requirements 	<ul style="list-style-type: none"> GRI 2-15: Conflicts of interest GRI 2-27: Compliance with laws and regulations GRI 205: Anti-corruption 2016 GRI 206: Anti-competitive Behavior 2016 	<ul style="list-style-type: none"> Management of Key Material Topics Good Corporate Governance Business Ethics and Compliance Prevention of Fraud, Corruption and Conflict of Interest Complaint and Whistleblowing Channel 	38 66 78 88 92	✓	✓	✓
Power plants' water/ wastewater management <ul style="list-style-type: none"> Impacts on water/ wastewater quality 	<ul style="list-style-type: none"> GRI 303: Water and effluents 2018 	<ul style="list-style-type: none"> Management of Key Material Topics Environmental Impact Management (Water Resources) 	38 127	✓	-	-
Changes to ecosystems after power plant construction <ul style="list-style-type: none"> Land clearing for construction Soil contamination 	<ul style="list-style-type: none"> GRI 304: Biodiversity 2016 	<ul style="list-style-type: none"> Management of Key Material Topics Biodiversity Conservation 	38 133	✓	-	-

Topics	GRI indicators	Topic in this report	Page	Reporting boundary		
				Internal		External
				Power Business	Non-power Business	Community/customer/ supplier/partner/ shareholder/creditor /regulator
Power plants’ water management and reduction of water usage • Water usage in production process	• GRI 303: Water and effluents 2018	• Management of Key Material Topics • Environmental Management and Biodiversity (Water Quality)	38 116	✓ 	- 	-
Heat released from power plants • Heat of combustion	-	• Management of Key Material Topics • Climate Action	38 99	✓ 	- 	-
Data security threats from cyber attacks • Data leakage • Cyber threats	• GRI 418-1: Substantiated complaints concerning breaches of customer privacy and losses of customer data	• Management of Key Material Topics • IT Security and Cybersecurity	38 163	✓ 	- 	✓
Inability to meet customer’s product requirements in qualitative and quantitative terms • Sub-standard product/ service	• EU 30: Average plant availability factor by energy source and by regulatory regime	• Management of Key Material Topics • Customer Relationship Management and Product Responsibility	38 230	✓ 	- 	✓
Exploitation of competitors’ confidential information for business gains • Unfair project bidding	• GRI 206: Anti-competitive Behavior 2016	• Management of Key Material Topics • Business Ethics and Compliance • Prevention of Fraud, Corruption and Conflict of Interest • Complaint and Whistleblowing Channel	38 78 88 92	✓ 	- 	✓
Positive impacts						
Standardized environmental management • Operate with national and international standards • Uplift environmental quality management	• GRI 303: Water and effluents 2018 • GRI 305: Emission 2016 • GRI 306: Waste 2020	• Environmental Management and Biodiversity	112	✓	-	✓

Topics	GRI indicators	Topic in this report	Page	Reporting boundary		
				Internal		External
				Power Business	Non-power Business	Community/customer/ supplier/partner/ shareholder/creditor /regulator
Promotion of environmental knowledge to local community <ul style="list-style-type: none"> • Training and exchange of academic knowledge 	<ul style="list-style-type: none"> • GRI 303: Water and effluents 2018 • GRI 305: Emission 2016 • GRI 306: Waste 2020 • GRI 413-1: Operations with local community engagement, impact assessments, and development programs 	<ul style="list-style-type: none"> • Environmental Management and Biodiversity • Community and Social Stewardship 	112	✓	-	✓
			189			
Development of local infrastructure/utility and economy <ul style="list-style-type: none"> • Improve, repair, and develop infrastructure/utilities 	<ul style="list-style-type: none"> • GRI 413-1: Operations with local community engagement, impact assessments, and development programs 	<ul style="list-style-type: none"> • Community and Social Stewardship 	189	✓	✓	✓
Career development/opportunities <ul style="list-style-type: none"> • Career skills training • Employment of local workers/suppliers 	<ul style="list-style-type: none"> • GRI 2-7: Employees • GRI 413-1: Operations with local community engagement, impact assessments, and development programs 	<ul style="list-style-type: none"> • Human Resources Management • Community and Social Stewardship 	170	✓	-	✓
			189			
Income generation/distribution to local community <ul style="list-style-type: none"> • Employment of local workers/suppliers • Source local products 	<ul style="list-style-type: none"> • GRI 2-7: Employees • GRI 204: Procurement Practices 2016 	<ul style="list-style-type: none"> • Human Resources Management • Supply Chain Management 	170	✓	-	✓
			217			
Education promotion in local community <ul style="list-style-type: none"> • Training • Scholarships/educational equipment supplies 	<ul style="list-style-type: none"> • GRI 413-1: Operations with local community engagement, impact assessments, and development programs 	<ul style="list-style-type: none"> • Community and Social Stewardship 	189	✓	-	✓
Promotion and supports to religion, traditions and cultures <ul style="list-style-type: none"> • Supports to important religious, traditional and cultural activities 	<ul style="list-style-type: none"> • GRI 413-1: Operations with local community engagement, impact assessments, and development programs 	<ul style="list-style-type: none"> • Community and Social Stewardship 	189	✓	-	✓

Management of Key Material Topics



RATCH's commitment to environmentally- and socially-responsible operations reflects in the emphasis on the management of likely negative impacts from all activities at its best. Subsidiaries and joint ventures are instructed to ensure safety, taking into account stakeholders, community, society and the environment. RATCH has outlined the management approach, measures and tools in both enterprise and project levels, to prevent, control and mitigate negative impacts as best as possible, while addressing the concerns of stakeholders particularly neighbouring communities. Meanwhile, the Company is pushing forward the activities that generate positive impacts for the benefits of stakeholders, community, society and the environment.

The management approach for the material topics in 2024 is summarized below:

Topics	1. Safety of stakeholders from power plants' operations 2. Protection of Labor's safety and occupational health	
Impacts	<ul style="list-style-type: none"> RATCH and its power plants' operations may affect community safety and cause health impacts on community. Community is concerned about possible danger from RATCH and its power plants' operations. Work-related hazards due to inappropriate work environment causes health impacts on employees, suppliers and contractors. 	
Supervision	<u>RATCH Group</u> <ul style="list-style-type: none"> Legal requirements Code of Conduct Environmental and Social Policy Human Rights Policy Environmental and Social Management System (ESMS) and ESMS Committee Supplier Code of Conduct Safety, Occupational Health and Working Environment Policy Emergency Response Plan, Crisis Management Plan and Business Continuity Plan Policy Safety, Occupational Health and Working Environment Committee Internal Audit Department Business Development and Asset Management Functions Risk Management Working Committee Risk Management Committee Audit Committee Corporate Governance and Sustainability Committee Board of Directors Risk management system and project performance reporting Complaint channel 	<u>Project Level</u> <ul style="list-style-type: none"> Environmental and social impact prevention and mitigation measures as prescribed in EIA/EHIA reports Environmental and Social Policy Safety, Occupational Health and Working Environment Policy Safety and occupational health measures and Emergency Response Plan Work safety risk assessment system Environmental Management Standard (ISO14001) and Occupational Health Management System (ISO45001) Environmental, safety and occupational health section Safety, Occupational Health and Working Environment Committee Tri-Partite Committee consisting of community/civil society/government/project representatives Joint ventures' board of directors (with RATCH's representatives) Communication and complaint channel, Community Relations Division, and community development plans

Prevention and Control Measures	<ul style="list-style-type: none"> • Select and install high-efficiency production technology and systems for environmental quality and safety management in the development phase, while each power plant is equipped with air quality monitoring systems and the systems to monitor water quality inside and outside operational premises. • Apply the Environmental and Social Management System (ESMS) as a tool in assessing risks and monitoring the Company and project-level safety operations. • Monitor the compliance of the safety, occupational health and environment operations of all projects with EIA measures, environmental and safety laws, the Code of Conduct, relevant safety and environmental policies and the Human Rights Policy; report the performance to the Management, the Board of Directors and relevant government offices within specified periods; conduct an internal audit; and comply with legal requirements on information disclosure. • Encourage power plants' adoption of internationally-recognized environmental and safety management systems and certification by external experts. • Ensure all power plants' risks are assessed to indicate possible hazards and severity; establish control measures to keep risks in line with risk appetite; and always have the responsible units and safety professionals monitor risk jobs. • Allow the tri-partite committee's inspection at each power plant and hear the views and recommendations for joint discussions on improvements that best address community expectations and concerns. • Establish community relations units, to disclose information, clarify issues of concern and build engagement with community. • Provide a mobile medical unit to monitor community members' health conditions. • Conduct emergency response drills with participation of community and relevant parties, for their confidence and trust in power plants' safety operations. • Organize annual activities to raise awareness in safety and health among employees, suppliers and community. • Ensure power plants establish an accessible communication system and channel for community and notify community ahead of major activities. <p><u>Additional measures for employees and suppliers</u></p> <ul style="list-style-type: none"> • Ensure work safety with the Stop Work Authority and the right to refuse dangerous work in light of physical unfitness or unsafe work conditions. • Provide annual medical examination and special examination for particular jobs that pose particular risks; and a stress relief program for employees with Biofeedback mental and physical health checkup.
Correction/ Remediation	<ul style="list-style-type: none"> • Support community development activities and remediate those affected by power plants' operations through the Power Development Funds. All power plants, IPP and SPP, are obliged to contribute to the funds on an annual basis. • Tackle emergency or incidents timely and efficiently to quickly recover to the normal conditions; and set the remediation measures for employees, suppliers and community affected by the incidents that shall be at least equivalent to legal requirements. • Assess the effectiveness of Prevention and Control Measures and equipment after the incidents to improve the safety conditions and establish additional measures to prevent the repetition.
Targets	<ul style="list-style-type: none"> • Zero accident every year • No complaint from community
Engagement channels	<ul style="list-style-type: none"> • Environmental Inspection Committee/Tri-partite Committee • Community relations units, communications channels, and community development activities/projects • Company website: www.ratch.co.th • Channels open to the opinions and complaints of power plants or projects

Engagement channels (continue)	<ul style="list-style-type: none"> • Safety, Occupational Health and Working Environment Committee • Welfare Committee • Complaint channel for job operators • Departmental and functional relationship-building activities • Discussions and meetings • Training sessions/seminars on ESG operations and supplier assessment 	
Topic	3. Management of air pollution and health impacts on community	
Impact	Community's concerns about the impact of power plants' combustion-related air pollution on their health condition	
Supervision	<u>RATCH Group</u> <ul style="list-style-type: none"> • Legal requirements • Environmental and Social Policy • Human Rights Policy • Environmental and Social Management System (ESMS) • Business Development and Asset Management Functions • Risk Management Committee • Corporate Governance and Sustainability Committee • Board of Directors • Complaint channel 	<u>Project Level</u> <ul style="list-style-type: none"> • Power plants' board of directors (with RATCH's representatives) • Environmental and social impact prevention and mitigation measures as prescribed in EIA/EHIA reports • Continuous Emission Monitoring System installed at stack and around the power plants. • Online reports of monitoring results to the control room and the power plants' display at entrance • Environmental Management Standard (ISO14001) for power plants • Production efficiency control and environmental units • Community Relations Division • Tri-Partite Committee • Complaint channel and complaint handling procedure
Prevention and Control Measures	<ul style="list-style-type: none"> • Design, select and install high-efficiency air quality management technologies in the development stage, to minimize and keep impacts within permissible levels. The technologies include Dry Low NO_x burners and demineralized water injection to control nitrogen oxide when diesel is used for power generation; Flue Gas Desulfurization (FGD) when fuel oil is used; and Continuous Emission Monitoring (CEM) for air quality monitoring. • Set up a warning system for unusual pollutant levels approaching permissible limits. • Monitor the ambient air quality in sensitive or community areas around the clock or as scheduled. • Monitor and inspect compliance with relevant laws, rules and regulations, EIA measures, financial institutions' terms and conditions, and corporate policies; and report the performance to relevant units as scheduled. • Deploy the Environmental and Social Management System (ESMS) in assessing significant issues, the sufficiency of prevention and control measures, and the environmental and social operations of the Company and projects. • Report real-time air quality monitoring results to the Department of Industrial Works and prepare monitoring reports for government offices and community every 6 months. • Accommodate Tri-Partite Committee's inspection of air quality management system; consistently inform the committee of monitoring results; and welcome its recommendations and opinions as well as community's concern for the consideration of proper responses. • Ensure power plants establish an accessible communication system and channel for community and notify community ahead of major activities that will affect the air quality like a fuel switch. • Provide a mobile medical unit to monitor community members' health conditions. 	

Correction/ Remediation	<ul style="list-style-type: none"> • Support community development activities and remediate those affected by power plants' operations through the Power Development Funds. All power plants, IPP and SPP, are obliged to contribute to the funds on an annual basis. • Set up a step-by-step procedure to deal with pollutants at stack when the levels hit 80% of legal limits, which may involve production reduction or production stop. • Establish a complaint handling and correction procedure. 	
Targets	<ul style="list-style-type: none"> • No environmental complaints • No penalties on non-compliance with environmental laws/requirements 	
Engagement channels	<ul style="list-style-type: none"> • Channel to receive community opinions/complaints for further investigation and correction • Tri-Partite Committee • Activities to boost knowledge and understanding/Site visits • Community satisfaction survey 	
Topic	4. Greenhouse gas management (Scope 1, 2, and 3 emissions)	
Impact	Greenhouse gas emissions by the entire value chain	
Supervision	<u>RATCH Group</u> <ul style="list-style-type: none"> • Legal requirements • Environmental and Social Policy • Corporate Sustainability Policy • Corporate Sustainability Strategy and Climate Strategy and relevant targets • Environmental and Social Management System (ESMS) • Business Development and Asset Management Functions • Corporate Governance and Sustainability Committee • Board of Directors 	<u>Project Level</u> <ul style="list-style-type: none"> • Board of directors (with RATCH's executives) • Environmental and social impact prevention and mitigation measures as prescribed in EIA/EHIA reports as well as creditors' terms and conditions • Environmental Management Standard (ISO14001) concerning power plants • Production efficiency control and environmental units • Community Relations Division • Tri-Partite Committee
Prevention and Control Measures	<ul style="list-style-type: none"> • Design, select and install high-efficiency air quality management technologies to minimize fuel and energy utilization; and conduct power plant maintenance as scheduled. • Set the 2050 Carbon Neutrality Target and Decarbonization Roadmap, focusing on enhanced energy efficiency, more investment in renewable energy and low-carbon businesses, and carbon offsetting with carbon credits from reforestation and forest conservation activities. • Plan maintenance as scheduled for the efficiency of equivalent availability factor and targeted heat rate. • Reuse/recycle waste as much as possible and avoid landfill disposal. • Assess physical and transit risks as well as impacts under the TCFD framework and use the results for the formulation of corporate strategies as well as measures to prevent, reduce and avoid the impacts. • Include the assessment of supplier risks on greenhouse gas management in the supplier screening process. • Promote green procurement to tackle and reduce other indirect emissions. • Conduct a feasibility study on green hydrogen development in preparation for the energy transition. • Prepare the Company Group's greenhouse gas inventory covering Scope 1, 2 and 3 emissions; and run the carbon footprint for organization assessment. • Set internal carbon pricing for the investment consideration process or the implementation of GHG-reduction activities. 	

Prevention and Control Measures (continue)	<ul style="list-style-type: none"> • Implement forest carbon credit under T-VER: Forestry and Green Space program in support of GHG sequestration and carbon offsetting. • Disclose the information on carbon emissions annually in Form 56-1 One Report and Sustainability Report. 	
Correction/ Remediation	<ul style="list-style-type: none"> • Follow the Company's prescribed processes. • Comply with legal requirements. 	
Targets	<ul style="list-style-type: none"> • Carbon neutrality in 2050 • 15% reduction of GHG emissions per unit of electricity production in 2030 (from the base year 2015) • Proportion of renewable energy investment raised to 30% of combined capacity in 2030 	
Engagement channels	<ul style="list-style-type: none"> • Corporate website • Sustainability Report • Corporate Affairs Department • Investor Relations Division 	
Topic	5. Changes in community quality of life after power plant establishment	
Impacts	<ul style="list-style-type: none"> • Changes in community way of life/careers due to higher population • Migration into the community, leading to insufficient resources 	
Supervision	<u>RATCH Group</u> <ul style="list-style-type: none"> • Code of Conduct • Environmental and Social Policy • Human Rights Policy • Environmental and Social Management System (ESMS) • Business Development and Asset Management Functions • Corporate Governance and Sustainability Committee • Board of Directors 	<u>Project Level</u> <ul style="list-style-type: none"> • Board of Directors (with RATCH's representatives) • Environmental and social impact prevention and correction measures as prescribed in each project's EIA/EHIA reports • Environmental Management Standard (ISO14001) • Community Relations Division • Tri-Partite Committee
Prevention and Control Measures	<ul style="list-style-type: none"> • Conduct a public hearing and prepare a local/community development plan as part of the environmental and social impact assessment and analysis process, in the development phase. • Monitor and ensure compliance with laws and EIA measures in the construction phase, particularly concerning the operations of suppliers and contractors on the sites. • Implement quality of life development projects in line with community needs, like career development for more income as well as education, religious, cultural and health service supports. • Prioritize local workers employment and product procurement from local suppliers. • Make contribution to the Power Development Funds in support of the development of communities surrounding the power plants and vicinity. • Conduct a community opinion survey. 	
Correction/ Remediation	<ul style="list-style-type: none"> • Channel to hear community opinions and complaints, for further investigation and correction. • The Power Development Fund, to support community development and remediate those affected from the power plants' operations. All power plants are obliged to contribute partial revenue to the fund on an annual basis. 	
Targets	<ul style="list-style-type: none"> • No community complaint • Level of community satisfaction 	
Engagement channels	<ul style="list-style-type: none"> • Scheduled opinion surveys • Community development activities • Community visits for building engagement • Channel to receive community complaints and prevention/correction measures 	

Topic	6. Business ethics	
Impacts	<ul style="list-style-type: none"> • Non-compliance with relevant laws and requirements • Lack of transparency and fairness in the operations 	
Supervision	<ul style="list-style-type: none"> • Legal requirements • Code of Conduct • Anti-Fraud and Corruption Policy • Corporate Sustainability Policy • Supplier Code of Conduct • Corporate Governance Policy • Prevention of Misuse of Inside Information Policy • Audit Committee • Risk Management Committee • Corporate Governance and Sustainability Committee • Internal Audit Department Internal Audit Department • Sustainable procurement 	
Prevention and Control Measures	<ul style="list-style-type: none"> • Comply with laws, corporate governance practices, and the anti-corruption policy and regulation; and join Thai Private Sector Collective Action Against Corruption. • Assess fraud and corruption risks for the annual review of the risk register and control measures. • Apply sustainable procurement practices in supplier screening, by assessing ESG risks and critical suppliers; and monitor each supplier's compliance with Supplier Code of Conduct. • Communicate to employees and make them see the need to strictly comply with the Company's Code of Conduct and rules concerning use of internal information and confidential information; and evaluate their knowledge and understanding through an annual test of which results are forwarded to the Board of Directors. 	
Correction/ Remediation	<ul style="list-style-type: none"> • Establish the complaint-receiving, investigation and remediation procedure as well as protection measures for complainants. • Set penalty clauses depending on the severity of incidents/damage to the Company. • Proceed in line with relevant legal requirements. 	
Targets	<ul style="list-style-type: none"> • No legal issues/disputes • No punishment/penalties from legal non-compliance • No complaint 	
Engagement channel	Complaint channel on corporate website: www.ratch.co.th	
Topic	7. Power plants' wastewater management	
Impact	Power plants' water discharge may affect the quality of water in public waterways and how communities use the water.	
Supervision	RATCH Group <ul style="list-style-type: none"> • Environmental and Social Policy • Environmental and Social Management System (ESMS) • Business Development and Asset Management Functions • Corporate Governance and Sustainability Committee • Risk Management Committee • Board of Directors 	Project Level <ul style="list-style-type: none"> • Board of Directors (with RATCH's representatives) • Environmental and social impact prevention and correction measures as prescribed in each project's EIA/EHIA report • Legal requirements • Environmental Management Standard (ISO14001)

Supervision (continue)	<ul style="list-style-type: none"> • Environmental office • Tri-Partite Committee • Community Relations Division 	
Prevention and Control Measures	<ul style="list-style-type: none"> • Select and install treatment systems for each type of wastewater in the project development phase as prescribed by laws; and maintain the efficiency throughout the project's life cycle. • Apply the Environmental and Social Management System (ESMS) and Environmental Management Standard (ISO14001), to meet legal and universal requirements on water discharge. • Install the online water discharge monitoring system, for consistent reporting to the governing body. • Examine the quality of wastewater and water at discharge points, above and below the points, to watch out for the impacts on water quality, living organisms and public water use; and report the results to the governing body as scheduled. • Ensure complete compliance with environmental laws and EIA/EHIA measures and consistently report the compliance results to relevant business units as well as the community. 	
Correction/ Remediation	<ul style="list-style-type: none"> • Increase the water cycles in cooling tower, to reduce the volume of discharge. • Promote the improvement of water quality in public waterways where wastewater is discharged, through community development activities. • Accommodate Tri-Partite Committee's participation in the water quality monitoring process at all points and inform it of monitoring results. • Establish a complaint channel as well as the fact-finding and results-reporting process. 	
Targets	<ul style="list-style-type: none"> • No environmental complaint • No penalties from non-compliance with environmental laws/requirements concerning effluent quality 	
Engagement channels	<ul style="list-style-type: none"> • Channel to receive community opinions/complaints for further investigation and correction • Environmental Inspector Committee/Tri-Partite Committee • Activities to boost knowledge and understanding/Site visits • Community opinion survey 	
Topic	8. Changes to ecosystems after power plant construction	
Impacts	<ul style="list-style-type: none"> • Modification of the site or land use for the construction • Physical and biological impacts of pollutant emissions 	
Supervision	<u>RATCH Group</u> <ul style="list-style-type: none"> • Legal requirements • Environmental and Social Policy • Environmental and Social Management System (ESMS) • Business Development and Asset Management Functions • Risk Management Committee • Corporate Governance and Sustainability Committee • Board of Directors • Complaint channel 	<u>Project Level</u> <ul style="list-style-type: none"> • Board of Directors (with RATCH's representatives) • Legal requirements • Environmental and social impact prevention and mitigation measures as prescribed in EIA/EHIA reports • Measures as prescribed in the Biodiversity Action Plan (BAP) • Environmental Management Standard (ISO14001) concerning power plants • Environment Division • Community Relations Division • Tri-Partite Committee • Complaint channel and handling procedure

Prevention and Control Measures	<ul style="list-style-type: none"> Do not locate projects in the areas that may pose high risks and impacts on historical or world heritage sites or areas that may affect rare and near-extinction living beings, based on the IUCN's Red Lists. Survey the construction site and analyze the impacts on ecosystems and biodiversity, as part of the environmental and social impact assessment in the project development phase; outline prevention and mitigation measures or a biodiversity action plan. Ensure the complete implementation of measures in EIA/EHIA reports and/or the Biodiversity Action Plan. Apply the Environmental and Social Management System's, Biodiversity Management Procedure as the guidelines for impact assessment and the Biodiversity Action Plan (BAP) development. Monitor plant and animal species, density and diversity as prescribed to assess the effectiveness of impact prevention and mitigation measures; introduce additional measures to restore the ecosystem; and report the results to relevant governing offices and community. 	
Correction/ Remediation	<ul style="list-style-type: none"> Adopt the Mitigation Hierarchy principles as guidelines to prevent risks to biodiversity and restore biodiversity at all projects. Accommodate Tri-Partite Committee's participation in site inspection; inform it of biodiversity inspection results; and welcome its opinions. Promote terrestrial and mangrove reforestation and green areas as well as community forest conservation. 	
Targets	<ul style="list-style-type: none"> Unchanged biodiversity in the ecosystems or positive changes to the ecosystems, both inside and outside the construction sites. Forest areas and carbon sequestration capacity in line with targets 	
Engagement channels	<ul style="list-style-type: none"> Channel to receive community opinions/complaints Environmental Inspectors Committee/Tri-Partite Committee/working committees 	
Topic	9. Power plants' water management and reduction of water usage	
Impact	Massive water utilization in the production process may lead to water shortages and fight for the resource	
Supervision	<u>RATCH Group</u> <ul style="list-style-type: none"> Legal requirements Environmental and Social Policy Environmental and Social Management System (ESMS) Corporate Governance and Sustainability Committee Risk Management Committee Board of Directors 	<u>Project Level</u> <ul style="list-style-type: none"> Board of Directors (with RATCH's representatives) Environmental and social impact prevention and mitigation measures as prescribed in each project's EIA/EHIA report Legal requirements Environmental Management Standard (ISO14001) Environment Division Tri-Partite Committee Community Relations Division
Prevention and Control Measures	<ul style="list-style-type: none"> Study water usage as part of the development phase's environmental impact assessment; and establish preventive and mitigative measures for implementation throughout the contract periods of power plant projects. Monitor the compliance with laws; the Company's policies, regulations and rules; and EIA measures; and report the monitoring results to relevant units. Apply Environmental and Social Management System (ESMS) as a tool to assess wastewater management risks in both development and operational phases; and monitor the implementation of prescribed measures. 	

Prevention and Control Measures (continue)	<ul style="list-style-type: none"> Assess the risks and stress level of raw water sources that the power projects depend on, to evaluate the necessity of supplementary sources. Assess seasonal water demand/availability so as not to cause shortages and spark fight for water with community and impacts on the ecosystem; and appropriately determine the operating plan. Prepare rainwater-retention ponds to reduce raw water withdrawal. Monitor water consumption and the ratio of withdrawals and the volume of available raw water, as prescribed in the EIA/EHIA reports. Maximize raw water utilization per power unit. Increase water cycles in the cooling tower, to reduce raw water withdrawals. 	
Correction/ Remediation	<ul style="list-style-type: none"> Find supplementary water sources to ensure smooth operations (in emergency cases). Treat water from the cooling system, after sedimentation and pH balancing, with RO treatment system to recover water for the production process. 	
Targets	<ul style="list-style-type: none"> No environmental complaint No penalties from non-compliance with environmental laws/requirements Water cycles in the cooling system meeting each power plant's target 	
Engagement channels	<ul style="list-style-type: none"> Channel to receive community opinions/complaints Environmental Inspectors Committee/Tri-Partite Committee/working committees Activities to boost knowledge and understanding/Site visits Disclosure of operational performances via corporate public relations channels Sustainability Report 	
Topic	10. Heat released from power plants	
Impact	Community concerns about combustion heat released to the atmosphere and hence raising temperature	
Supervision	<u>RATCH Group</u> <ul style="list-style-type: none"> Environmental and Social Policy Environmental and Social Management System (ESMS) Risk Management Committee Corporate Governance and Sustainability Committee Board of Directors 	<u>Project Level</u> <ul style="list-style-type: none"> Project's board of directors Environment Division Community Relations Division Environmental and social impact prevention and mitigation measures as prescribed in each project's EIA/EHIA report
Prevention and Control Measures	<ul style="list-style-type: none"> Study and collect the temperature statistics at the project sites and nearby areas to indicate any changes; and monitor updates on global climate change. Always maintain equipment insulation in a good and efficient condition. Monitor the land surface temperature data from satellite images to examine the pattern of heat moving out from the project sites to nearby areas. Consistently visit community members and other parties during when Community Relations Division communicates and gives information on the power plants' operations. 	
Correction/ Remediation	<ul style="list-style-type: none"> Accommodate Tri-Partite Committee's visit to inspect the power plant's operations and express opinions. Open for the visits by educational institutions, community and others, to observe the operations and environmental management as prescribed in EIA/EHIA. Make contributions to the Power Development Fund, which can be used to remediate those affected by power plants' operations. Establish a complaint channel. 	

Targets	<ul style="list-style-type: none"> • No environmental complaint • No penalties from non-compliance with environmental laws/requirements 	
Engagement channels	<ul style="list-style-type: none"> • Channel to receive opinions/complaints • Environmental Inspectors Committee/Tri-Partite Committee • Community Relations Division 	
Topic	11. Data security threats from cyber attacks	
Impact	Leakage of confidential information and personal data	
Supervision	<ul style="list-style-type: none"> • Code of Conduct • Network and Computer Usage Policy • Information Technology Security Policy • Personal Data Protection Policy • Information technology office • Internal Audit Department • Risk Management Committee • Corporate Governance and Sustainability Committee • Board of Directors 	
Prevention and Control Measures	<ul style="list-style-type: none"> • Monitor and inspect compliance with the Network and Computer Usage Policy, the Information Technology Security Policy, and the Personal Data Protection Policy; and report the results to relevant offices. • Set up firewalls against cyberattacks and unauthorized access and have external experts test the system efficiency and effectiveness. • Schedule an assessment on risks and likelihood, concerning the technical and personnel aspects as well as emergency situations. • Provide safety devices for the connection with the network. • Exercise cyberattack drills concerning the information technology system and network. 	
Correction/ Remediation	<ul style="list-style-type: none"> • Prepare the Business Continuity Plan (BCP) and the IT Disaster Recovery Plan (IT-DRP). • Exercise emergency response drills in preparation for cyber threats or cyberattacks. • Define the steps/procedure to tackle the leakage of confidential information and personal data. 	
Targets	<ul style="list-style-type: none"> • Zero leakage of confidential information and personal data • No complaint on cyber crimes 	
Engagement channel	Complaint channel on corporate website: www.ratch.co.th	
Topic	12. Inability to meet customer's product requirements in qualitative and quantitative terms	
Impact	Customers are delivered products or services which are sub-standard or do not meet their requirements.	
Supervision	<u>RATCH Group</u> <ul style="list-style-type: none"> • Code of Conduct • Business Development and Asset Management Functions • Risk Management Committee • Board of Directors 	<u>Project Level</u> <ul style="list-style-type: none"> • Power plant's board of directors with RATCH representative • Production/customer relations sections • Contract management section

Prevention and Control Measures	<ul style="list-style-type: none"> • Set up the contract management section to ensure products and services are properly produced and delivered to customers as prescribed in the terms and conditions. • Communicate, discuss and coordinate with customers concerning the terms and conditions. • Plan the production/maintenance properly to maintain the power plants' equivalent availability factor (EAF) and heat rate as prescribed by the power purchase agreements. • Seek solutions for reducing fuel/resource utilization, and keep carbon emission intensity per power unit low for competitiveness. • Define the customer relations strategy and targets and survey the satisfaction of each customer for further improvements and better responses to customer demands.
Correction/ Remediation	<ul style="list-style-type: none"> • Source more renewable energy for internal use to reduce customers' carbon footprints or emission intensity per power unit. • Coordinate with customers and support their installation of solar rooftops, to help reduce their Scope 2 emissions.
Targets	<ul style="list-style-type: none"> • Customer satisfaction • No environmental complaint
Engagement channels	<ul style="list-style-type: none"> • Communication channel • Customer satisfaction survey form • Scheduled meetings with customers/engagement activities
Topic	13. Exploitation of competitors' confidential information for business gains
Impact	Unfair bidding
Supervision	<ul style="list-style-type: none"> • Code of Conduct • Anti-Fraud and Corruption Policy • Business Development, Asset Management, and Accounting & Finance Functions • Internal Audit Department • Corporate Governance and Sustainability Committee • Audit Committee • Risk Management Committee • Board of Directors
Prevention and Control Measures	<ul style="list-style-type: none"> • Communicate and make employees aware of the necessity in strictly complying with the Code of Conduct concerning the treatment of competitors, as well as the policies and regulations of anti-fraud and corruption and conflict of interest. • Ensure all employees' acknowledgement of the employment confidentiality conditions. • Have the anti-fraud and corruption risk register evaluated/reviewed by the Internal Audit Department/ external experts. • Evaluate/test employees' understanding in the anti-fraud and corruption guidelines on an annual basis.
Correction/ Remediation	<ul style="list-style-type: none"> • Clearly define the investigation mechanism for incidents/complaints as well as corrective measures. • Impose the penalties on violation or the use of competitors' confidential information for the Company's or personal benefits.
Targets	<ul style="list-style-type: none"> • No legal issues/disputes • No complaint
Engagement channel	Complaint channel and prevention/correction procedure

Value Chain of RATCH's Business



Development Phase

- Shareholder
- Regulators
- Community
- Employee
- Customer
- Civil society
- Financial Institution
- Investor
- Journalist
- Consultant
- Competitor
- Partner

- Fund
- Information

- Feasibility Study/Due-Diligence Process
- Project Design
- EIA/EHIA/ESIA Study
- Permission & licensing
- Securing Funding
- Securing Fuel
- Securing EPC Contractor

- Project Design Document
- EIA/EHIA/ESIA Report
- Funding Contract
- Approval Documents
- PPA
- Agreements on fuel purchase/loan/ EPC

- Risk Assessment/ESG Impact Assessment/ Set the Mitigation Measures
- Comply with Laws/Regulations
- Corporate Code of Conduct/Policy Compliance
- Select high-efficiency production and environmental impact control technologies
- Respect human rights (labor and community)
- Ensure safety and take responsibility for the community and the environment
- Establish communication channels and participatory processes with the community

Construction Phase

- Shareholder
- Contractor
- Customer
- Employee
- Lender
- Civil society
- Partner
- Regulators
- Journalist
- Business trader
- Community
- Investor

- Machine/Equipment
- Information
- Innovation/Technology
- Fund
- Resources/ Raw Material

- Permission Process
- Project Construction
- Installing Transmission Line
- Recruiting O&M Team
- Environmental Monitoring
- GHG Reduction/ Waste Management
- Transportation of Machinery/Equipment/ Fuel
- Community Relations Management
- Commissioning Process

- Power Plant
- Transmission Line
- License
- Waste/Emission
- GHG
- O&M Contract
- LSA/Insurance

- Comply with EIA Measures/Laws/Regulations
- Comply with Supplier Code of Conduct
- Environmental and occupational safety standards.
- Implement energy conservation measures and waste disposal in compliance with legal standards.
- Respect human rights (labor and community)
- Establish communication channels and participatory processes with the community
- Ensure safety and take responsibility for the community and the environment

Operation Phase

- Shareholder
- Regulators
- Customer
- Employee
- Lender
- Supplier
- Business sector
- Investor
- Civil society
- Community
- Journalist
- Competitor

- Fuels/Energy/Water/ Raw Material
- Fund
- Equipment
- Information
- Innovation/ Technology

- Power/Steam Generating
- Maintenance/Overhaul
- Fuel Securing/ Transportation
- Power distribution to Grid Lines (EGAT Customer)
- Power/Steam Distribution to Industrial Customer
- Environmental Monitoring
- GHG Reduction
- Waste Management
- Community Relations Management

- Power/Steam
- Waste/Emission
- GHG

- Comply with EIA Measures/Laws/Regulations
- Comply with Code of Conduct/Corporate Policy/Supplier Code of Conduct
- Raise Using/Investment of Renewable Energy
- Setting and implement GHG reduction the ESMS system
- Enhance power plant efficiency to reduce emissions
- Energy Conservation Campaigning Programs
- Expand green spaces and promote community forests to absorb CO₂
- Dispose of waste in compliance with legally mandated standard
- Respect human rights (labor and community)
- Product safety and responsibility
- Complaint mechanisms, problem-solving, and remediation
- Tripartite committee/ Community and social quality of life development

Decommissioning Phase

- Shareholder
- Employee
- Partner
- Community
- Supplier/Contractor
- Regulator
- Civil society
- Journalist

- Machine/Equipment
- Information
- Fund

- Permission Process
- Decommissioning
- Land Rehabilitation
- Environmental Monitoring
- GHG Reduction
- Waste Management
- Community Relations

- Waste/Emission
- GHG

- Comply with EIA Measures/Laws/ Regulations
- Comply with Supplier Code of Conduct
- Environmental and Workplace Safety Standards
- Dispose of waste in compliance with legally mandated standard
- Respect human rights (labor and community)
- Establish communication channels and participatory processes with the community
- Ensure safety and take responsibility for the community and the environment

Stakeholder Engagement

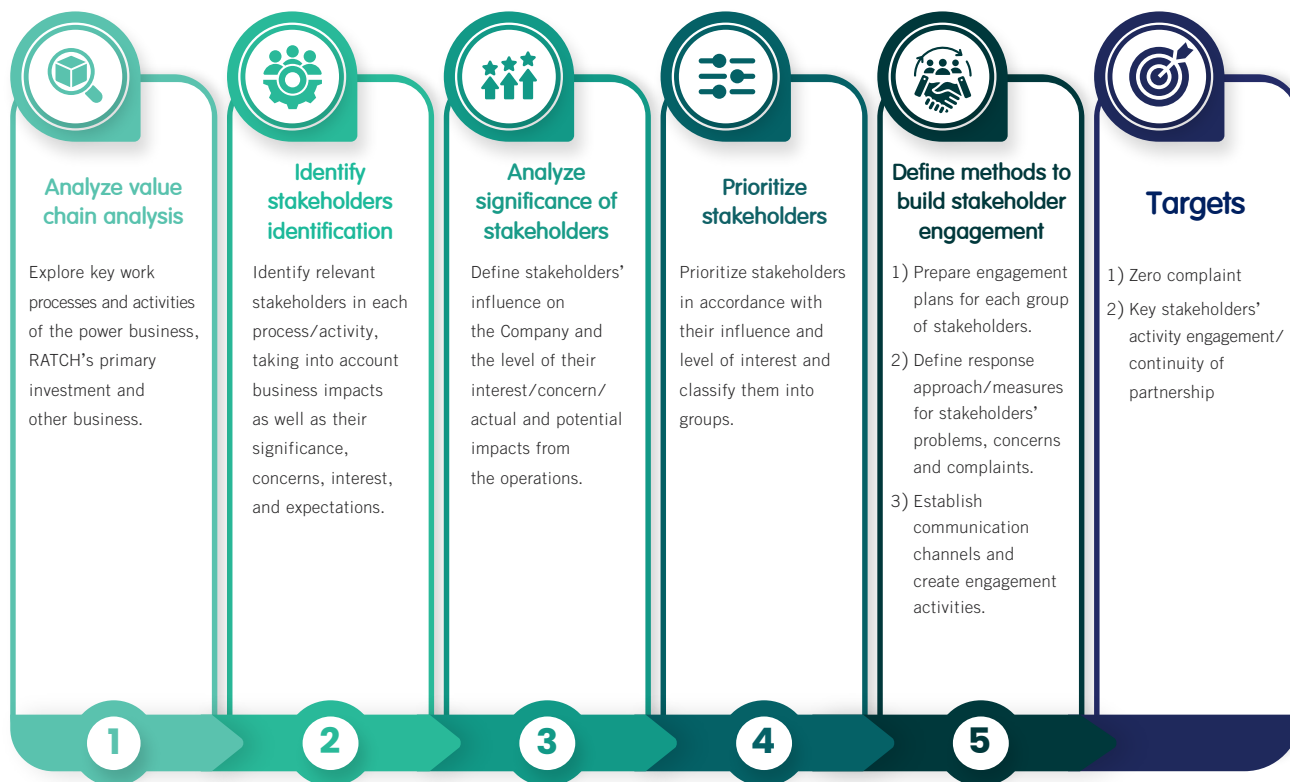


RATCH sets forth equal treatment of stakeholders, respect for human rights and inclusive growth in the Code of Conduct, and the implementation of these aspects is carried out through various regulations and policies. In 2024, RATCH developed the Environmental and Social Management System, which outlined the procedures for stakeholder engagement analysis and management as operational guidelines for all relevant departments. The procedures cover all business stages, from the development to construction, operational and decommissioning stages.

Key stakeholders

RATCH carried out the analysis of stakeholders in the value chain of the power and related businesses, following the prescribed ESMS. (Details appeared in RATCH Group's Value Chain, page 49.) The results are summarized below;

Stakeholder identification and analysis procedure



Based on the value chain analysis, 12 groups of key stakeholders were identified accordingly to their interest in economic, social, environmental and human rights aspects which mattered to the Company's operations.

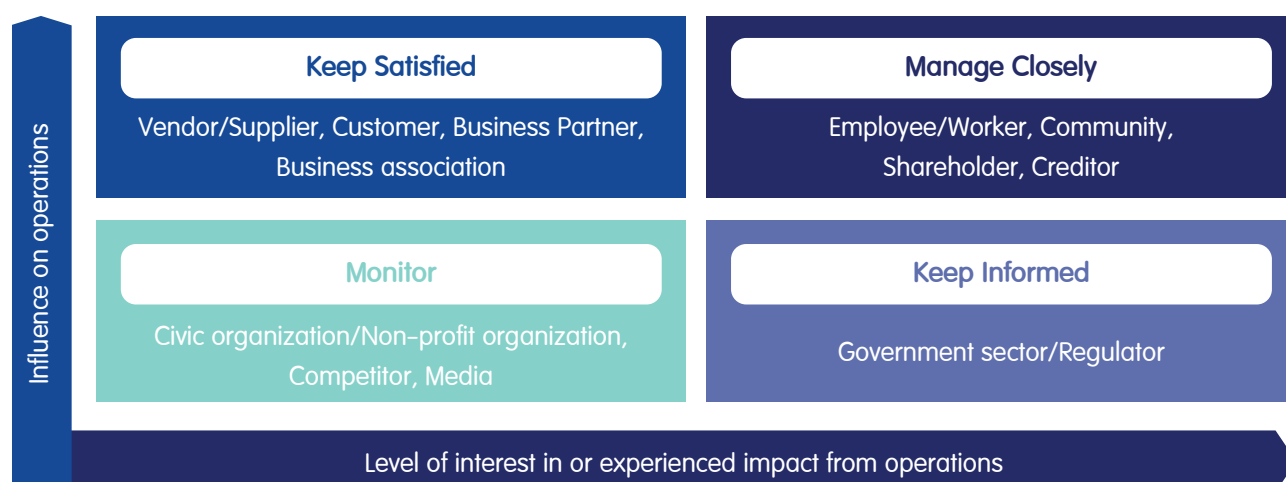
Stakeholders involved in corporate activities/business	Stakeholders' interest (experienced impacts/concerns about corporate activities)				Stakeholders' influence (impacts on corporate operations)			
	Economic	Social	Environmental	Human rights	Economic	Social	Environmental	Human rights
1. Employee/Worker								
2. Community								
3. Civic organization/ Non-profit organization								
4. Government sector/ Regulator								
5. Vendor/Supplier								
6. Customer or Off-takers								
7. Business partner								
8. Shareholder								
9. Creditor								
10. Competitor								
11. Business association/ Organization								
12. Media								

Note: The analysis was based on the number of issues of interest of stakeholders who experience impacts from the Company's operations and their influence on the operations.

■ = High ■ = Medium ■ = Low ■ = No impact

Prioritization of stakeholders

Based on the analysis, RATCH applies the stakeholder mapping to classify them accordingly to the level of their interest and influence on the Company's operations. Stakeholders are put into 4 groups: 1) Monitor group: people with low influence and interest but should be on the radar, 2) Keep Informed group: people with high interest but low influence who should be updated, 3) Keep Satisfied group: people with high influence who needs regular updates and satisfaction maintenance, and 4) Manage Closely group: people with high influence and interest who are critical and should be closely managed.



Stakeholder engagement process

RATCH follows the Code of Conduct and Stakeholder Engagement Policy in building good relationships with stakeholders, on top of the management of stakeholder engagement and responses to their expectations. The process is summarized as follows:



Code of
conduct



Stakeholder
engagement policy

1. Employee/Worker

Topic	Engagement/Response Guidelines		
Expectations			
Appropriate compensation and welfare	Schedule a regular review of employee remuneration/welfare to be in line with current circumstances/peer companies.		
Safe and favorable work environment	Provide safe and decent work environment, supportive to their work and creativity.		
Continuous skill and capability development	<ul style="list-style-type: none">• Prepare training programs, both job family group and individual training plans• Apply job rotation for cross-functional skills and experiences.		
Appropriate career advancement	<ul style="list-style-type: none">• Establish succession and career development plans.• Prepare an assessment for the screening of potential candidates for executive positions (Succession plan).		
Actual/Potential Impacts			
Violation of human rights	<ul style="list-style-type: none">• Set forth employee/labor practices in line with legislation and human rights principles.• Gather opinions through the assessment of human rights risks and impacts on employees and set comprehensive mitigation and remediation measures in case of violation.• Establish channels/systems to handle complaints and opinions and inform employees of the available channels.		
Unsafe work environment	Appoint employee representatives to the Welfare Committee and the Safety, Occupational Health and Working Environment Committee.		
Unfair compensation	Implement a fair evaluation system for annual pay hike and bonus payments, engaging employees with self-evaluation.		
Lack of promotion and capability development or career advancement	Promote and encourage activities that foster capabilities, professional, leadership, teamwork, innovation development, and strategic thinking to strengthen corporate culture and engagement.		
Engagement/Communication Channels			
Person/Office			
<ul style="list-style-type: none">• Welfare Committee• Human Resources Department		<ul style="list-style-type: none">• Human Resources Steering Committee• Performance Evaluation Steering Committee• Safety, Occupational Health and Work Environment Committee	
Media/Activities			
<ul style="list-style-type: none">• Annual engagement survey• Biannual “Meet Employees” events and function’s meetings to communicate corporate strategies, targets and performance		<ul style="list-style-type: none">• Function’s engagement activities• Communication of corporate information via email, Intranet and available media• Group training and knowledge-sharing activities• Available compliant channels: www.ratch.co.th	
Additional Information (Topic in this report)			
<ul style="list-style-type: none">• Respect for Human Rights• IT Security and Cybersecurity		<ul style="list-style-type: none">• Safety and Occupational Health• Human Resources Management	

2. Community

Topic	Engagement/Response Guidelines	
Expectations		
Operations that underline legal compliance and responsibility for the environment and community	Follow relevant legislation and organize public hearing while in the project development phase; and follow through all community requirements.	
Transparent, timely, consistent and thorough communication and information disclosure	Apply two-way communications with community/society through various channels like social media, notifications, community visits and community development activities.	
Participation in operational inspection for building community’s confidence	Build engagement through the establishment of the Environmental Inspectors Committee/Tri-Partite Committee that represent all parties for the inspection of power plants’ operations; and enhance the committees’ capacity.	
Communication for understanding and exercise of emergency response drill with community participation	Prepare emergency response plans and exercise drill jointly with community for their confidence in the handling of emergency incidents.	
Supports and improvements of community quality of life and social quality	Prepare the plans to improve community’s quality of life to suit community needs in various aspects – career, education, public health, etc.	
Timely responses to community troubles	<ul style="list-style-type: none">Establish the channels to hear community suggestions/complaints in the environmental, occupational health and safety management systems of each business entity and the corporate Environmental and Social Management System.Support and participate in community activities on a consistent basis.	
Actual/Potential Impacts		
Conflict on resources consumption and emissions of pollutants	<ul style="list-style-type: none">Apply standard production technology and ensure production standards, to reduce environmental impacts on community/society.Strictly comply with relevant legislation and requirements.	
<ul style="list-style-type: none">Accidents/incidents/emergency eventsConcerns about health/quality of life/way of life	<ul style="list-style-type: none">Control/tackle environmental and safety issues in line with relevant laws and regulations to constantly prevent risks to community.Keep community informed and allow their visit to observe the operations, for their confidence in the environmental and safety management system.	
Change in land use	Prepare the plans to improve community’s quality of life in such areas as career, education, public health to suit community needs.	
Engagement/Communication Channels		
Person/Office		
<ul style="list-style-type: none">Community Relations Division	<ul style="list-style-type: none">Environmental Inspectors Committee/Tri-Partite Committee	
Media/Activities		
<ul style="list-style-type: none">Scheduled opinion surveys and public hearingsActivities to improve quality of lifeNewsletters/documents/communication material on power plants’ operations	<ul style="list-style-type: none">Community visits for information publicizing and relationship buildingTraining and participation in the emergency response drills of community and power plantsComplaint channel as well as the prevention and remediation process	<ul style="list-style-type: none">Meetings to inform community of information/activitiesField trips to power plants and/or other projectsCorporate website: www.ratch.co.th
Additional Information (Topic in this report)		
<ul style="list-style-type: none">Environmental Management and BiodiversityCommunity and Social Stewardship	<ul style="list-style-type: none">Safety and Occupational HealthComplaint and Whistleblowing Channel	<ul style="list-style-type: none">Respect for Human Rights

3. Civic organization/Non-profit organization

Topic	Engagement/Response Guidelines
Expectations	
Disclosure of accurate and verifiable information	Prepare documents and verify facts prior to disclosure.
Participation in the assessment of potential impacts/performance inspection	<ul style="list-style-type: none"> Define disclosure guidelines and communicate accurate, clear and timely information. Allow site visits or engage them with remediation process.
Engagement/Communication Channels	
Person/Office	
<ul style="list-style-type: none"> Community Relations Division/Corporate Communications Division 	
Media/Activities	
<ul style="list-style-type: none"> Hearing on project development/operation Site visit Corporate website: www.ratch.co.th 	
Additional Information (Topic in this report)	
<ul style="list-style-type: none"> Environmental/Social/Economic Performance 2024 	

4. Government sector/Regulator

Topic	Engagement/Response Guidelines
Expectations	
Compliance with legislation, rules and regulations concerning operations in Thailand and abroad	<ul style="list-style-type: none"> Establish a system to monitor amendments in relevant laws and regulations in Thailand and abroad; assess compliance on a regular basis; and report progress to the Management and the Board of Directors. File complete reports and disclose compliance reports as required by relevant laws and regulations.
Governance and transparency that includes membership of the Thai Private Sector Collective Action Against Corruption (CAC)	<ul style="list-style-type: none"> Define the comprehensive and appropriate supervision structures and supervisory roles and duties of all operational aspects. Seek CAC's continuous membership recertification. Encourage and support subsidiaries, affiliates and joint ventures' CAC membership, serving as a CAC Change Agent.
Corporate capability in cooperating with and supporting government policies	Cooperate with regulators in sustainability operations, on compulsory or voluntary basis, for better enterprise sustainability.
Support and strengthen national energy security	Support and cooperate in maintaining the national electricity stability and efficiency.
Actual/Potential Impacts	
Incompliance with relevant legislation and regulations	Apply for licenses and operate strictly within permit conditions.
Sub-standard operation/production that causes severe impacts on community, society and the environment	Prepare the environmental, safety, occupational health management systems and other relevant systems to ensure legal compliance.
Violation to human rights	Clearly define prevention/correction and remediation measures for impacts on stakeholders and improve the operations in order to prevent the repetition.

4. Government sector/Regulator (continue)

Topic	Engagement/Response Guidelines		
Engagement/Communication Channels			
Person/Office			
<ul style="list-style-type: none">Board of DirectorsPublic Affairs Division		<ul style="list-style-type: none">The ManagementEnvironmental and safety-responsible unit	<ul style="list-style-type: none">Legal Department and Compliance Division
Media/Activities			
<ul style="list-style-type: none">Information disclosureParticipation in incident inspection/investigation		<ul style="list-style-type: none">Clarification letterCollaboration and discussion on rules and regulations	<ul style="list-style-type: none">Company visitTel: 02 794 9999Corporate website: www.ratch.co.th
Additional Information (Topic in this report)			
<ul style="list-style-type: none">Good Corporate GovernancePrevention of Fraud, Corruption and Conflict of Interest		<ul style="list-style-type: none">Business Ethics and ComplianceEnvironmental/Social/Economic Performance 2024	

5. Vendor/Supplier

Topic	Engagement/Response Guidelines
Expectations	
Professionalism and honest and ethical partnership	<ul style="list-style-type: none"> Specify desirable practices in the Supplier Code of Conduct for aligned practices and mutual goals. Discuss with suppliers to find mutually-agreed work conditions.
Transparent operations	Develop a procurement process that requires suppliers' assessment of their ESG risks for further improvement.
Compliance with contracts	Establish a contract management system and a process to monitor suppliers' operations; and control budgets.
Improvement in suppliers' operations	Monitor and evaluate suppliers' operations and performance for further improvement.
Actual/Potential Impacts	
Violation to human rights	Arrange training/orientation prior to the start of work; conditions for work request or permit; job inspection/supervision; and performance evaluation.
Unsafe work condition	Ensure safe work conditions for suppliers in line with prescribed standards particularly high-risk jobs.
Discriminatory and unfair procurement process	Develop a supplier screening mechanism and transparent procurement process that can prevent conflict of interest.
Delayed payment	Prepare fair contracts that specify all key issues and exact payment schedules.

5. Vendor/Supplier (continue)

Topic	Engagement/Response Guidelines		
Engagement/Communication Channels			
Person/Office			
<ul style="list-style-type: none">• Procurement Division• Asset Management Function		<ul style="list-style-type: none">• Inventory Management Unit• Other Relevant Divisions	<ul style="list-style-type: none">• Business Development Function
Media/Activities			
<ul style="list-style-type: none">• Consultation and meeting• After-sales coordination/ services		<ul style="list-style-type: none">• Discussion with suppliers on the procurement process for equitable access to information• Joint CSR/environmental projects/relationship activities	<ul style="list-style-type: none">• Supplier assessment particularly those with high risks• Complaint channels specified on corporate website
Additional Information (Topic in this report)			
<ul style="list-style-type: none">• Respect for Human Rights• IT Security and Cybersecurity		<ul style="list-style-type: none">• Safety and Occupational Health• Supply Chain Management	

6. Customer

Topic	Engagement/Response Guidelines	
Expectations		
<ul style="list-style-type: none">• Response to customer needs in terms of electricity/energy security• Safe and on-time delivery of products/services per specified quality/volume• Products/services that are safe and leave no impacts on society and the environment.	Operate strictly in line with the operation and maintenance schedule to maintain efficiency and availability, for prompt and efficient response to customers’ requests and industrial customers’ electricity and energy stability.	
Operations with good corporate governance and zero environmental impacts	Operate and manage contracts transparently in accordance with the terms of conditions agreed upon with customers or consumers.	
Cooperation in problem solving and relationship building	<ul style="list-style-type: none">• Jointly discuss the terms or disputes.• Organize consistent meetings and relationship-building activities.	
Actual/Potential Impacts		
Violation of contractual agreements and terms	Operate and follow the contracts’ terms and conditions and agreements with customers/consumers for inclusive benefits.	
Deficiency in production control for the delivery of products/services as specified by customers	Establish a channel to hear customers’ opinions/recommendations and improve the operations accordingly for customer approval.	
<ul style="list-style-type: none">• Leakage of customer information• Danger associated with services	Establish and safeguard cybersecurity, to prevent leakage of confidential information and customer personal data.	

6. Customer (continue)

Topic	Engagement/Response Guidelines
Engagement/Communication Channels	
Person/Office <ul style="list-style-type: none"> Asset Management Function Contract Management Unit 	<ul style="list-style-type: none"> Business Development Function Units involved with power plants' production and efficiency
Media/Activities <ul style="list-style-type: none"> Scheduled meetings with customers Customer visits and relation-building activities 	<ul style="list-style-type: none"> Communication channel with customers Seminars for opinion exchange Corporate website: www.ratch.co.th
Additional Information (Topic in this report)	
<ul style="list-style-type: none"> Climate Action IT Security and Cybersecurity 	<ul style="list-style-type: none"> Environmental Management and Biodiversity Supply Chain Management Customer Relationship Management and Product Responsibility

7. Business Partner

Topic	Engagement/Response Guidelines
Expectations	
<ul style="list-style-type: none"> Financial stability and positive corporate image Consistent revenue flow and profits Sustainable growth in the long term 	Set a partnership strategy, to strengthen the Company's competitiveness and growth potential in power and related businesses.
Working team's reputation, capability, track records and professionalism	Prepare a partner due diligence and risk-assessment process prior to striking partnership deals.
Efficient management and governance	Inform partners of the Company's intention on integrity, legal compliance, transparency, anti-corruption practices and respect for human rights.
Long-term partnership	Adopt a transparent supervision process and nurture relations for long-term partnership.
Actual/Potential Impacts	
Incompliance with legislation/contract terms	<ul style="list-style-type: none"> Disclose information transparently. Safeguard partners' confidential information and personal data and do not share the data with irrelevant parties.
Failure to achieve revenue targets	Operate business as best as possible with full professionalism for positive results.
Exploitation of confidential information for business benefits	<ul style="list-style-type: none"> Conduct negotiations on the basis of equitability and transparency and provide accurate and sufficient information for the decision-making. Safeguard partners' confidential information, without sharing or making use of the information.
Engagement/Communication Channels	
Person/Office <ul style="list-style-type: none"> Business Development Function 	<ul style="list-style-type: none"> Asset Management Function
Media/Activities <ul style="list-style-type: none"> Scheduled meetings with partners Joint ventures' Board of Directors-level/management-level meetings Preparation of agreements 	<ul style="list-style-type: none"> Disclosure of operational performance to partners Field trip to jointly observe pilot projects/project progress
Additional Information (Topic in this report)	
<ul style="list-style-type: none"> Good Corporate Governance Prevention of Fraud, Corruption and Conflict of Interest 	<ul style="list-style-type: none"> Business Ethics and Compliance Supply Chain Management

8. Shareholder

Topic	Engagement/Response Guidelines
Expectations	
Ability to achieve targets on ESG risk management and execution of sustainability strategies	<ul style="list-style-type: none"> Setting of ESG (Environment, Social and Governance) Risk Management and execute sustainability strategies Operations in alignment with business and sustainability strategies as well as operational targets
Ability to execute strategies towards short-, medium-, and long-term targets for corporate growth	
Ability to generate good returns	Ability to achieve positive performance and returns
Good Corporate Governance	Board of Directors' governance practices
Professionalism and operational excellence	Improvement in human resource capability for professionalism and operational excellence
Adaptability to transitions and emerging risks	Monitoring and adaptation to technological changes and emerging risks.
Efficiency in monitoring/preventing fraud and corruption	Assessment of fraud-related risks and supervisory and inspection measures to prevent all forms of fraud and corruption
Actual/Potential Impacts	
Failure to meet financial targets	Setting of short-, medium- and long-term growth strategies and targets as well as evaluation system
<ul style="list-style-type: none"> Inability to drive the organization in line with sustainability strategies Incompliance with laws and regulations concerning the economic, social, environmental and human rights aspects Rights that harms corporate reputation and confidence in the Company 	Enhance the employee capacity to manage ESG (Environment, Social and Governance) risks and execute sustainability strategies; as well as adaptability and resilience in the face of change
Engagement/Communication Channels	
Person/Office <ul style="list-style-type: none"> Board of Directors The Management Company Secretary's Office Investor Relations Division 	
Media/Activities <ul style="list-style-type: none"> Annual General Meeting Meeting during Opportunity Day and Analyst Meeting Responses to ESG/sustainability assessment or questionnaire by external organizations Meeting with EGAT Company visit and Site visit Information disclosure via mass media and corporate website Roadshow Form 56-1 One Report and Sustainability Report Corporate website: www.ratch.co.th 	
Additional Information (Topic in this report)	
<ul style="list-style-type: none"> Good Corporate Governance Prevention of Fraud, Corruption and Conflict of Interest Business Ethics and Compliance Environmental/Social/Economic Performance 2024 	

9. Creditor

Topic	Engagement/Response Guidelines
Expectations	
Credible company ratings	<ul style="list-style-type: none"> • Maintain credit ratings at the Investment Grade. • Strictly follow the agreed terms, concerning the purposes of fund, principal and interest repayments, and the maintenance of collateral quality throughout the contract period.
Ability to generate revenue, profits and growth	Clearly establish EBITDA growth target and the management plans for revenue, cost and returns.
Ability to repay loans	<ul style="list-style-type: none"> • Strictly follow the repayment plan for creditors' confidence. • Disclose financial information or follow the terms of conditions accurately, completely, punctually and consistently.
Investment and funding plans for project financing	Choose low-cost funds and financial tools that match each type of project.
Ability to manage financial risks (interest rate and exchange rate) and keep them at low or acceptable levels	<ul style="list-style-type: none"> • Establish the financial policy that covers the analysis of financial risks relating to interest rates and exchange rates and the risk management measures; and regularly monitor the financial markets. • Maintain the financial management efficiency, including the funding cost management.
Continuity in good relationship	Communicate, exchange information and promptly seek solutions on a mutual basis.
Corporate credibility, reputation and governance	<ul style="list-style-type: none"> • Establish the guidelines for ESG (Environmental, Social and Governance) risk management and the execution of sustainability strategies. • Participate in sustainability/ESG ratings by local and international organizations.
Support to national policies on sustainability/climate change	<ul style="list-style-type: none"> • Drive climate-related and human rights strategies and implementation. • Inform creditors of climate action and volume of greenhouse gas emissions.
Actual/Potential Impacts	
Failure to meet the terms of loan contract	Supervise the operations and reporting in line with the creditors/financial institutions' terms and conditions.
Failure to meet debt repayment schedules	Strictly follow loan repayment plans to obtain creditor confidence and maintain corporate reputation.
Non-transparent operations	<ul style="list-style-type: none"> • Strictly follow the Company's financial and tax policies. • Strictly safeguard confidentiality.
Operations with impacts on climate change	Implement climate change strategies.
Engagement/Communication Channels	
Person/Office	
<ul style="list-style-type: none"> • Accounting and Finance Function 	<ul style="list-style-type: none"> • Business Development Function • Asset Management Function
Media/Activities	
<ul style="list-style-type: none"> • Report and disclosure of information per relevant terms and conditions • Meeting with creditors and financial institutions 	<ul style="list-style-type: none"> • Business agreements, memorandum of understanding and safeguarding of confidential information • Tel: 02 794 9999 • Site visit to observe project progress • Corporate website: www.ratch.co.th
Additional Information (Topic in this report)	
<ul style="list-style-type: none"> • Good Corporate Governance • Risk Management and Internal Control 	<ul style="list-style-type: none"> • Business Ethics and Compliance • Economic Performance 2024

10. Competitor

Topic	Engagement/Response Guidelines
Expectations	
Fair competition	Comply with competition laws and universal best practices as well as the guidelines in the Code of Conduct that prohibits accusations against competitors and demands for/taking of dishonest gains.
Actual/Potential Impacts	
<ul style="list-style-type: none"> Trade barriers Unfair competition 	Avoid any act that may be considered a collusion or anti competition practice.
Revelation of confidential information	Do not seek or accept confidential information from competitors, directly or indirectly, or exchange/receive illegal information.
Engagement/Communication Channels	
Person/Office	
<ul style="list-style-type: none"> Business Development Function Asset Management Function 	
Additional Information (Topic in this report)	
<ul style="list-style-type: none"> Business Ethics and Compliance 	

11. Business association/organization

Topic	Engagement/Response Guidelines
Expectations	
Participation and supports to the networks or organizations' objectives	<ul style="list-style-type: none"> Provide full supports to the business networks or organizations Renew membership continually. Join as directors/members of their working groups.
Operations that support national development goals	Consistently participate in their activities.
Actual/Potential Impacts	
Operations that are inconsistent with the networks or organizations' objectives	Follow up on the networks or organizations' information, to stay updated.
Engagement/Communication Channels	
Person/Office	
<ul style="list-style-type: none"> Company Secretary's Office Responsible units 	
Media/Activities	
<ul style="list-style-type: none"> Participation in meetings/seminars/training/activities Monitoring of the network/organization's information disclosure channels Coordination with the networks/organizations Corporate website: www.ratch.co.th 	
Additional Information (Topic in this report)	
<ul style="list-style-type: none"> External collaboration and Membership 	

12. Mass Media

Topic	Engagement/Response Guidelines
Expectations	
Disclosure of accurate, timely and equitable information	<ul style="list-style-type: none"> • Disclose information as required by laws and regulatory bodies. • Monitor media reports on a regular basis.
Two-way communications and good relationship	<ul style="list-style-type: none"> • Arrange press events as deemed appropriate, one-way or two-way communication patterns, ensuring equitable, timely, accurate, and adequate disclosure. • Establish a process to take and answer questions or to pass information to the media. • Organize consistent relationship-building activities.
Actual/Potential Impacts	
Inaccurate and erroneous communications	<ul style="list-style-type: none"> • Verify the information accuracy prior to disclosure. • Request Chief Executive Officer's approval for financial and non-financial information prior to the disclosure. • Establish guidelines on the use of internal information.
Information concealment and distortion	<ul style="list-style-type: none"> • Establish guidelines on the communications with media; and follow the Company's Prevention of Misuse of Inside Information Policy, the Company's order on use of inside information, and regulatory requirements on information disclosure. • Authorize only Chief Executive Officer and/or designated persons to use internal information and answer questions from the media.
Engagement/Communication Channels	
Person/Office	
<ul style="list-style-type: none"> • Corporate Affairs Department 	<ul style="list-style-type: none"> • Corporate Communications Division • Public Relations Division
Media/Activities	
<ul style="list-style-type: none"> • Press conference/Press release • Relationship-building activities 	<ul style="list-style-type: none"> • Executive's interview • Company visit • Corporate website: www.ratch.co.th
Additional Information (Topic in this report)	
<ul style="list-style-type: none"> • Environmental/Social/Economic Performance 2024 	



More information on
Form 56-1 One Report

External collaboration and Membership

In 2024, RATCH continues to strengthen collaborations with external organizations to support sustainability initiatives. Additionally, the Company has become a member of associations that significant in driving policies and concrete actions in Environmental, Social, and Governance (ESG) matters, as follows.

Organization	Starting year	Project/Activity
RATCH Group Public Company Limited		
Community Forest Management Office, Royal Forest Department	2007	Love the Forest and the Community Project is aimed at promoting and supporting community engagement in the management, development, rehabilitation and use of forest resources for sustainability.
Thai Investors Association	2008	Annual General Meeting Quality Assessment (AGM)
Ministry of Education and Sports, Lao PDR	2011	Education for Career Empowerment Project, Lao PDR

Organization	Starting year	Project/Activity
Thai Institute of Directors Association (IOD)	2014	Corporate Governance Report of Thai Listed Companies (CGR)
	2014	ASEAN Corporate Governance Scorecard (ACGS)
	2015	Thailand's Private Sector Collective Action Against Corruption (CAC)
Stock Exchange of Thailand	2015	SET's Sustainability Assessment for listed companies
	2022	Cybersecurity Resilience Survey
Thailand Greenhouse Gas Management Organization (Public Organization)	2018	Thailand Voluntary Emission Reduction Program (T-VER)
	2018	Certified CFO of Head Office
	2024	Knowledge Sharing: The Transition of the Electricity Sector Towards Thailand's Greenhouse Gas Reduction Goals
Plant Genetic Conservation Project Under the Royal Initiative of HRH Princess Maha Chakri Sirindhorn	2017	Supporting the initiative through special activities: training on school botanical gardens and local natural resources
Reforestation Promotion Office, Royal Forest Department	2021	Co-developing the reforestation project to enhance biodiversity and create carbon credit under Thailand Greenhouse Gas Management (Public Organization)'s T-VER scheme
Mae Fah Luang Foundation	2022	Supporting Forest Carbon Credits Management for Sustainable Development Project
Department of Marine and Coastal Resources	2022	Collectively developing the mangrove reforestation for carbon credits, Chanthaburi Province
Community Forest Management Office and Community Forest Foundation, Royal Forest Department	2023	Collectively developing community forest conservation, rehabilitation and management project for carbon credits in 5 communities in Sa Kaeo, Khon Kaen, and Nakhon Ratchasima Province
	2024	Co-developing forest conservation, rehabilitation and management project for carbon credits in 2 community forests in Prachinburi province
Mental Health Center 4 Pathum Thani	2023	Supporting Stress Assessment Activity (Biofeedback) and providing Guidance and Stress Management for Employees
Thailand Productivity Institute	2023	Arranging knowledge management titled "Human Rights Awareness in Business" to enable employees to integrate human rights issues into the organization's work processes
Ratchaburi Electricity Generating Co., Ltd.		
Industrial Works Department	2012	Participating in Standard of Corporate Social Responsibility (CSR-DIW)
Ratchaburi Provincial Labor Protection and Welfare Office	2014	Joining Zero Accident Campaign activity
		Applying Standard on Prevention and Solution to Drug Problems in an Establishment
Labor Safety Center Area 7 (Ratchaburi)	2015	Awarded Outstanding workplace on safety, occupational health and work environment
Thailand Greenhouse Gas Management Organization (Public Organization)	2016	Received Certified Carbon Footprint for Organization (CFO) of Ratchaburi Power Plant
	2018	Participating in Thailand Voluntary Emission Reduction Program (T-VER) scheme
CSR Promotion Center (Ratchaburi Social Development and Human Security Office)	2017	Support to Ministry of Social Development and Human Security's corporate social responsibility strategy, by establishing the culture of responsibility and strategic administrative unity; promoting the private sector's sustainable development towards SDGs; and promoting CSR activities of international businesses to uplift Thailand's competitiveness in ASEAN and international stages
Center for Morality Promotion (Public Organization)	2017	Awarded for Role model enterprise on morality in Ratchaburi Province
Ratchaburi Cultural Office	2022	Receiving Benefactor of the Ministry of Culture in 2022 fiscal year (Wathanakhunathorn Award)

Organization	Starting year	Project/Activity
Damnoen Saduak District, Ratchaburi Province	2022	Collaborating on Our Neighbor Project in Damnoen Saduak Activity: Home fixing for the poor under the Sufficiency Philosophy principles-driven scheme for poverty eradication and development of people at all ages, targeting households in Damnoen Saduak District, Ratchaburi Province, which are not included in Thai People Map and Analytics Platform (TPMAP)
Mental Health Center 5 (Samut Songkhram)	2022	Mental health check in an establishment in collaboration with Mental Health Center 5 (Samut Songkhram)'s mobile unit
RATCH Cogeneration Co., Ltd.		
Thailand Greenhouse Gas Management Organization (Public Organization)	2021	Applying “Carbon Footprint for Organization” for RATCH Cogeneration Power Plant
Pathum Thani Provincial Energy Office	2023	Arranging a project to transfer, distribute and experiment knowledge about alternative energy and energy saving
Thakhlung Community Council	2023	Co-organizing a home fixing for the poor project
Baan Ua Athorn Community, KM 44	2023	Collaboration in Training Center Project for Waste Material Processing: Old Clothes Revamp Activity
Academic Service Center 1, Pathum Thani Province	2024	Collaboration in Project for Knowledge Transfer, Dissemination, Demonstration, and Exhibition on Renewable Energy and Energy Conservation
		Collaboration in Project for Energy Conservation Knowledge Transfer and Dissemination for Industrial Personnel
Siripap Community, Khlong Nueng Subdistrict, Khlong Luang District, Pathum Thani Province	2024	Collaboration in Training Project on Waste Sorting in the Community
Thammasat Khlong Luang Witthayakhom School, Khlong Nueng Subdistrict, Khlong Luang District, Pathum Thani Province	2024	Joining Activity ‘Science, Technology, and Career Fair Week’ organized by the Science and Technology Learning Area and the Career Education Learning Area
Nava Nakorn Electricity Generating Co., Ltd.		
Thailand Greenhouse Gas Management Organization (Public Organization)	2021	Applying “Carbon Footprint for Organization” for Nava Nakorn Electricity Generating Power Plant
Berkprai Cogeneration Co., Ltd.		
Suankluay Administration Organization	2021	Collectively implementing Sufficiency Economy-driven quality of life improvement project
Thailand Greenhouse Gas Management Organization (Public Organization)	2023	Applying “Carbon Footprint for Organization” for Berkprai Cogeneration Power Plant
Lad Bua Kaw Administration Organization	2024	Collectively implementing an Activity to Promote Growing Edible Backyard Vegetables Following the Sufficiency Economy Philosophy
Village Headman and Village Chief Club, Ban Pong District	2024	Supporting Demonstration Agricultural Project (Home, Temple, School, Factory)
The Group of RATCH Pathana Energy Public Company Limited*		
Thai Institute of Directors Association (IOD)	2015	Joining Thai Private Sector Collective Action Against Corruption (CAC)
Stock Exchange of Thailand	2018	Participating in Sustainability Assessment for listed companies
Thailand Greenhouse Gas Management Organization (Public Organization)	2022	Applying “Carbon Footprint for Organization” for The Group of RATCH Pathana Energy Power Plant
	2023	Applying “Carbon Footprint of Products” for The Group of RATCH Pathana Energy Power Plant
Asia Water Co., Ltd		
Lao Water Supply Association	2018	Collaboration to water supply system development in Lao PDR

Note: *RATCH Pathana Energy Public Company Limited, Sahacogen Green Co., Ltd., and Sahagreen Forest Co., Ltd.

Membership



Organization/Status	Dimension**				Participatory pattern
	G	Ec	S	En	
RATCH Group Public Company Limited					
Thai Institute of Directors Association (IOD): Member	✓				Attending training and seminars on corporate governance for directors, executives and employees and supporting academic activities
Thailand Listed Companies Association: Member	✓				Attending meetings and seminars on business management and joining sustainability awards programs
Thai Private Sector Collective Action Against Corruption: Member	✓				Endorsing its manifesto, and being a certified member
Association of the Electricity Supply Industry of East Asia and Western Pacific (AESIEAP): Member		✓			Exchanging information on regional industry and attending meetings, seminars and study trips on technology in the region
ICC Thailand National Committee by The Thai Chamber of Commerce: Member		✓			Attending meetings, seminars, training and other activities and supporting activities
Electricity Supply Industry Association of Thailand (TESIA): Executive Director		✓			Promoting electricity-related technology and exchanging knowledge and experience on all fields of engineering technology and joining capacity-building activities for professional engineers
Thailand Environment Institute Association of Electrical and Electronic Engineers (IEEE): Executive Director		✓			Supporting academic activities to create new knowledge and disseminate research findings in the field of engineering
Thai Industrial Estate and Strategic Partner Association: Supporter		✓			Promoting and supporting collaboration with the government sector
The International Council on Large Electric Systems (CIGRE): Member		✓			Supporting academic research and development
Thailand Productivity Institute: Member				✓	Attending training and seminars
Thailand Carbon Neutral Network (TCNN): Member				✓	Promoting public/private/community emission reduction collaboration to achieve Net Zero target
Thaipat Institute: Member	✓	✓	✓	✓	Improving corporate sustainability disclosure and enhancing corporate sustainability in support of SDGs
Thailand Business Council for Sustainable Development (TBCSD) and Thailand Environmental Institute: Member	✓		✓	✓	Being a Council member and Associate member and being a partner of its activities
Association of Provident Funds: Member		✓			Joining meetings, trainings and seminars for employees' benefits and support the improvement of the association's operational efficiency

Organization/Status	Dimension**				Participatory pattern
	G	Ec	S	En	
Ratchaburi Electricity Generating Co., Ltd.					
Personnel Management Association of Thailand: Member		✓	✓		Attending training and seminars on personnel management and labor relations to enhance executives and employees' knowledge
Federation of Thai Industries: Member		✓	✓		Promoting and supporting researches, training and academic reports on industrial technology
RATCH Cogeneration Co., Ltd.					
Association of Private Power Producers: Member			✓	✓	Attending training on renewable energy management
Investor Club Association: Member		✓			Attending training and seminars on investment information and machinery in the industry
The Group of RATCH Pathana Energy Public Company Limited					
Thai Institute of Directors Association (IOD): Member	✓				Supporting academic activities and attending meetings and seminars
Thailand Listed Companies Association: Member	✓				Attending meetings and seminars for business knowledge enhancement and participating in sustainability awards projects
Thai Private Sector Collective Action Against Corruption: Member	✓				Endorsing its manifesto, and being a certified member
Electricity Supply Industry Association of Thailand (TESIA): Member		✓			Supporting activities of organizations that contribute to enhancing knowledge and professional competence of engineers
Association of Provident Funds: Member		✓			Supporting the improvement of the association's operational efficiency
HR Society Magazine: Member	✓	✓	✓		Training and seminars to enhance knowledge and skills in human resources management, science and art, as well as updating on labor law information
Human Resources Club, Saha Pathanapibul Group, Sriracha: Member	✓	✓	✓		Attending training and seminars for knowledge, skill, capacity enhancement
Accounting and Finance Management Club, Saha Pathanapibul Group: Member	✓	✓	✓		
Investor Club Association: Member	✓	✓	✓		
Siamsafety & SHELaws: Member	✓	✓	✓		
HRNT CLUB: Member	✓	✓	✓		
Chonburi Provincial Occupational Safety Officer Club: Member	✓	✓	✓		
Corporate Secretary Club, Saha Pathanapibul Group: Member	✓	✓	✓		
Human Resources Club, Saha Pathanapibul Group, Lamphun: Member	✓	✓			Support club activities and participate in training to enhance knowledge and skills for personnel
Lamphun Provincial Occupational Safety Officer Club: Member				✓	Attending seminars and training to enhance knowledge and skills in safety and occupational health for personnel
Asia Water Co., Ltd					
Lao Water Supply Association: Member	✓	✓	✓	✓	Attending meeting to exchange operations in the water supply business in the Lao PDR

Note: **G = Governance, Ec = Economics, S = Social, En = Environment

Good Corporate Governance



Corporate Governance Policy

RATCH has established the “Corporate Governance Policy” to ensure the Company’s governance comply with universal standards and is transparent and effective for confidence among shareholders, investors, employees, regulatory bodies and other stakeholders. RATCH has subsequently issued the regulation, orders and announcements and clearly specified the responsible unit, so as to strengthen the business foundation and prepare for future expansion.



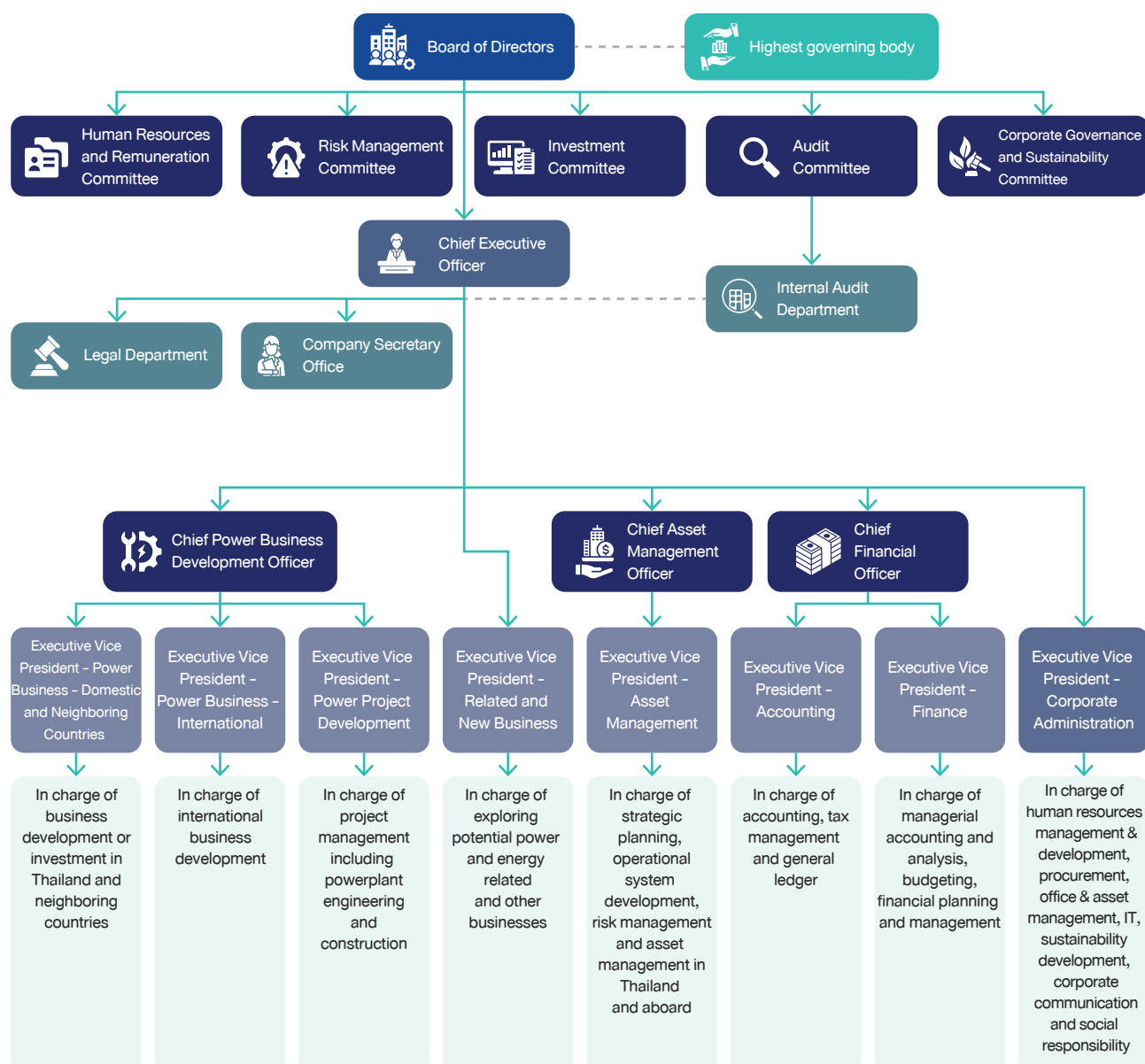
The Corporate Governance Policy

RATCH Group’s Corporate Governance Policy



Corporate governing structure

RATCH integrates the corporate governance mechanism into the organizational structure that specifies multi-level executives as the supervisors of all functions, to ensure the concrete execution of the principles and intentions under the “Corporate Governance Policy”. The Board of Directors is on the top of the line of command. The roles of the Board of Directors are clearly written in the Regulation of the Board of Directors which is published on the Company’s website.



RATCH's Board of Directors

Item	Description	Conformity with regulations
Size of Board of Directors	<p>Number of directors: 12 persons</p> <p>The Board's charter specifies the number of directors of at least 7 and no more than 15. All are appointed at the Annual General Meeting or by the Board of Directors.</p>	✓
Chairman	<p>One Chairman: Mr. Sutap Patmasiriwat (Independent Director)</p> <p>The Board's charter specifies:</p> <ul style="list-style-type: none"> The Board selects a non-executive director who is not the same person as the Chief Executive Officer as chairman. The Chairman shall not be an executive director or Chief Executive Officer who is the management chief and shall not have any relationship with the Management. 	✓

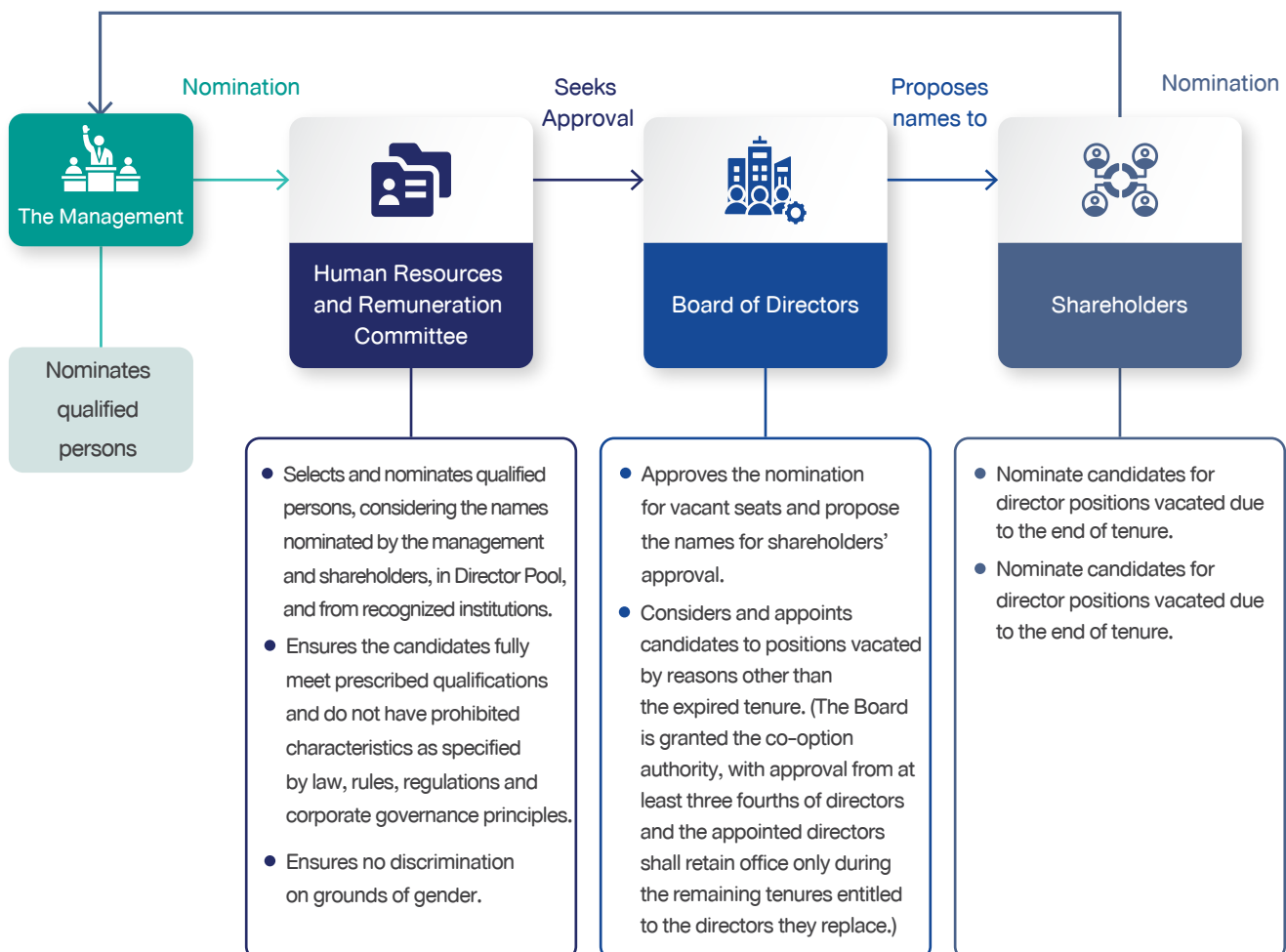
Item	Description	Conformity with regulations
	<ul style="list-style-type: none"> Chairman and Chief Executive Officer positions are totally separated to ensure the right balance of power and prevent the unlimited power of either of them. Their duties and responsibilities are clearly differentiated. 	✓
Number of independent directors	<p>6 persons or 50%, consisting of:</p> <p>1. Mr. Sutat Patmasiriwat 2. Mr. Praphaisith Tankeyura</p> <p>3. Mr. Panuwat Triyangkulsri 4. Mr. Kriengkrai Rukkulchon</p> <p>5. Mrs. Chayanan Pakdeejit 6. Mr. Borwornsak Wanich</p> <p>The Board's Charter demands at least one third shall be made up of independent directors or at least three independent directors.</p>	✓
Sub-committees	<p>5 sub-committees which are:</p> <ul style="list-style-type: none"> Audit Committee with 4 members and Head of Internal Audit Department serving as the Committee's secretary Human Resources and Remuneration Committee with 3 members and Executive Vice President-Corporate Administration serving as the Committee's secretary Risk Management Committee with 5 members and Head of Corporate Planning and Systems Development Department serving as the Committee's secretary Investment Committee with 3 members and Chief Power Business Development Officer serving as the Committee's secretary Corporate Governance and Sustainability Committee with 2 members and Head of Corporate Affairs Department serving as the Committee's secretary 	Unspecified
Number of executive directors	<p>1 executive director: Mr. Nitus Voraphonpiput, Chief Executive Officer</p> <p>The Board's Charter allows executive directors to hold no more than 1/3 of director seats.</p>	✓
Number of directors representing major shareholders	<p>6 directors:</p> <p>1. Mr. Warakorn Brahmopala 2. Mr. Takoon Siriyutwatana</p> <p>3. Mr. Methawat Phongradaphirom 4. Mr. Thidade Eiamsai</p> <p>5. Mr. Kulyos Audomvongseree 6. Mr. Nitus Voraphonpiput</p>	Unspecified
Number of female directors	<p>1 director (8.33%): Mrs. Chayanan Pakdeejit</p>	Unspecified
Number of directors appointed in 2024	<ul style="list-style-type: none"> 8 new directors appointed in 2024 1 director reappointed in 2024 	Unspecified
Directors' serving period	<p>Average: 1 year 3 months</p> <ul style="list-style-type: none"> 0-2 years: 11 persons 3-4 years: 1 person <p>The Board's Charter specifies 3 years for a director term and 6 consecutive years of maximum tenure.</p>	✓
Average age	<p>57 years 6 months and no director over 72 years</p> <p>The Board's Charter specifies directors must not be aged over 72 years.</p>	✓

Item	Description	Conformity with regulations
Directors who hold positions in other listed companies	3 directors: 1. Mr. Kriengkrai Rukkulchon (1 company) 2. Mr. Praphaisith Tankeyura (2 companies) 3. Mr. Nitus Voraphonpiput (2 companies) The Board's Charter specifies a director hold directorships in no more than three listed companies.	✓

Nomination of Directors

Directors are selected through the annual election process. In the process, the Management and shareholders nominate the names, without gender discrimination, for the qualification screening by the Human Resources and Remuneration Committee. Qualified candidates shall not have prohibited characteristics as specified by law and the Company's relevant regulation as well as corporate governance principles. The Committee also takes into account the specialized expertise written in the Company's Board Skills Matrix. The list of candidates is then sent to the Board of Directors, to be further submitted for the shareholders' appointment at the Annual General Meeting.

Director nomination process



Director qualifications

RATCH applies the Board Matrix based on competency in the director selection, considering the candidates' knowledge, experiences and expertise under 2 criteria – Core Skills Required and Alternative Skills.

Core Skills Required	Alternative Skills
<ul style="list-style-type: none"> • Knowledge of electricity/ energy/ infrastructure business • Accounting and finance • Legal knowledge 	<ul style="list-style-type: none"> • Knowledge of financial, banking industry, capital market • Academic knowledge or expertise in technology in related businesses • Knowledge of strategic planning • Tax knowledge • Knowledge of corporate governance, risk management, social responsibility • Knowledge of marketing/public relations • Being a high-ranking executive of a private company with the same size • Work experience in public service

The Board of Directors' members and expertise

Directors	Experience in business/industry	Other relevant competencies, skills and experiences	
1. Mr. Sutat Patmasiriwat <ul style="list-style-type: none"> • Chairman (non-executive director) • Independent director • Chairman of the Investment Committee 	<ul style="list-style-type: none"> • Power/energy • Public sector/ State Enterprise • Private sector 	<ul style="list-style-type: none"> • Planning/strategic management • Business administration • Asset management • Engineering • Risk management 	<ul style="list-style-type: none"> • Accounting/finance • Human resources/ Remuneration • Corporate governance, CSR and sustainable development
2. Mr. Praphaisith Tankeyura <ul style="list-style-type: none"> • Independent director (non-executive director) • Chairman of the Audit Committee • Member of the Risk Management Committee 	<ul style="list-style-type: none"> • Power/energy • International business • Other private business 	<ul style="list-style-type: none"> • Planning/strategic management • Business administration • Asset management • Risk management • Accounting/finance 	<ul style="list-style-type: none"> • Economics • Human resources/ Remuneration • Law/regulations • Corporate governance, CSR and sustainable development
3. Mr. Kriengkrai Rukkulchon <ul style="list-style-type: none"> • Independent director (non-executive director) • Chairman of the Human Resources and Remuneration Committee • Member of the Audit Committee • Member of the Risk Management Committee 	<ul style="list-style-type: none"> • Other infrastructure • Public sector/ State Enterprise • Other private business 	<ul style="list-style-type: none"> • Planning/strategic management • Business administration • Asset management • Engineering 	<ul style="list-style-type: none"> • Human resources/ Remuneration • Law/regulations • Corporate governance, CSR and sustainable development

Directors	Experience in business/industry	Other relevant competencies, skills and experiences	
4. Mr. Panuwat Triyangkulsri <ul style="list-style-type: none"> Independent director (non-executive director) Chairman of the Corporate Governance and Sustainability Committee Member of the Audit Committee 	<ul style="list-style-type: none"> Other infrastructure Public sector/ State Enterprise Other private business 	<ul style="list-style-type: none"> Planning/strategic management Business administration Human resources/ Remuneration IT/Digital/Cyber 	<ul style="list-style-type: none"> Trade/International relations Corporate governance, CSR and sustainable development
5. Mr. Warakorn Brahmopala <ul style="list-style-type: none"> Director (non-executive director) Chairman of the Risk Management Committee 	<ul style="list-style-type: none"> Power/energy Public sector/ State Enterprise 	<ul style="list-style-type: none"> Planning/strategic management Business administration Asset management Risk management 	<ul style="list-style-type: none"> Accounting/finance Human resources/ Remuneration Corporate governance, CSR and sustainable development
6. Mrs. Chayanon Pakdeejit <ul style="list-style-type: none"> Independent director (non-executive director) Member of the Audit Committee 	<ul style="list-style-type: none"> Public sector/ State Enterprise 	<ul style="list-style-type: none"> Planning/strategic management Business administration Asset management Risk management 	<ul style="list-style-type: none"> Human resources/ Remuneration Law/regulations Corporate governance, CSR and sustainable development
7. Mr. Borwornsak Wanich <ul style="list-style-type: none"> Independent director (non-executive director) Member of the Human Resources and Remuneration Committee 	<ul style="list-style-type: none"> Public sector/ State Enterprise 	<ul style="list-style-type: none"> Planning/strategic management Business administration Asset management Risk management 	<ul style="list-style-type: none"> Human resources/ Remuneration Law/regulations Corporate governance, CSR and sustainable development
8. Mr. Kulyos Audomvongserree <ul style="list-style-type: none"> Director (non-executive director) Member of the Investment Committee Member of the Risk Management Committee 	<ul style="list-style-type: none"> Power/energy Public sector/ State Enterprise 	<ul style="list-style-type: none"> Planning/strategic management Business administration Risk management Engineering 	<ul style="list-style-type: none"> Accounting/finance Corporate governance, CSR and sustainable development
9. Mr. Takoon Siriyutwatana <ul style="list-style-type: none"> Director (non-executive director) Member of the Human Resources and Remuneration Committee 	<ul style="list-style-type: none"> Power/energy Public sector/ State Enterprise 	<ul style="list-style-type: none"> Planning/strategic management Business administration Risk management Human resources/ Remuneration 	<ul style="list-style-type: none"> Law/regulations IT/Digital/Cyber Corporate governance, CSR and sustainable development
10. Mr. Methawat Phongradaphirom <ul style="list-style-type: none"> Director (non-executive director) Member of the Corporate Governance and Sustainability Committee Member of the Risk Management Committee 	<ul style="list-style-type: none"> Power/energy Public sector/ State Enterprise 	<ul style="list-style-type: none"> Planning/strategic management Business administration Asset management Risk management Human resources/ Remuneration 	<ul style="list-style-type: none"> Engineering IT/Digital/Cyber Corporate governance, CSR and sustainable development

Directors	Experience in business/industry	Other relevant competencies, skills and experiences	
11. Mr. Thidade Eiamsai <ul style="list-style-type: none"> • Director (non-executive director) • Member of the Investment Committee 	<ul style="list-style-type: none"> • Power/energy • Public sector/ State Enterprise • Other private business 	<ul style="list-style-type: none"> • Planning/strategic management • Business administration • Asset management • Risk management 	<ul style="list-style-type: none"> • Engineering • Corporate governance, CSR and sustainable development
12. Mr. Nitus Voraphonpipit <ul style="list-style-type: none"> • Director (executive director) • Secretary to Board of Directors • Chief Executive Officer 	<ul style="list-style-type: none"> • Power/energy • Other infrastructure • Public sector/ State Enterprise • Other private business 	<ul style="list-style-type: none"> • Planning/strategic management • Business administration • Asset management • Risk management • Human resources/ Remuneration 	<ul style="list-style-type: none"> • Engineering • IT/Digital/Cyber • Corporate governance, CSR and sustainable development

Board of Directors' roles and responsibilities in corporate governance

The Regulations of the Board of Directors B.E. 2566 defines the roles and responsibilities of the Board of Directors in the operations and oversight, to ensure compliance with the legislation and maintain transparency in alignment with the principles of corporate governance. The roles are as follows:

Formulate strategies, business plans, targets and budgets to ensure the Company's solid and sustainable growth.

Delegate power to Chief Executive Officer for the execution of plans as approved by the Board of Directors for flexible and agile operations.

Follow up on the implementation of business strategies and work plans on economic/ESG risks that may derail targets or strategic achievements on a quarterly basis; give recommendations; and tackle arising difficulties.

Set the vision and strategy on human resources management, the performance-based remuneration strategy, the plan to attract and retain talents; and ensure fair and transparent criteria and method for the nomination, dismissal and termination of directors and high-level executives as well as the performance-based evaluation process for top executives.

Communicate with stakeholders through appropriate forms and channels.

Set up/define the roles of sub-committees in charge of supervising and taking care of significant issues as deemed appropriate.

Evaluate the performance of the Board of Directors and sub-committees, under the prescribed evaluation criteria, methods and indicators; and schedule annual assessment and reveal the results in the Annual Report.

Ensure compliance with the principles of corporate governance, concerning:

- Provide business ethics and guidelines for executives and employees and communicate the ethics to employees at all levels.
- Prepare accurate, complete and reliable financial reports.
- Strictly honor and comply with relevant laws.
- Establish an effective internal control process.
- Define auditors' qualifications and evaluation method.
- Provide a transparent process to deal with related-party transactions.
- Provide an effective risk assessment and management system and procedure.
- Ensure appropriate balance of power between the Board and the Management and/or major shareholders through the proportion of independent directors.
- Arrange a process for the submission of sufficient information to the Board of Directors, for effective supervision and monitoring of the Management.
- Provide a systematic and efficient management system for the Board of Directors' meeting minutes.
- Follow up on conflict-of-interest issues particularly concerning fraud and corruption prevention.
- Set up a process to protect and reinforce corporate reputation.

Corporate governance performance in 2024

Topic	Results
Meeting	<p>1. Board of Directors: 14 Meetings</p> <p>2. Sub-committees:</p> <ul style="list-style-type: none"> • Audit Committee: 8 meetings • Risk Management Committee: 5 meetings • Investment Committee: 6 meetings • Human Resources and Remuneration Committee: 9 meetings • Corporate Governance and Sustainability Committee: 4 meetings • Co-Meeting of Audit Committee and Risk Management Committee: 3 meetings <p>3. The Board of Directors Meeting without executive director: 1 meeting</p> <p>The Board's Charter requires the Board of Directors convene at least once a month and the meeting of directors without the Management's presence be held at least once a year. At least half of the directors must attend the meeting to form a quorum.</p>
Average meeting attendance	<p>Board of Directors: 99.17%</p> <p>Sub-committees:</p> <ul style="list-style-type: none"> • Audit Committee 100% • Risk Management Committee 100% • Investment Committee: 100% • Human Resources and Remuneration Committee: 100% • Corporate Governance and Sustainability Committee: 100% • Co-Meeting of Audit Committee and Risk Management Committee: 100%
Field trip/ Training	<p>1. Orientation of 8 newly-appointed directors, to learn about overall picture of the Company's operations as well as the corporate governance principles and to give the new members the important documents pertaining to the Company's operations.</p> <p>2. Attendance of 10 directors to Thai Institute of Directors' director training courses.</p> <p>3. A field trip of all Board members to the Underground Sun Storage 2030 in Australia and EDF Odysselec de Belleville in France, to study energy innovations which will assist the Board in shaping the Company's business direction.</p>



More information is available in
Form 56-1 One-Report 2024.

Supervision on sustainability

For seamless integration of sustainability operations into the normal business operations, RATCH combines the corporate sustainability supervision with the organizational structure. Under the structure, while the Board of Directors is the supreme authority, there are working teams to support the Company Group's sustainability actions and functions to take a leading role in steering the sustainability operations and coordinating with departments, divisions and working teams. The operations encompass internal and external teams, subsidiaries and joint ventures, to ensure the achievement of targets and full alignment with the legislation, universal principles/standards as well as relevant stakeholders' expectations.

Committees/Working Groups Supporting Organizations' Sustainability



Key sustainability performance in 2024

Governance

- Reviewed the Company's Code of Conduct, policies and regulations relating to the anti-fraud and corruption in alignment with the Thai Private Sector Collective Action Against Corruption (CAC) guidelines; reviewed the fraud risk register and control measures; improve the complaint-handling process; and raise awareness in the organization.
- Extended the Thai Private Sector Collective Action Against Corruption (CAC)'s membership for the third round (certification period from 31 March 2025 to 31 March 2028); and persuaded suppliers to join the CAC's anti-corruption declaration under the CAC Change Agent program.
- Supervised and reviewed the actions in line with CG Code 2560 and Corporate Governance Report of Thai Listed Companies 2024 (CGR 2024) criteria. RATCH consecutively received the "Excellent" score or five symbols of recognition in the CGR 2024 scheme.
- Establish a mechanism to frequently monitor legal and regulatory amendments relevant to the business operations, to ensure full compliance.
- Ensured the monitoring on Thailand's draft Climate Change Act in preparation for new requirements.
- Supervised, monitored and requested quarterly reports of the Company's handling of complaints regarding to fraud, corruption and violations of the Code of Conduct, submitted to the Whistleblower Channel, to ensure compliance with the procedure.

Sustainability

- Supervised, monitored and requested quarterly reports of the implementation of the Environmental and Social Management system (ESMS) under the structure that is overseen by the Environmental and Social Management Committee and supported by Environmental and Social Management Manager, the ESMS Working Team and the ESMS Internal Audit Committee of which roles and responsibilities are clearly defined.

Sustainability (Continue)

- Monitored the Company's information disclosure in line with the Task Force on Climate-Related Financial Disclosures (TCFD) framework; and recommended areas of improvement as well as the reinforcement of internal units and controlled power plants' capability on climate risk and impact assessment for the outlining of effective preventive and mitigating measures.
- Studied the internal carbon pricing (ICP) through the ICP Capacity Building training for all relevant job operators of RATCH and controlled power plant; considered an internal pricing model to analyze investment risks and opportunities; and established the organization's greenhouse gas emission strategy based on the benchmarks of external sources (Based on External Sources) and other companies in the same industry (Based on Benchmark Against Peers) and internal discussions (Based on Internal Consultation).
- Supervised and monitored the implementation of reforestation and forest conservation activities, which are aimed at carbon removal and sequestration as well as development as Thailand Voluntary Emission Reduction Program (T-VER) projects for carbon offsetting and the carbon neutrality goal by 2050.
- Pushed for the Company's study in and evaluation of the social return on investment of Education for Career Empowerment Project in Lao PDR (a social activity under the sustainable strategy) under Social Value International (SVI)'s methodology, to measure the monetary and social value as well as the outcome and impacts which will be the basis for further improvement and a new operational goal.
- Supervised a review on the Human Rights Policy, to ensure the completeness of relevant material issues and alignment with the universally-recognized UN Guiding Principles on Business and Human Rights (UNGP).

Criteria of Board of Directors performance assessment

In 2024, RATCH carried out the annual performance assessment of the Board of Directors and each sub-committee on the "as a whole" and "individual" basis, covering the key aspects of listed companies' corporate governance principles. Details are as follows:

Type of Assessment	Assessment Criteria
Assessment of the performance of Board of Directors (as a whole and individual basis)	<ul style="list-style-type: none"> • Preparedness of the Board of Directors considered by structure, components, independence, roles and responsibilities, and development • Formulation of strategy, business plan and budgets • Division of roles and responsibilities and delegation of power • Supervision and monitoring • Human resources management • Management of risks, internal control and conflict of interest • Communications with stakeholders and the general public • Attendance of Board of Directors meetings
Assessment of the performance of sub-committees (as a whole and individual basis)	<ul style="list-style-type: none"> • Preparedness considered by structure, components, independence, roles and responsibilities, and development • Attendance of sub-committee meetings • Roles and responsibilities of sub-committees

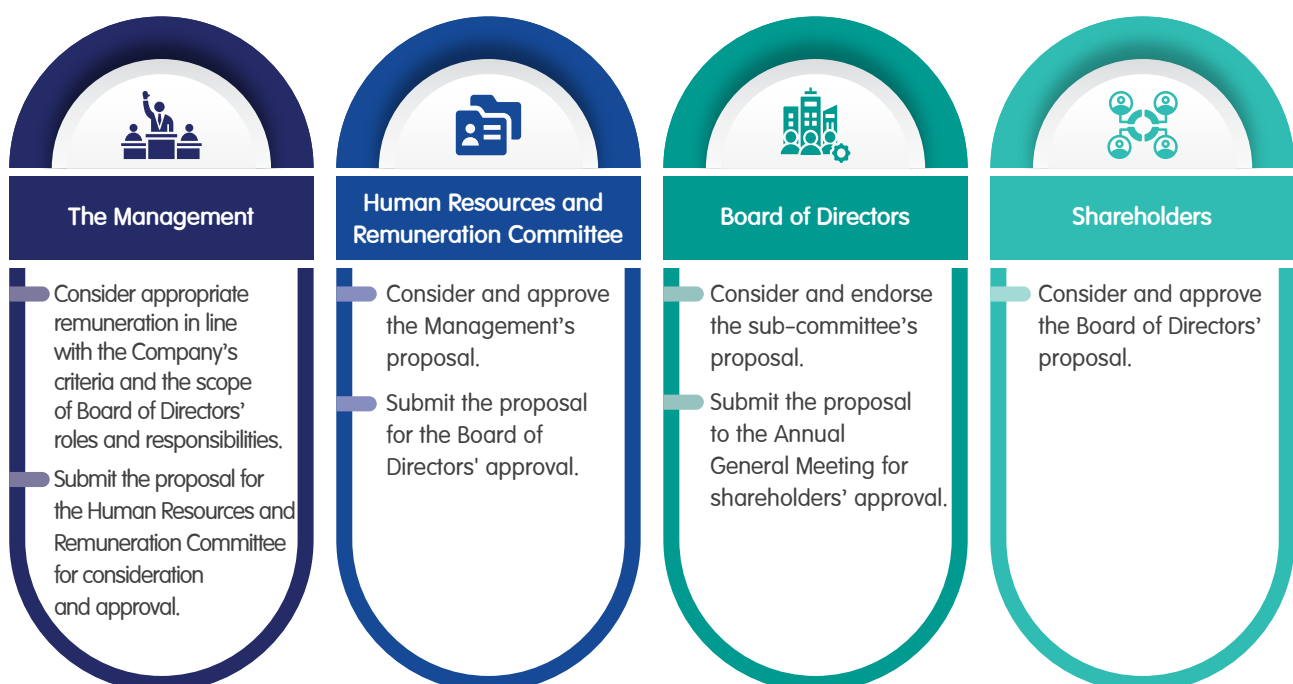
2024 Assessment results (against 2023)

Board of Directors Assessment Results				
Board of Directors	As a whole		Individual basis	
	(Full score: 100 points)		(Full score: 60 points)	
	2024	2023	2024	2023
Board of Directors	96.33	95.27	57.75	58.82
Sub-committees	As a whole		Individual basis	
	(Full score: 80 points)		(Full score: 40 points)	
	2024	2023	2024	2023
Audit Committee	79.50	78.33	40.00	39.33
Risk Management Committee	78.00	76.50	39.80	39.50
Investment Committee	75.00	77.00	39.33	39.00
Human Resources and Remuneration Committee	77.87	78.00	37.33	39.33
Corporate Governance and Sustainability Committee	79.00	76.50	40.00	38.50

Directors' remuneration

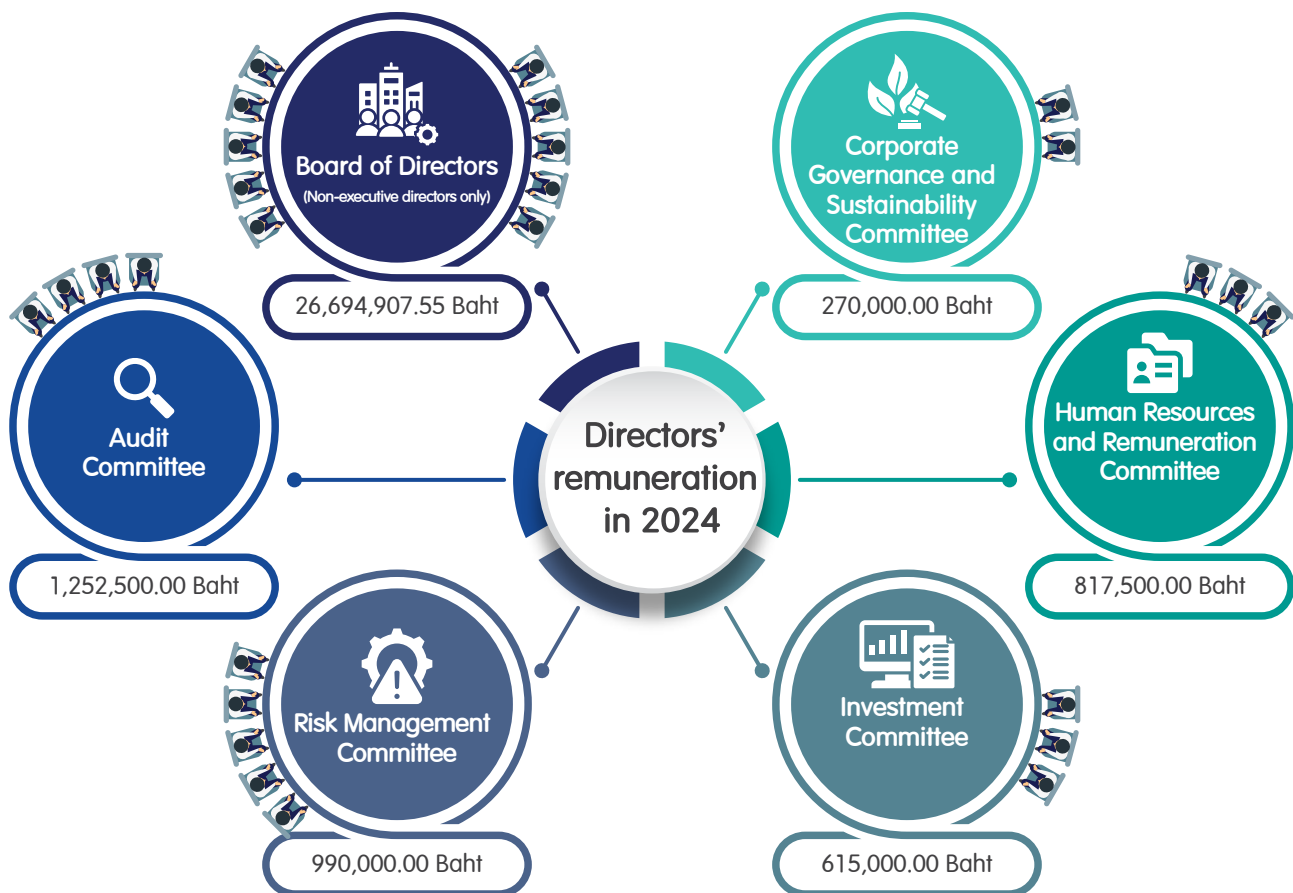
RATCH's remuneration policy and criteria for directors and high-ranking executives are clearly specified in alignment with the governance practices adopted by the companies listed on the Stock Exchange of Thailand. The policy and criteria are transparent, verifiable and aligned with the current conditions, for the Company's best interests. Directors' remuneration requires an approval at the Shareholders' Annual General Meeting. The Human Resources and Remuneration Committee takes charge in determining the remuneration before seeking the approval from the Board of Directors and subsequently from shareholders at the Annual General Meeting.

Director remuneration-setting process



Guidelines on the setting of remuneration

Criteria	The remuneration of directors and high-ranking executives are set accordingly to the Company's objectives and performance, their responsibilities, and industry benchmarks. The remuneration should be at the levels that attract and motivate individuals with the right qualification, knowledge, expertise and experience to lead the Company towards business successes.
Fixed remuneration	<ul style="list-style-type: none"> Board of Directors – The retainer is paid on a monthly basis: The first 75% is fixed while the remaining 25% is paid when the directors attend meetings. Sub-committees – The retainer is paid when a committee member attends a sub-committee meeting. Chairman's retainer is 25% higher than the sum paid to other members.
Bonus	Bonus is allocated accordingly to the period of service and meeting attendance. When a director holds directorship in more than 1 company in the Group, the director shall be paid by a company that offers a higher bonus for that period. The Chairman of the Board's bonus is 25% higher than the sum paid to other directors.
Other forms of benefits	No other benefits, cash or non-cash



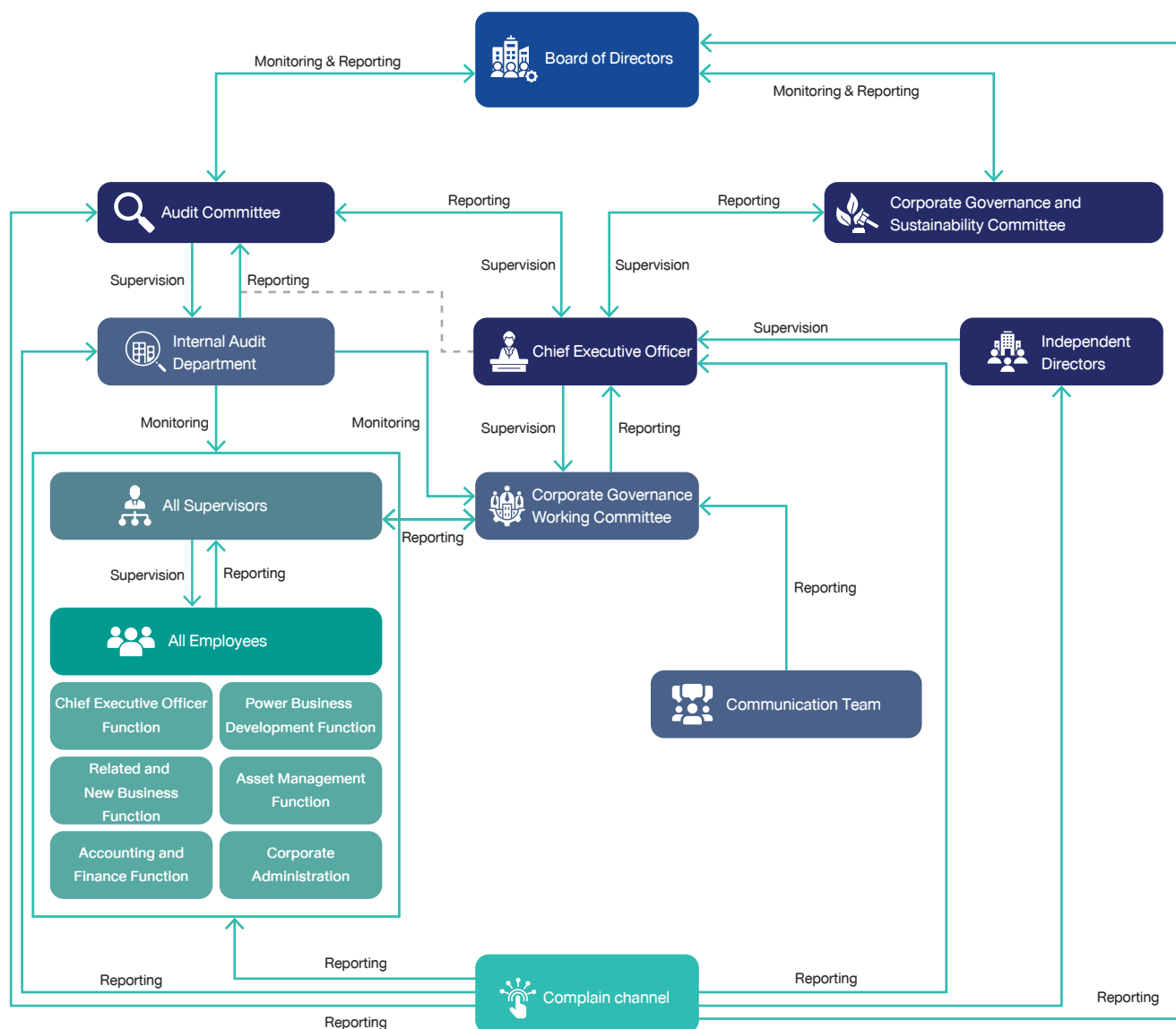
Nomination of Chief Executive Officer

RATCH has prescribed the desirable qualifications of the Chief Executive Officer as the framework for the selection and nomination of the Chief Executive Officer candidates. The candidates are required to possess the knowledge of business administration, science, engineering, economics, finance or law; hold a high-ranking position at a public or private organization; and being a visionary keen on managing an energy business particularly concerning electricity generation and/or international business. In the selection process, the Human Resources and Remuneration Committee considers the qualifications of the candidates who are nominated by the major shareholder, Electricity Generating Authority of Thailand, and ensures the persons meet the Company's criteria.



RATCH sets forth significant guidelines in the Code of Conduct which directors, executives, employees as well as subsidiaries under operational control shall strictly honor. RATCH also aspires to extend the practices to joint ventures and involved external entities like suppliers, contracting parties, and consultants.

Compliance and Anti-Corruption Structure



Board of Directors:



Ensures compliance with Code of Conduct and anti-fraud and corruption practices and sets forth the Anti-Fraud Corruption Policy and regulations, including overseeing the handling of complaints regarding code of conduct violations, impact management, and repetition prevention.

- The Chairman and Independent Directors are responsible for receiving complaints related to actions that may violate the code of conduct.

Corporate Governance and Sustainability Committee:



Supervises compliance with the governance policy and regulation, the Code of Conduct, and corporate guidelines on environmental, social and governance operations as well as monitors the handling of complaints in cases of code of conduct violations, impact management, and repetition prevention.

Audit Committee:



Regulates the systems dealing with internal control, accounting/financial reporting, internal audit and management of fraud risks system as well as monitors the handling of complaints, impact management, and repetition prevention.

Chief Executive Officer:



Devises effective guidelines supportive to compliance with the Code of Conduct and anti-fraud and corruption regulation and establishes communications and training for employees at all levels. Review them as appropriated as well as. Furthermore, he serves as a channel for receiving complaints about code of conduct violations, handling complaints, providing remedies for impacts, and preventing repetition, while reporting to the Audit Committee, the Governance and Sustainability Committee, and Board of Directors.

Corporate Governance Working Committee:



- Has Executive Vice President – Corporate Administration as the working committee chairman and Head of Company Secretary Office as secretary.
- Comprises of 7 members who are Executive Vice President of all functions and relevant departments.
- Monitors, learns, reviews and improves the corporate governance policy for alignment with international practices, legislation, rules and regulations; and promotes awareness on governance and anti-corruption practices.
- Monitors compliance and complaints and completes quarterly reports.
- Promotes awareness among employees regarding good corporate governance and anti-corruption.
- Assesses fraud risks, processes and completes Fraud Risk Register.
- Monitors the implementation of risk management plan and reports progress to Chief Executive Officer, the Corporate Governance and Sustainability Committee and the Audit Committee.

Internal Audit Department:



- Monitors complaints and compliance with the Code of Conduct and file reports to the Corporate Governance and Sustainability Committee and the Audit Committee.
- Audits the fraud risk policy, process and procedure; and assesses the internal control in work processes that present risks and likelihood for the formation of corrective actions.
- Responsible for receiving complaints and reporting to the Chief Executive Officer and the Audit Committee.

Supervisors:



- Educate subordinates and ensure their understanding in compliance with the Code of Conduct and anti-corruption practices as well as possible risks in case of violation.
- Reports to supervisors or responsible persons when witnessing or suspecting possible violation.
- Cooperates with the departments or individuals assigned to conduct investigation.
- Acts as role models in compliance and ensures employees and relevant individuals realize the necessity of compliance.
- Reviews and reports compliance results to supervisors on a regular basis.
- Serving as a channel for employees to report or file complaints about actions that may violate the company's code of conduct and reporting such complaints to the Chief Executive Officer.

Employees:



- Study and comprehend the Code of Conduct, particularly the sections involving their responsibility and anti-fraud and corruption practices and ask for clarification, when in doubt, from supervisors and/or responsible persons.
- Report supervisors or responsible persons when witnessing or suspecting possible violation.
- Cooperate with the departments or individuals assigned to conduct investigation.
- Act as role models in compliance and ensures colleagues realize the necessity of compliance.

Communication Team:



Educate and communicate on compliance, probable violation, the complaint and whistleblowing procedure, and preventive measures against anti-fraud and corruption via communication material or training.

Code of Conduct

In 2024, RATCH reviewed the Code of Conduct, emphasizing the topics material to sustainability for compatibility with the current business context and circumstances. The revised version was endorsed by the Management, the Corporate Governance and Sustainability Committee and the Board of Directors, respectively. The Company's Chairman signed to enforce the revised Code of Conduct on 19 December 2024. It has been published for the acknowledgement of all involved while all employees have signed the acknowledgement form.

The significant guidelines written in the revised Code of Conduct are summarized as follows:

Operational Guidelines

- **Legal compliance :** Uphold, respect, acknowledge and comply with laws in particular countries, international laws and relevant regulations; integrate relevant regulatory requirements into business strategies and operations; appoint experts specialized in regulations and management of regulatory risks; and regularly monitor legal changes.
- **Anti-corruption and anti-bribery :** Do not get involved with all forms of bribery and corruption, directly or indirectly. Comply with laws and relevant regulations and enforce the guidelines on suppliers, contracting parties, contractors and business partners.
- **Prevention of conflict of interest :** Give priority to the Company's best interests without compromising legality and ethics; do not use the company name or resources wrongfully or for personal benefits; do not undertake a competing business or hold positions in outside organizations without permission; safeguard confidentiality; ensure a transparent recruitment system; and, for executives, consider related-party transactions reasonably and independently, with the disclosure of the interest.
- **Appropriate giving/taking of gifts, receptions, and other benefits :** Receiving or giving gifts and souvenirs as part of tradition is acceptable but the value should not be too exorbitant for normal business dealings. Notably, the offering of gifts and receptions should be based on appropriate business objectives and not to significantly influence the recipient's decisions.
- **Political neutrality :** Maintain political neutrality by not taking any actions that take sides or support any political parties; do not participate in political activities or allow political parties to use the Company's resources and premises for political activities. The Company respects the political right and freedom of all employees and their personal right to participate in political activities outside working hours under the acknowledgement that they do not represent the Company.
- **Anti-money laundering :** Strictly follow anti-money laundering laws and regulations; do not take part or avoid taking part in suspicious financial transactions; regularly check/assess suppliers' risks; and, for employees, immediately notify supervisors if finding any irregularities indicating dishonest or money-laundering acts.
- **Transactions with the government sector :** Ensure the accuracy and completeness of information and seek the authorized persons' approval prior to reporting the information to government officials or regulatory bodies; and coordinate with the government sector on inquiries and investigation, having employees seek supervisors' recommendations before responding to such requests.
- **Fair competition :** Study competition and antitrust laws before taking any action; do not take any action that may be deemed a monopoly activity; do not agree with competitors or any party to act in a way that may reduce or limit trade competition or cause unfair competition; stay cautious about any agreements that may be deemed a conspiracy on anti-competitive trade; do not receive/exchange confidential or wrongful information that affects competition with outside parties particularly competitors; and always seek permission from high-ranking executives in giving/exchanging confidential information to business partners or joint ventures.
- **Use of inside information :** Hold all personnel responsible for protecting the Company's confidential information; do not use inside information for personal benefits; do not reveal inside information to outsiders or irrelevant persons; and do not use inside information wrongfully or in a way that diminishes the Company's interests.

Overseas operations : Study the legal and traditional contexts of each country and strictly comply with laws and regulations, considering each locality's social, environmental, traditional and cultural conditions as well as the way of life; immediately notify supervisors in case of actions that may contradict the laws; and, concerning the employment local workers, honor the particular country's labor laws and apply equitable treatment.

Sustainable development : Adhere to sustainable goals, operating with concerns primarily about governance, human rights, safety and occupational health, society and the environment for the sustainable outcomes of the Company and stakeholders in the value chain; and outline sustainability strategies and hold all personnel responsible for the implementation of the strategies and compliance with the Company's relevant regulations, orders and rules as well as the Environmental and Social Management System (ESMS). RATCH is committed to creating sustainable benefits to society and minimizing environmental impacts, by controlling and reducing greenhouse gas emissions from the production, protecting the ecosystems and biodiversity, optimizing natural resource utilization and disclosing sustainability operations performance under national requirements and universally-recognized standards.

Treatments of stakeholders



Shareholders : Deliver consistent growth in business scale and profits for shareholders' favorable returns; operate with caution, integrity and fairness; respect shareholders' rights to be informed about the operations, financial status, business direction and relevant reports; ensure accurate accounting practices in line with relevant accounting and legal requirements; collect and safeguard shareholders' personal data; and, concerning all employees, devote the best efforts to perform their duties.

Employees : Strictly comply with labor laws and regulations; respect individuality and human dignity; avoid unfair practices that affect their job security or harm their psychological conditions; provide remuneration/welfare comparable to other leading organizations'; apply equitable and fair practices based on employees' knowledge and competency; emphasize human resource management and development; arrange work environment in line with safety and occupational health standards in support of the work and quality of life of all job operators; welcome employees' engagement with activities and their suggestions and recommendations; keep open the complaint channel; and keep their personal data confidential.

Customers : Produce and deliver products/services according to specified quality and delivery schedules; enhance efficiency for eco-friendly practices; honor contracts, product warranty and service conditions; keep their classified and personal data confidential; reveal the complete and accurate information of products/services; establish a channel to receive their feedback and complaints; do not demand or make dishonest payments; and strive to improve and sustainably maintain the good relationship.

Creditors : Honor the obligations to all creditors and treat all equitably; do not demand/receive/make dishonest payments; cooperate in sorting dishonest trading issues; inform them of financial data; strictly follow conditions and promptly inform creditors in case of failure to find the solutions; and keep confidential creditors' information and personal data.

Partners/Suppliers : Act in line with the Company's best interests; ensure a transparent, fair and equitable procurement/selection process, applicable to businesses of all sizes, underprivileged/minority/disabled persons; prepare standard contracts in line with laws and universal standards; strictly follow contracts; inform them of payment conditions in writing; establish a system to assess/manage supplier risks and monitor their compliance with the Supplier Code of Conduct and contracts; provide appropriate safety, occupational health and work environment; promote and support partners' embrace of governance, human rights and sustainability principles; nurture the cooperation and relationships; do not demand/receive/make dishonest payments; establish a complaint channel; and keep their information and personal data confidential.

Competitors : Strictly abide by domestic and international laws as well as fair competition and anti-monopoly practices; do not seek competitors' information through dishonest and inappropriate means; do not make groundless accusations against competitors; do not demand/receive/make dishonest payments; and, regarding all employees, strictly follow the competition terms or rules.

Business partners : Strictly follow business agreements and obligations; provide business assistance for mutual benefits and fair returns to both parties; provide accurate information; discuss solutions based on business involvement; and keep partners' information and personal data confidential.

Government sector : Strictly abide by local laws and regulations in each locality and country; support the government sector's activities; prepare reports for regulatory bodies with accurate information; promote collaboration in joint activities; and support national strategies and goals.

Community, society and the environment : Be responsible for community, society and the environment; respect community rights, tradition, culture and way of life; assess the risks from operations/projects that may cause impacts on community; establish and follow preventive and mitigating measures; promote the engagement of community and all relevant parties; support quality of life-improvement projects/activities for community and society's sustainable benefits; establish a channel to receive their complaints; optimize natural resource utilization, taking into account the alternatives that least affect the climate change, community and society; apply standard measures to control/manage the impacts; develop/apply universal environmental management standards in the assessment of environmental risks and impacts; promote alternative energy and energy efficiency; protect natural resources/ecosystem; build awareness among employees; reduce waste and properly manage waste; and implement actions as required by relevant universal standards/agreements.

Operational Excellence



Safety, occupational health and work environment : Give a priority to safety; establish the workplace environment policy, requirements and standards as well as safety and occupational health measures; communicate the rules and measures to all employees for their acknowledgement and strict compliance; control and prevent loss from accidents/incidents; provide sufficient and appropriate safety equipment; conduct regular safety drills; and authorize temporary "Stop Work" orders when finding unsafe work conditions, before informing supervisors and prompting the correction by responsible units.

Prevention and Solution to Drug Problems in an Establishment : Set forth prevention and punishment measures, engaging employees with the prevention of drug use and corrective approaches; hold supervisors responsible as role models; and monitor/ suppress drug use and cooperate with government offices.

Security : Prevent damage to the life and property of employees and relevant outsiders; provide security officers; establish a new screening process for employees and contracting parties; and notify supervisors/responsible persons if spotting irregularities that affect security.

Crisis management : Prepare the crisis management/communication plan; devise the business continuity plan which shall be reviewed consistently and integrated into subsidiaries' emergency response plans; and ensure understanding among relevant employees for efficient management/communications.

Safeguarding of Company's information/financial and other assets



Data recording, reporting and safeguarding : Ensure honesty, accuracy, completeness, timeliness and reasonability; store, safekeep and destroy information appropriately; and consider disciplinary actions against forgery which violates the Code of Conduct.

Accurate, reliable and international-standard controllership : execute the tasks based on accurate and complete data, in line with international-standard accounting principles, standards and regulations as well as the Company's policy; prepare and control financial reports; punctually present/report the information to the Management, regulators, shareholders and relevant parties; inspect the Company's assets, control disbursements; and cooperate with the Internal Audit Department and the independent auditor.

Utilization and safeguarding of the Company's assets : utilize the assets carefully and only to benefit the Company, not personal gain, and protect and do not reveal the Company's confidential information and relevant personal data.

Utilization and safeguarding of intellectual property : Hold all employees responsible for the protection of the Company's intellectual property; utilize it only for the Company's benefits; promote employees' development/invention of intellectual property; terminate access to confidential information immediately after the end of employment; and prevent the unauthorized utilization.

Utilization and safeguarding of the Company's computer, email, Internet and information technology systems : Use the systems for work only; commit no act that could disturb the computer and Internet systems; do not share inappropriate contents via the systems; use only licensed software/applications; keep their own passwords confidential; control remote access by outsiders; and schedule appropriate usage inspection and monitoring for safety.

Use of inside information for securities trading and/or giving trading advice : Prohibit the use of inside information for the buying, selling or transfers of the Company's securities prior to public information disclosure; and strictly follow the Office of the Securities and Exchange Commission and the Stock Exchange of Thailand's disclosure rules and criteria.

Human rights



Company intention : Uphold, support and promote respect for human rights; protect basic rights, human dignity and equality; ensure non-discrimination and disregard the differences of all individuals involved in the operations; encourage joint ventures, business partners, suppliers and relevant parties in the supply chain to apply similar practices; and operate cautiously to prevent violations of human rights through the Human Rights Policy and guidelines as well as regular activities to care for and improve community quality of life.

Respect others' rights, freedom and equality : Ensure employees respect the others' human rights and differences and not express opinions that indicate inequality, discrimination or violation of human rights: do not harass others physically or mentally or resort to violence that will lead to conflicts; and ensure employees' freedom to exercise their political rights.

Protection of personal privacy and confidential information : Classify personal data as confidential information with limited access; set up strict protection; use the data only for authorized purposes honestly and fairly with concerns about the personal data and privacy legislation in Thailand and abroad; do not reveal personal data or the Company's confidential information without permission; cautiously use electronic media; safeguard the stored data; and destroy personal data and the Company's confidential information accordingly to relevant conditions and regulations/requirements.

Information disclosure



Use of internal information for external communications : Honor the law/regulations/requirements and international standards regarding to information disclosure; apply a thorough, equitable, timely approach in disclosing information to stakeholders as approved by the Chief Executive Officer/authorized persons; do not communicate confidential/distorted/opinionated/predictive/exaggerating information; ensure the external communications executed by authorized persons.

Communications with investors, analysts and media : Be cautious and informed about the issues relating to the law/regulations; allow only the Chief Executive Officer/authorized persons to answer the questions from investors/analysts/media with the information prepared by the Corporate Affairs Department and Investor Relations Division; ensure consistency of the information which should be endorsed by the Chief Executive Officer every time; be careful with giving opinions privately; do not give financial information and forecasts unless permitted to; and whenever subsidiaries/affiliates' interviews concern RATCH, always inform and seek the Corporate Affairs Department's advice.

Investor Relations Guidelines : Disclose complete information as deemed necessary; be fair to all involved parties; be open for questions; give priority to shareholders and stakeholders' interests; safeguard confidentiality; do not use internal information for personal benefits; do not accept analysts' interview requests 10 days prior to financial statement disclosure; and do not use undisclosed information for the buying/selling/transfer of the Company's securities.

Environmental Stewardship



Natural resource conservation: Honor and follow environmental laws and be concerned about global environmental issues; reduce the utilization of natural resources/energy/water in a sustainable manner; improve efficiency applying the circular economy concept; reduce pollutant emissions/wastewater/waste; fight deforestation; promote biodiversity/ecosystem conservation; strive to create positive impacts on society/environment; set forth the environmental management system and integrate it into the Company's operations; and promptly respond to the operational impacts on natural resources and biodiversity so as to find corrective/preventive measures.

Responses to climate change : Be aware of climate change and impacts caused by the Company's operations; devise climate strategies; set the direction/goal in reducing greenhouse gas emissions in line with national and international goals; optimize electricity generation efficiency; promote energy reduction/conservation; increase renewable energy sources for generation activities/internal consumption; reduce carbon intensity; promote an

increase in carbon sinks; grow, preserve and restore forests/ecosystem; raise awareness/build knowledge on climate change among stakeholders in the value chain for cooperation in GHG management; assess the risks/impacts; devise the measures to prevent/mitigate risks and respond to climate change.

Who are required to follow the Code of Conduct?



All executives and employees



Subsidiaries under operational control



External parties representing RATCH



Subsidiaries not under operational control shall acknowledge the Code of Conduct and align their practices accordingly.

Actions on violation or non-compliance

The person breaching the Code of Conduct shall be subject to disciplinary actions as stipulated in the Company's regulations. The severity of penalties depends on the severity of their act. Disciplinary actions range from verbal warnings, written warnings, suspensions and suspended wage increase or annual bonus, to termination. They are subject to criminal penalties if such act violates the law.

Monitoring of compliance

RATCH stresses the importance of performing duties with integrity, ethics and professionalism. An emphasis is placed on the consistent enhancement of employees' knowledge and understanding about the Company's Code of Conduct and the integration of this issue into the annual performance evaluation.

Summary of activities in 2024

Enhancement of employees' knowledge/understanding in Code of Conduct



- All employees recruited in 2024, 19 in total, received training.
- Public relations messages communicated through media involved key issues such as respect for human rights, anti-fraud and corruption practices and complaint channels.
- All executives and employees (100%) studied and learned about the revised Code of Conduct via the Intranet and acknowledged their compliance with the Code of Conduct.

Compliance with Code of Conduct



- All employees (100%) passed the evaluation on knowledge and understanding in the Company's Code of Conduct and anti-fraud and corruption practices, scoring above the requirement of 80 points.
- No complaint about Code of Conduct violation.

Operations in compliance with Code of Conduct

Legal compliance :

- RATCH, subsidiaries, and controlled joint ventures fully complied with the laws, and there was no violation and/or violation-related penalty.

Compliance with Code of Conduct (Continue)



- RATCH raised awareness on legal compliance among employees, by providing education concerning the following topics through training courses and internal PR documents:
 - Correct compliance with Personal Data Protection Act
 - Act on Imposition of Non-Criminal (Pinai) Regulatory Fines, B.E. 2565 (2022)
 - Draft Climate Change Bill
 - Disclosure of shareholders to the Stock Exchange of Thailand (SET)
 - Revision of Stock Exchange of Thailand (SET)'s regulations for listed companies
 - Revision of the rules on report on changes to securities holding
 - Changes to the deadline of information disclosure to the SET
 - Basic legal knowledge on “possession” and “ownership”
 - Criteria, conditions and methods to disclose securities issuers' information on financial status and operating results

Anti-corruption and anti-bribery :

- Revised the register of fraud and corruption-related risks.
- Extended the membership of Thai Private Sector Collective Action Against Corruption (CAC) for the third time.
- Invited 41 suppliers to join Thai Private Sector Collective Action Against Corruption.
- Organized an orientation session for new hires, to inform them about governance and the anti-fraud and corruption related policies.
- Announced the “No Gift” policy for the 2025 New Year festival.
- Received no complaint about corruption and bribery in 2024.

Prevention of conflict of interest:

Adding the definition of “conflict of interest” in the Regulations of Anti-Fraud and Corruption, to enhance supervision efficiency.

Political neutrality :

RATCH has no activity indicating its support to any political party.

Anti-money laundering:

RATCH conducts business and financial transactions under the rules of law, upholding integrity and transparency, and has no involvement with activities that may be illegal or circumvent the laws.

Transactions with government sector:

RATCH cooperates with the government sector as required by its roles and responsibilities, strictly complies with legal requirements, disclose information as required, and ensure the transparency of transactions with the government sector.

Fair competition:

RATCH adheres to laws and the Code of Conduct and has never experienced unfair competition.

Use of inside information:

RATCH specifies the clear guidelines about the use of inside information and demands strict compliance. To date, there has been no wrongful use of inside information.

Overseas operations:

RATCH upholds and strictly complies with the local laws of all countries where it operates and none of its overseas businesses has breached the law/regulations/rules in the countries.

Prevention of Fraud, Corruption and Conflict of Interest



RATCH has adhered to good corporate governance, upholding ethics and integrity. RATCH has declared its intention to fight against all forms of fraud and corruption and has been certified as a member of Thai Private Sector Collective Action Against Corruption since 2014

The Internal Control Department and the Corporate Governance Working Group, consisting to high ranking executives of all functions, are assigned as the primary units steering the implementation of the Anti-Fraud and Corruption Policy and conflict of interest across the organization. The results are reported to the Chief Executive Officer, the Audit Committee, the Corporate Governance and Sustainability Commission, and the Board of Directors, respectively.

The anti-fraud and corruption approach and principles are written in the Code of Conduct, serving as the framework for the formulation of the Company's regulations and policies for the implementation of all.

Anti-corruption and anti-bribery

Anti-Fraud Corruption Policy ●

Promote anti-fraud and corruption culture and responsibilities; establish the guidelines for risk prevention, internal control, and audit/supervision; and put in place the anti-corruption regulation.



Charitable Donations and Sponsorships Order ●

Set transparent and appropriate guidelines, process and criteria on charitable donations and sponsorships; and ensure an internal audit and data storage.



Supplier Code of Conduct ●

Establish operational framework for suppliers, to ensure compliance with business ethics concerning corruption and conflicts of interest, giving of gift/souvenir/reception, trade competition, transparency, environmental concerns and social responsibility, so as to extend the Company's governance to suppliers in the supply chain.



Regulations of Anti-Fraud and Corruption ●

Define the roles and responsibilities in supervision and compliance areas, along with key principles concerning the zero tolerance to corruption, political supports, charitable donation and sponsorship, and giving/taking of gifts and souvenirs, receptions and other benefits; and set guidelines on risk management, internal control, whistleblowing reports, and communications/training.



Anti-corruption and anti-bribery

Regulation of Audit Committee

Supervise/monitor/review the Company's operations for transparency; and review the internal audit, the Anti-Fraud and Corruption Policy, governance principles, relevant laws and requirements.



Prevention of conflicts of interest

Prevention of Misuse of Inside Information Policy

Prevent any wrongful use, disclosure or sending of the Company's information for their own benefits or unrelated individuals'; and set guidelines on securities holdings/reporting of securities holdings.



Regulation of the Human Resources and Remuneration Committee

Prohibit employees from working for a competitor or undertaking a competing business; demand strict confidentiality; and be ready for disciplinary actions in case of violation.

Regulation of the Board of Directors and Regulation of the Audit Committee

Define the qualifications of independent directors, the Board of Directors' composition, voting, and the Board's roles and responsibilities that shall prevent/avoid any acts that may cause conflict of interest or affect the Company's interests or are undertaken for personal benefits.



Appropriate gift giving/taking, receptions and other benefits

Gift giving/taking policy

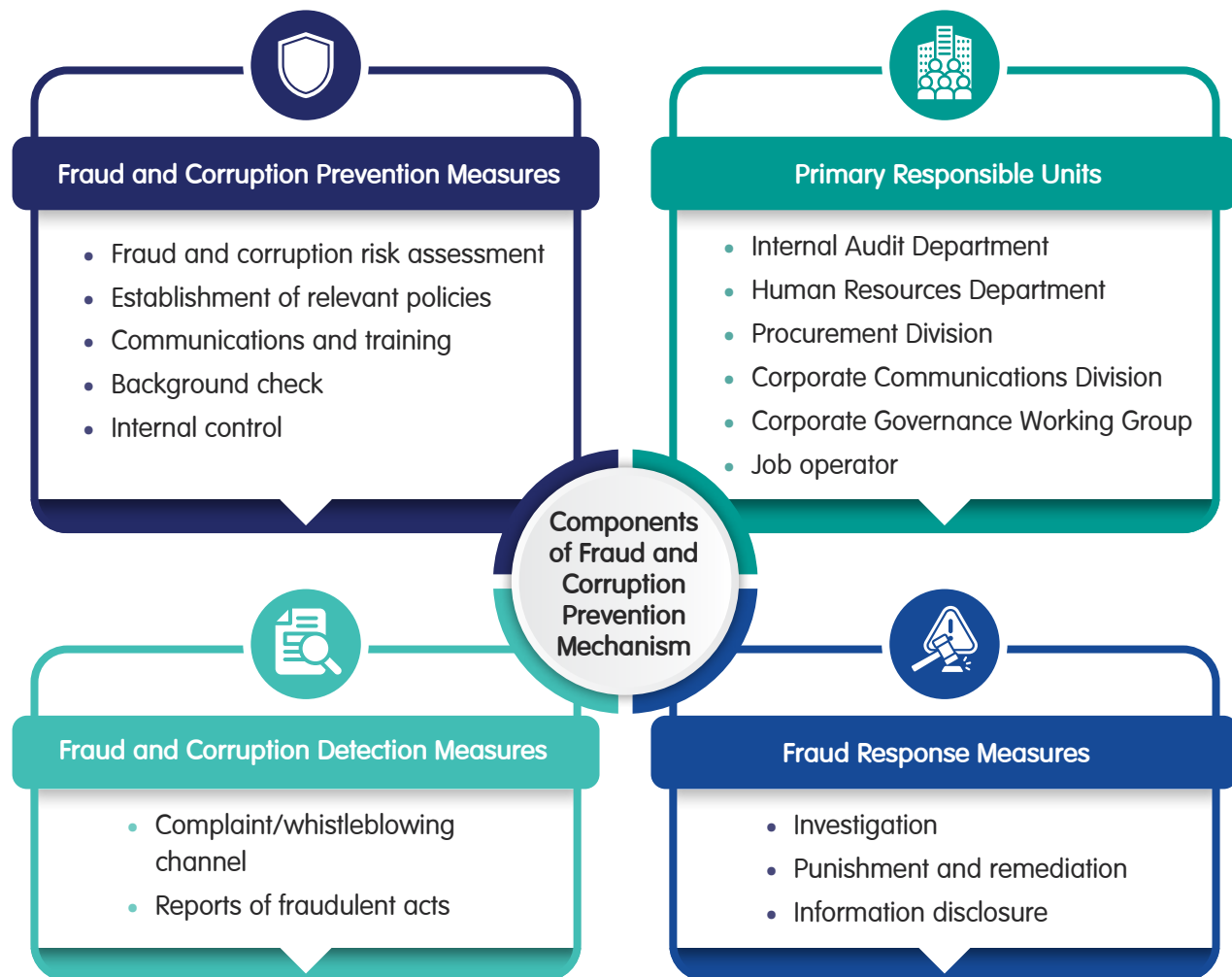
Giving/taking of gifts and souvenirs is allowed only on behalf of the Company or as part of tradition. It shall be a part of an appropriate/transparent business dealing without expectation for benefits or anything in return. Such act should also comply with laws, policies and orders. The gifts and souvenirs shall not be valued above THB 3,000.



Giving/Receiving of Gifts and Souvenirs

Set guidelines that Giving/receiving gifts and souvenirs must be transparent without expectation for benefits or anything, possibly considered a form of corruption, in return; prepare gift/souvenir giving approval forms; specify the gift/souvenir handler's responsibilities; and prepare the giving/taking registry for control, monitoring and review.





Monitoring of Conflicts of Interest

- The Audit Committee takes the primary role in keeping conflicts of interest in check, while the Internal Audit Department conducts an annual review on the adequacy and suitability of the Company's internal control together with other internal and external parties.
- Details of the review on the internal control adequacy and suitability, prevention of misuse of RATCH and affiliated companies' assets, as well as transactions with the third parties that may cause conflicts of run against the best interests of RATCH and connected persons in 2024 are available in Form 56-1 One Report: Internal Control and Related Transactions.



Form 56-1 One Report

Performance in 2024

Activity	Results
Declaration against fraud and corruption	<ul style="list-style-type: none"> RATCH's membership to Thai Private Sector Collective Action Against Corruption (CAC) was certified for the third round (certification period from 31 March 2025 to 31 March 2028). Forty-one suppliers were invited to join CAC's declaration against corruption under the CAC Change Agent scheme and 14 of them acknowledged the invitation. The Internal Audit Department is tasked to provide consultation to the interested suppliers.

Activity	Results
Assessment of fraud and corruption risk	In 2024, RATCH and two subsidiaries; Ratchaburi Electricity Generating Co., Ltd. and Ratch Cogeneration Co., Ltd conducted fraud and corruption risk assessment in line CAC's guideline. It represented 33.33% of total controlled entities in Thailand.
Review of fraud and corruption risk register	The fraud and corruption risk register was reviewed and the fraud risk register – environmental control was improved concerning the existing controls on conflicts of interest. The complaint handling timeframe was also set, requiring the consideration and investigation to be completed within 30 days from the day the complaint is received.
Review of anti-fraud and corruption practices	<ul style="list-style-type: none"> Reviewed the complaint-receiving process in the Code of Conduct by tasking the investigation committee to process the investigation, make a decision, consider the handling method as well as corrective/remedial measures for the affected, collaborate with all relevant units in assessing risks, reviewing work processes, formulate solutions, and improve work processes which will prevent reoccurrences and enhance work efficiency. The additional responsibilities were approved by the Board of Directors. Reviewed the anti-fraud and corruption policy and regulations for alignment with Thai Private Sector Collective Action Against Corruption's criteria and international best practices. The review result were approved by the Board of Directors.
Evaluation of employee knowledge and understanding	<ul style="list-style-type: none"> Review and improvement of evaluation form for 2024, for the evaluation of employee knowledge and understanding on the Company's anti-fraud and corruption practices and the Code of Conduct, focusing on employee misunderstanding in significant topics such as the Company's corruption-response measures, reimbursement of reception fees, complaints on Code of Conduct violations and suspicious acts of corruption. The process was to ensure thorough understanding and complete compliance. All employees are required to take the comprehension test concerning the Company's anti-corruption practices as a prerequisite of the annual performance evaluation and they shall score 80 points or higher. In 2024, all executives and employees (100%) passed the test.
Communications for employees' awareness and understanding	<p>Quarterly newsletters for internal communications on the following topics:</p> <ul style="list-style-type: none"> Fraudulent and corruption acts and punishment, relating to the case of listed company that involved its directors and executives. Manual for the Management and RATCH Announcement No. 10/2565 regarding the policy to prevent misuse of internal information. Accounting and finance practices concerning the reimbursement of fuel refilling costs incurred during overseas job assignments, circulated through e-mail. Thai Private Sector Collective Action Against Corruption (CAC)'s criteria for the renewable of membership certification <p>Video clips on the practices concerning reception costs; charitable donation and sponsorship; and gift and souvenir giving/taking, for correct understanding and compliance among employees.</p> <p>A circular notifying joint ventures of RATCH's Anti-Fraud and Corruption Policy, relevant regulations and orders for their understanding in the Company's practices and compliance.</p>
Employee training	<p>An orientation session for 18 newly-hired employees, to educate them about the Company Group's corporate governance practices, Anti-Fraud and Corruption Policy and relevant policies, orders and guidelines. The information is available in paper and soft file (Intranet system).</p> <p>PDPA training for 29 job operators, to educate and raise awareness about compliance with Personal Data Protection Act and risk management for business units involved with personal data usage and storage. The post-training evaluation are 7.9/10 scores.</p>

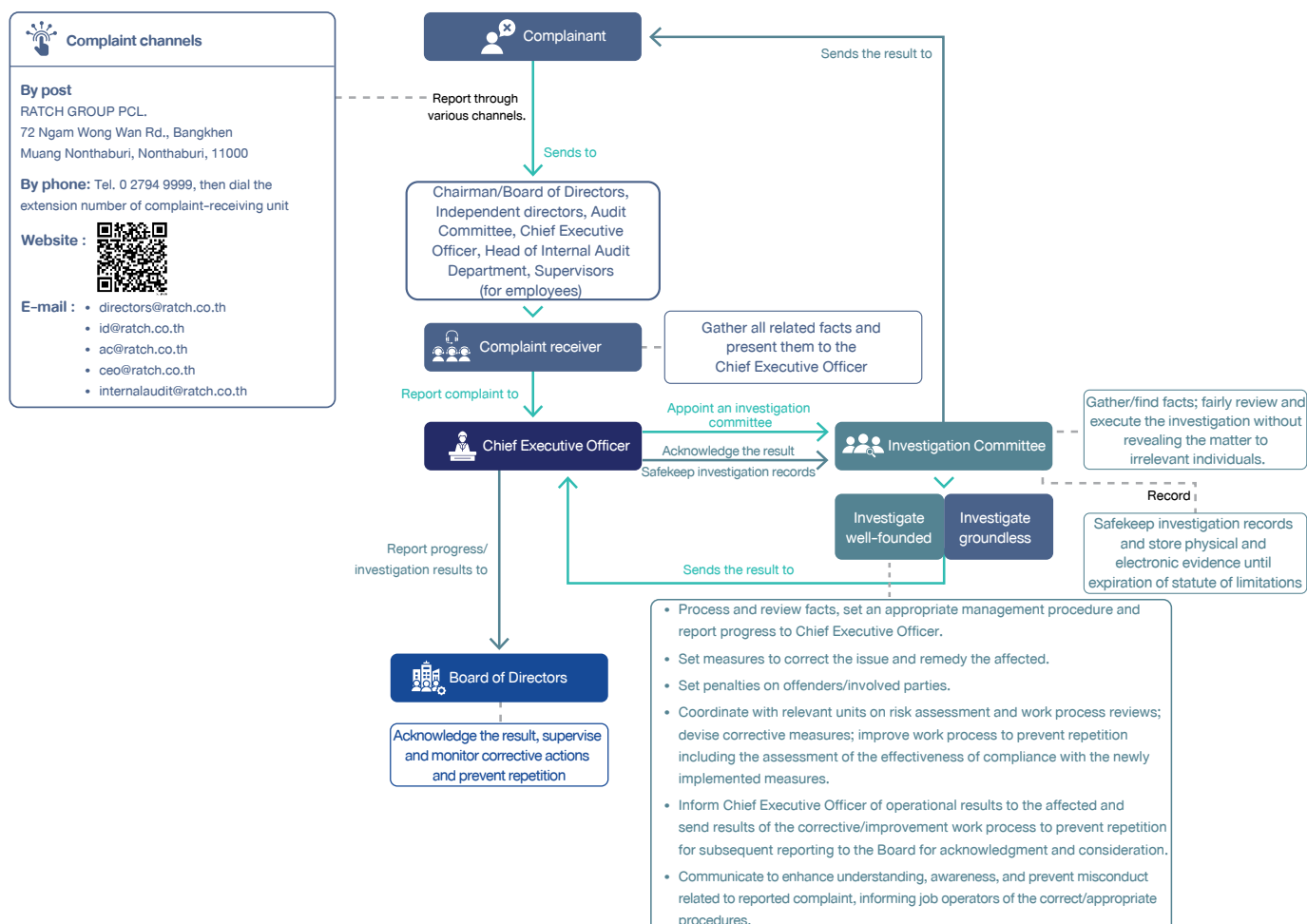
In 2024, RATCH received zero complaint regarding fraud and corruption and incurred no damage resulting from fraudulent and corruption acts.

Complaint and Whistleblowing Channel



RATCH upholds the operations with ethics, integrity and transparency, along with equitable and fair treatments of stakeholders. RATCH has therefore created the channels whereby stakeholders, including employees, can file reports, complaints, clues of acts or behaviors indicating possible breach or violation of laws, regulatory rules and orders; human rights principles; or the Company's Code of Conduct, regulations and rules. The complainants can send their reports directly to the Chairman or the Board of Directors, independent directors, the Audit Committee, the Chief Executive Officer and Head of the Internal Audit Department, by post, email or phone. Employees can also file complaints to their supervisors.

Complaint handling procedure



In 2024, RATCH received a complaint from an anonymous complainant and handled the complaint accordingly to the procedure with help from an outside expert. The investigation showed the complaint was “groundless”.

RATCH has taken preventive actions, by communicating and publicizing the Company's Code of Conduct, anti-fraud and corruption practices, corporate governance practices and complaint-handling guidelines/procedure to all job operators of the Company Group.

Risk Management and Internal Control



Risk management and internal control is the foundation of RATCH's capacity and capability in driving the organization towards business goals. The process was shaped around the Committee of Sponsoring Organization of the Treadway Commission's COSO-ERM 2017 which integrates risk management mechanism into the corporate strategies and operations for enhanced risk management.

Oversight and objectives

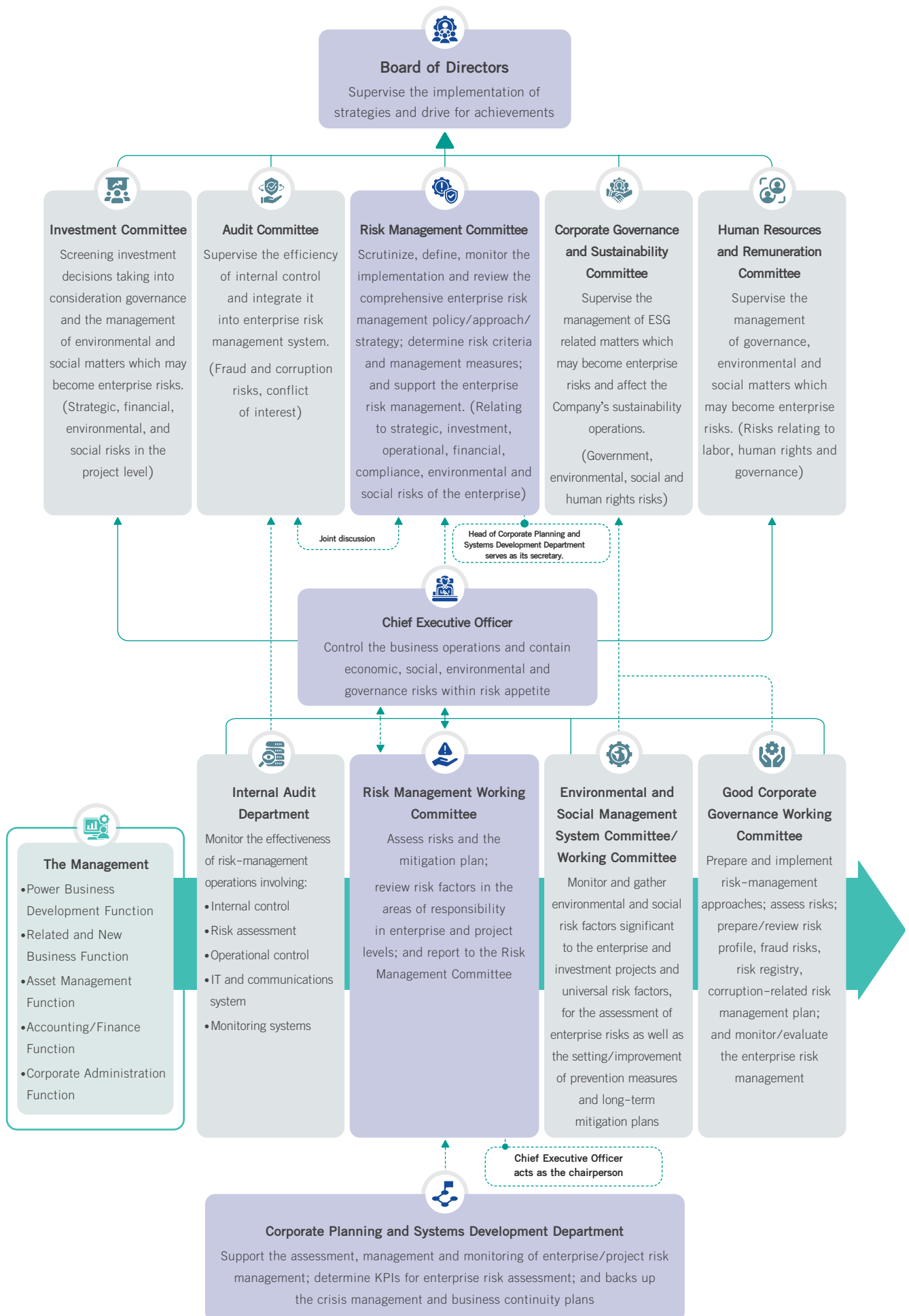
RATCH strives for effective risk management, to support stable and continuous operations within an acceptable risk level. The effectiveness also increases the chance of success and minimize the chance of failure and loss, to achieve the ultimate goal – sustainable growth. The commitment to risk management along with guidelines are inscribed in the “Risk Management Policy” which covers the following key points:

Risk Management Policy

1. To promote the culture of risk management in order to stimulate understanding, conscience and collective responsibility concerning risk, control and the impact of risk on the Company in the process of management and operations throughout the Company.
2. To provide efficient and internationally-recognized process, framework and measures to indicate, analyze, assess, prioritize, manage, control, monitor, evaluate, report, and communicate the information of risks continuously, regularly and across the board in the Company.
3. To measure the risk by considering the likelihood and magnitude of impact, both in terms of quality such as the Company's reputation and image, and quantity such as loss, a decrease in revenue and an increase in expense.
4. To determine the risk limit and keep the risk at an acceptable level and identify circumstances and risk degrees that are noted as warning signs for the operators to manage risk and keep it within the risk limit.
5. To provide operational regulations in writing, to be honored by executives and job operators for the control of operational risks.

Risk management and internal control oversight structure

The Corporate Planning and Systems Development Department is the primary unit to improve and steer the risk management process. The Risk Management Working Committee comprising top executives of all functions is in charge of defining the strategy and targets and monitoring the implementation. Performance reports are submitted to the Risk Management Committee and subsequently to the Board of Directors. In addition, the internal control system has been established to complement the risk management, with the Internal Audit Department being tasked to monitor and control the risk management efficiency and report directly to the Audit Committee.



Risk identification and assessment

To identify risks, RATCH applies the SWOT Analysis for the assessment of internal strengths, weaknesses, opportunities and threats and the PESTEL Analysis for the assessment of key external factors – political, economic, sociological, technological, environmental and legal – that influence the operations. The Risk Matrix is deployed to analyze the severity and likelihood of each risk, taking into consideration the financial and non-financial impacts and the likelihood or frequency. Then, the risk appetite is set.

Risk management

RATCH's risk response strategies focus on control measures to reduce risks, transfer, avoid and accept risks which are within risk appetite.

Type of risk	Risk factors	Responses
Strategic Risk	<ul style="list-style-type: none"> Changes in national energy policies in various countries in support of net zero emissions targets Expansion in overseas investment Geopolitical tensions 	<ul style="list-style-type: none"> Investing more in renewable energy and considering additional investment in energy infrastructure and New S-Curve businesses such as electric vehicles, batteries, hydrogen fuel and hybrid energy in Thailand and abroad. Defining an integrated mechanism to manage investment-related risks, with participation from the Investment Committee, the Risk Management Committee and the Risk Management Working Committee. Monitoring and evaluating the situations and preparing mitigating measures.
Operation Risk	<ul style="list-style-type: none"> Unplanned outage or lower-than-expected power plant efficiency Delays in power plant development, cost overrun or additional requirements under new rules or legal amendments Shortage of manpower to support business expansion 	<ul style="list-style-type: none"> Preparing the maintenance cycle plan and key spare parts, reacting promptly to warnings, and improve the skills of power plants' job operators. Conducting project management by monitoring budget disbursement, progress of work plans and the management of safety, the environment and community. Scheduling key training plans for job operators' capacity building and preparing recruitment plans to support
Financial Risk	<ul style="list-style-type: none"> Interest rate volatility Foreign exchange volatility Liquidity problem 	<ul style="list-style-type: none"> Establishing the Finance Policy to control the possible impacts from volatile interest rates and liquidity problems and using hedging tools to keep risks in acceptable levels. Ensuring appropriate financial planning, concerning the amount of funds and the time they are needed, in line with investment plans to reduce expenses and financial costs.

Type of risk	Risk factors	Responses
Compliance Risk	<ul style="list-style-type: none"> • Complex legal clauses and regulations in each country • Traditions, cultures, and value of each country and different government protocols • Amendments in laws and requirements and lack of clarity which demands the assessment of opportunities and impacts concerning a particular investment project 	<ul style="list-style-type: none"> • Studying the laws, rules, requirements, processes, traditions, and cultures of each country from reliable sources and seek fact verification from specialized and experienced legal advisors. • Seeking experienced and specialized local partners and considering an appropriate investment ratio in joint ventures. • Enforcing the anti-fraud and corruption policy to ensure transparent and fair business operations.

Details of risk management and risk factors appeared in Form 56-1 One Report/Year 2024.

Emerging risk

RATCH takes into consideration global economic, political, societal, and environmental trends when analyzing risks on business operations and likelihood in the next 3–5 years. These risks are identified as emerging risks that the Company needs to be prepared for and map out the response plans accordingly. They are:

Cybersecurity threats	
<p><u>Factor:</u> IT system is an integral part of the organization, where data (both belonging to the organization and relevant individuals) is stored for all departments' processing and analysis. Cybersecurity threats are imminent and likely to get more complex and cause greater damage.</p>	<p><u>Risks and impacts:</u></p> <ul style="list-style-type: none"> • A leakage of confidential information and personal data due to cyberattacks • Damage to finances and reputation following cyberattack-related lawsuits and penalties
<p><u>Response plan:</u></p> <ul style="list-style-type: none"> • Modernize the cybersecurity system. • Install the backup system to ensure business continuity. • Set rules on the setting of passwords and database encryption keys. • Raise awareness and understanding among job operators in cybersecurity and personal data protection. • Prepare the response procedure for cyberattacks and the procedure to handle personal data breach or leakage, with help from responsible units. 	
Climate-related risks	
<p><u>Factor:</u> Climate change influences natural disasters and the consequences tend to intensify. It poses physical risks and transition risks to the business operations and the shifting to the low-carbon economy.</p>	<p><u>Risks and impacts:</u></p> <ul style="list-style-type: none"> • Water shortage/flooding/rising temperature/ extreme heat/ fire/storm that affects electricity generation, the investment in power plants and operating results • Legal amendments and the energy transition in light of climate change that affects the Company's business models and revenue

Response plan:

- Monitor short and long-term changes in weather conditions, focusing on average precipitation on land and over the oceans, storm frequency and severity, etc. for the analysis of possible impacts on the Company's assets and preparation of a mitigation plan; and apply water stress analysis tools in evaluating the risks of river basins which are the raw water sources for the electricity generation of the Company's power plants and planning mitigation responses.
- Consider investing in projects going along with the trends of legal and regulatory amendments as well as changes in relevant government measures, rules and policies; or in businesses with climate-related objectives.
- Proclaim the Company's carbon neutrality target and the decarbonization roadmap; apply GHG-reduction tools and mechanisms such as internal carbon pricing, and reforestation for carbon credits; and study the development of future energy such as hydrogen.

Energy technology risk

Factor: Energy innovations have changed rapidly, driven by efforts to contain the increase in global temperature. Emerging technologies involve energy storage, electric vehicles, carbon capture, and hydrogen while artificial intelligence will play an increasing role in the energy business. All will induce significant changes to the direction of the energy industry as well as electricity generation.

Risks and impacts:

- Business strategies and objectives not matching energy trends
- Electricity generation business models being forced to change along technological changes
- Human resource knowledge and skills not matching technological changes
- Application of effective AI in replacement of new job employment

Response plan:

- Map out the study plan and long-term investment plan targeting New S-Curve businesses in the energy infrastructure and power generation industry such as Battery & Energy Storage, Carbon Capture, Hydrogen, and Peer-to-Peer electricity trading, in preparation of new business trends.
- Seek strategic partnerships focusing on the expertise in future energy.
- Promote and improve human resource knowledge and skills on innovations and technology that tend to create significant impacts on the operations.

Internal control

Under RATCH's internal control mechanism, the Internal Audit Department works independently, under the Company orders on the department's responsibilities and internal audit. It tracks the enterprise efficiency under the COSO 2013 universal internal control standard of the Committee of Sponsoring Organizations of the Treadway Commission; and report the results directly to the Audit Committee and the Board of Directors. The internal control contains the following key components:

- Organizational structure that clearly defines job descriptions with the Code of Conduct to build corporate culture and desirable employee behaviors and corporate governance.
- Risk management system with evaluation and analysis standards and risk-management measures.
- Control measures involving division of responsibilities, authorization for disbursements, access to information, and assets inspection.
- Effective and comprehensive communications, transparent and verifiable reporting systems, whistle-blowing channel, and application of technology for data collection and analysis.
- Monitoring and evaluation by the Internal Audit Department, considered a key mechanism in verifying the internal control accuracy and effectiveness; and continuous improvement in the process.

The evaluation in 2024 showed the internal control system remained sufficient and effective, in terms of mechanism, work processes, measures and manpower. There was the tracking system that sufficiently prevented actions that may violate the Code of Conduct or the Anti-Fraud and Corruption; or involved wrongful use of the Company's assets and transactions with related individuals or individuals with possible conflicts of interest.

Communication and reporting

The Corporate Planning and Systems Development Department reports the risk management results to the Board of Directors every 2 months and the results are disclosed annually in Form 56-1 One Report and Sustainability Report. It also promotes the building of risk-aware culture, in collaboration with the Human Resources Department.

Monitoring and improvement of risk-management system

RATCH, through the Risk Management Committee and the Corporate Planning and Systems Development Department, followed up and assessed the results of risk management activities; conducted an annual review on the management measures/approaches and the risk appetite; and regularly improved the risk-management system.

Building risk-aware culture

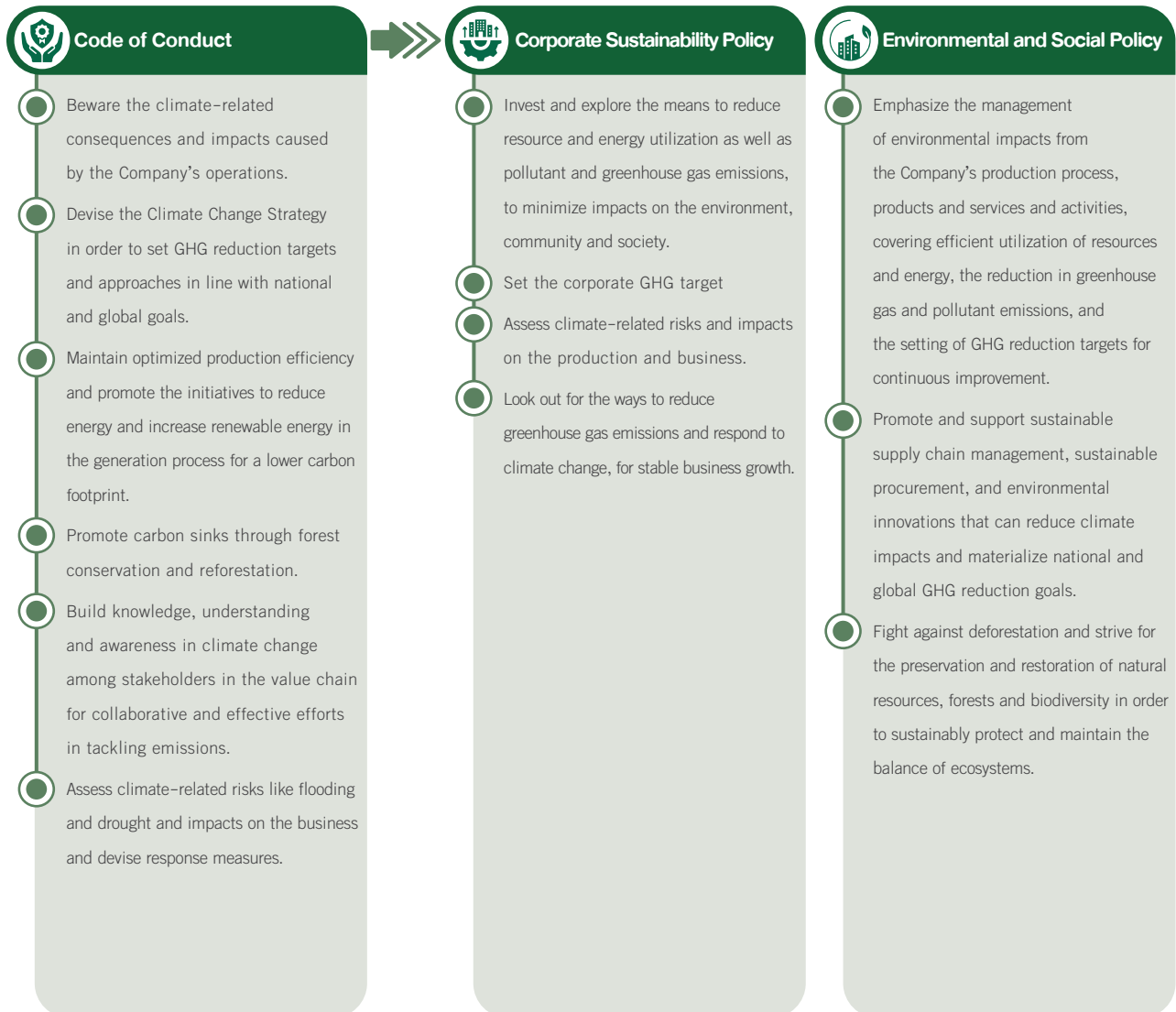
RATCH is determined to instill the risk-aware culture, to make employees at all levels understand its importance and behave accordingly to risk-management guidelines for operational efficiency and stability. Aside from the Company's regulations, policies, guidelines and supervision for management clarity, RATCH integrates the issue into the decision-making process. For approvals, all projects are demanded to assess risks in economic, governance, social, environmental aspects and power plants shall determine the key risk indicators (KRIs), which will be deployed to monitor and assess the risk trends that may affect their operational targets.

In addition, RATCH has strengthened risk awareness through training and communications on risk management to employees at all levels. In 2024, the training focused on the best practices concerning the anti-fraud and corruption, Code of Conduct, cybersecurity and Business Continuity Plan. The whistle-blowing channel was established, to receive employees' reports on issues of concerns of suspicious corrupt and unethical acts.

Climate Action



Climate Change Response Principles



In 2024, RATCH launched several initiatives in response to climate change, from production efficiency enhancement to a cut in resource and energy utilization, a change in fuel proportions for power generation, and studies on GHG-reduction alternatives like green hydrogen and renewable-energy storage battery. RATCH also proceeded with the creation of natural carbon sinks through reforestation and preservation of terrestrial and mangrove forests, together with its partners. Driven under the Climate Change Strategy, these efforts are to ensure the ultimate goal – carbon neutrality – will be reached by 2050. Meanwhile, the actions also support the United Nations Sustainable Development Goal (SDG): Goal 12: Responsible Consumption and Production and Goal 13: Take urgent action to combat climate change and its impacts.

Greenhouse gas management and targets

Personnel capability enhancement

Build knowledge, understanding, and awareness in activities that concern climate change and greenhouse gas management.

GHG management

1 Mix of fuels for power generation

2 GHG emission reduction

3 Increase in GHG sequestration

2035 targets

- Fossil fuel: 60%
- Renewable energy: 40%
- GHG emissions reduced by 10 MtCO₂e or 100% of emissions in the base year 2015
- GHG per unit of produced electricity reduced by 25% compared to the base year 2015
- Carbon sequestration amounting to 76,000 tCO₂e

2030 targets

- Fossil fuel: 70%
- Renewable energy: 30%
- GHG emissions reduced by 6 MtCO₂e or 70% of emissions in the base year 2015
- GHG per unit produced electricity reduced by 15% compared to the base year 2015
- Carbon sequestration amounting to 55,000 tCO₂e

Performance in 2024

- Fossil fuel: 72.5 %
- Renewable energy: 27.5 %
- GHG emissions reduced by 3.36 MtCO₂e or 38.6 % of emissions in the base year 2015
- GHG per unit produced electricity reduced by 28.9% compared to the base year 2015
- Carbon sequestration amounting to 6,804 tCO₂e

Information disclosure

Via Sustainability Report prepared under international standards/ Form 56-1 One Report/
Participation in corporate sustainability assessment by national and international organizations

Climate change response

RATCH has applied the recommendations under the Task Force on Climate-related Financial Disclosures (TCFD) framework in the planning of responses to climate change in the 4 core elements as well as in information disclosure.

Governance	Strategy	Risk Management	Metrics and Targets
<ul style="list-style-type: none"> • Obligate Board of Directors and sub-committees to supervise the management of climate-related risks and opportunities. • Devise a comprehensive set of roles and responsibilities relating to the management of risks and opportunities. 	<ul style="list-style-type: none"> • Identify risks and opportunities in the short, medium and long term. • Identify the impacts from risks and opportunities on the operations, strategy, and financial planning. • Ensure the resilience of corporate strategies in the scenario that global temperature must not rise above 2°C. 	<ul style="list-style-type: none"> • Process in identifying and assessing climate-related risks. • Process in managing climate-related risks. • Process in identifying, assessing and managing climate-related risks integrated into the organization's overall risk management. 	<ul style="list-style-type: none"> • Disclose the metrics of risks and opportunities under the risk-management process and strategy. • Disclose the data of Scope 1, 2, and 3 GHG emissions. • Set the targets for risk and opportunity management and benchmark the performance against the targets.

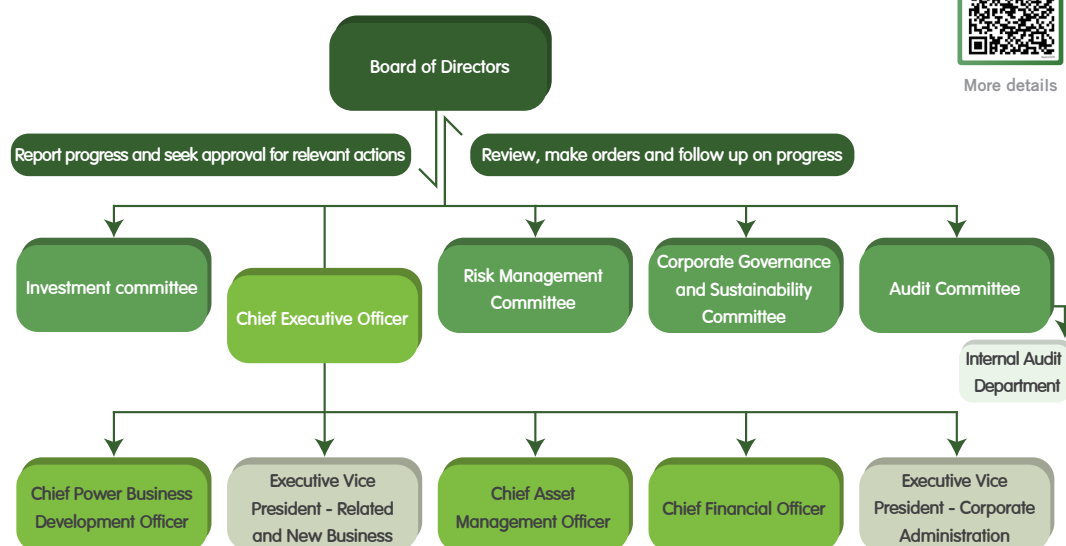
* More details on the structure of greenhouse gas management supervision, Climate Change Strategy and risk management are available on the website: <https://www.ratch.co.th/en/environment/climate-strategy>.



More details

Structure of climate action governance

The Board of Directors has the ultimate authority in supervising all efforts to combat climate change, which are integrated into the enterprise risk-management system, internal control, strategies and business targets. Sub-committees are tasked to help the supervision and monitor the implementation of the efforts in line with prescribed strategies and targets, while the Management controls and steers the implementation. The Internal Audit Department is responsible for the internal audits of relevant units.



More details

Climate Change Strategy

RATCH has enforced the Climate Change Strategy since 2022 as the framework for climate-related efforts and progress has been witnessed as summarized below :

Climate Change Strategy	Performance in 2024	Supports to SDGs
Operational efficiency enhancement	<ul style="list-style-type: none"> Integrated climate risk assessment into enterprise risk assessment into the enterprise risk assessment, following the Risk Management Committee's decision to include climate risks into enterprise-and project-level risks; and reported 5 assessment results to the Committee. Studied the Internal Carbon Pricing (ICP) to obtain the monetary value for the investment decision-making process and for the preparation of greenhouse gas reduction schemes: initial study showed the carbon value at USD 5.6–15 per ton of carbon dioxide. Rewarded employees contributing to GHG reduction via the energy-saving house contest which aimed to inspire and raise awareness in efficient energy use. 	<p>SDG 12:</p> <p>Ensure sustainable consumption and production patterns</p> <ul style="list-style-type: none"> 12.2 Achieve sustainable management and efficient use of natural resources by 2030 12.8 Ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature by 2030

Climate Change Strategy	Performance in 2024	Supports to SDGs
External collaboration	<ul style="list-style-type: none"> Ratchaburi Power Plant organized Energy-Saving Project 2024, to raise awareness in efficient energy use in the production process which would reduce the operating cost and greenhouse gas emissions: 4 ideas won Excellent, Good, and Complimentary awards for energy saving features, short breakeven points, and maintenance of work schedules. 	<p>SDG 13: Take urgent action to combat climate change and its impacts</p> <ul style="list-style-type: none"> 13.1 Strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries 13.3 Improve education, awareness raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning
Production efficiency enhancement	<ul style="list-style-type: none"> Reviewed and followed up on efficiency enhancement, to reduce fuel and energy consumption which would reduce the operating cost and greenhouse gas emissions (by the working committee, the Management and the Corporate Governance and Sustainability Committee) Offered incentives to operation and maintenance service providers that achieved the fuel and energy reduction targets, like the annual heat consumption rate. 	
Green and renewable business investment	<ul style="list-style-type: none"> Developed solar farms and wind farms in the Philippines, Vietnam, Indonesia and Australia with combined equity installed capacity of 1,391.12 MW. Studied the development and production of green hydrogen in Thailand and abroad, with memorandum of understanding signed for feasibility studies of production technology and business opportunities. Invested in Innopower Co., Ltd., making it the core investing vehicle for business ventures that support the energy transition and net zero emissions. Collaborated with King Mongkut's University of Technology Thonburi to study bio-charcoal production from aromatic coconut waste in Ratchaburi province: Ratchaburi Power Plant expects to replace coal with the bio-charcoal in its generation process and to explore new business opportunities. 	
Carbon offsetting and trading	<ul style="list-style-type: none"> Collaborated with the Department of Royal Forest, the Department of Marine and Coastal Resources, Mae Fah Luang Foundation and community forests in implementing T-VER projects that involved terrestrial and mangrove reforestation, community forest preservation, conservation and enhancement of forest areas for carbon sinks; and calculation of carbon credits for the Company's carbon offsetting and trading activities. 	

Assessment of climate-related risk/opportunities

RATCH reviewed risks in 2024 and assessed the risks and likelihood as guided by the Task Force on Climate-related Financial Disclosures (TCFD) framework. In focus were acute, chronic and transition risks that may arise from changes in policies, legal clauses and relevant technology. The assessment found no change from the previous year.

On the assessment of physical risks, the results showed the causes of acute risks remained natural disasters – drought, flooding and extreme weather. Chronic risks concerned an increase in average temperature which may affect the future. Meanwhile, transition risks were still related to legal, technology, market and image/reputation. Measures have been devised for these risks.

On the assessment of climate-related opportunities, RATCH sees the potential of hydrogen, electric vehicle, solar/wind power and battery energy storage businesses and has conducted the feasibility study on these businesses.



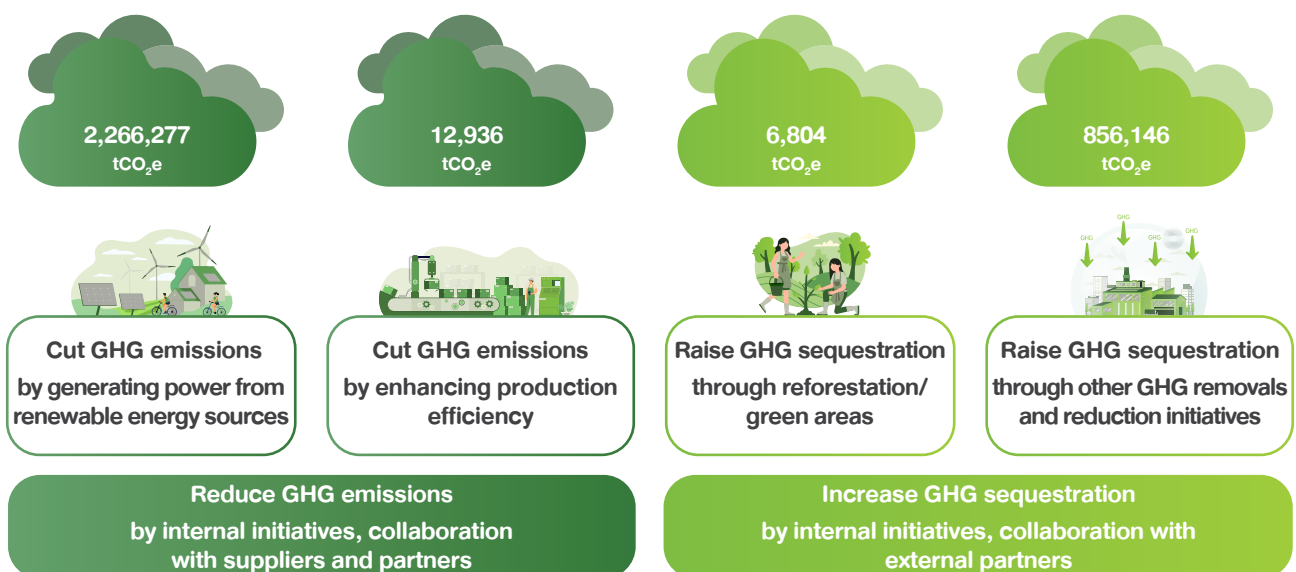
More details

Additionally, RATCH had strengthened the capability of relevant personnel relating to TCFD recommendations, the assessment of climate-related risks and opportunities, the assessment and calculation of organization carbon footprints in Scope 1–3, internal carbon pricing, IFRS S2 Climate-related Disclosures, and updates on the situation and impacts of climate change.

GHG reduction targets and performance





RATCH Group has made consistent efforts in reducing greenhouse gas emissions and witnessed tangible progress in the investment in renewable energy power plants that rely on solar power, wind power, hydropower and biomass; production efficiency enhancement through lower fuel and energy consumption; an increase in carbon sinks; and direct and indirect preservation of carbon sinks.

Progress in 2024



Renewable energy utilization

In 2024, RATCH continued to harness power from renewable energy sources for electricity generation. The proportion of equity installed capacity from renewable power plants in Thailand and abroad is now 27.5% (from 30% target set for 2030). The renewable power plants generated and distributed 4,307,864 megawatt-hours in 2024, 17% of total output.

Renewable energy sources	Capacity (MW)	Volume of distribution (MWh)	Change	Remark
	Equity-based			
 Wind	891.75	2,338,581	Decrease 2%	In 2024, capacity increased from 2 power plants; 1. 36.36 MW Calabanga Solar Farm 2. 14.70 MW Minh Luang Hydropower Plant
 Solar	125.11	156,546	Increase 16%	
 Hydro	589.53	1,718,350	Increase 6%	
 Biomass	11.83	94,387	Increase 2%	

Production efficiency enhancement

All power plants have restlessly pursued new ways to operate machinery and equipment, in order to improve the energy efficiency in the production process. This endeavor lowers emissions per unit of distributed electricity and reduces the Scope 2 GHG emissions of customers.

In 2024, the 7 power plants as well as Head Office implemented 25 projects to enhance the production and energy efficiency, resulting in 80,768 million BTU of saved heat rate and 2,207 MWh of saved electric power equivalent to 12,936 tCO₂e.

Power Plant/Office	No. of projects/activities	Target of energy saving		Heat rate reduced (MMBTU/year)	Electric power saved (kWh/year)	Cost saving (Baht/year)	Investment (Baht)	GHG emission Reduced (tCO ₂ e)
		Energy (MMBTU)	Electric Power (MWh)					
Ratchaburi	4	-	57.1	0	1,108,454	3,347,530	0	554
Nava Nakorn Electricity	1	30,313	0	31,786	-	686,631	-	4,657
Berkprai Cogeneration	2	1,046	3.96	3,545	3,487	823,767	0	521
RATCH Cogeneration	3	-	400	0	224,937	708,102	1,936,000	112

Power Plant/Office	No. of projects/ activities	Target of energy saving		Heat rate reduced (MMBTU/ year)	Electric power saved (kWh/year)	Cost saving (Baht/year)	Investment (Baht)	GHG emission Reduced (tCO ₂ e)
		Energy (MMBTU)	Electric Power (MWh)					
RATCH Energy Rayong	4	-	640.68	0	640,680	2,562,721	0	320
RATCH Pathana Energy Group	7	11,202	115.63	7,116	167,696	1,800,829	1,529,623	1,126
Songkhla Biomass	2	75,598	9.13	38,321	9,280	7,557,733	240,000	5,619
RATCH Group HQ	2	-	41.39	0	52,329	240,285	26,750	26
Total	25	118,159	1,267.89	80,768	2,206,863	17,727,597	3,732,373	12,936

Carbon sinks for GHG removals

In 2024, RATCH took the leading role in implementing the Company Group's projects under the Thailand Voluntary Emission Reduction Program (T-VER): terrestrial and mangrove reforestation and community forest supports for carbon credits. In addition, via a community forest contest under the Love the Forests and the Community Project which started in 2008, RATCH extended its supports to the management and preservation of nationwide community forests. The activities created carbon sinks for the removals and sequestration of atmospheric greenhouse gases, hence reducing the intensity and contributing to the abundance and balance of the ecosystem for the quality of life of communities and society.

Group's contribution to carbon sinks

Forestry and green space projects	Collaborator/ Initiator	Area (rai)	Period of credit calculation	Volume of carbon credits (tCO ₂ e)		T-VER Registration/ Carbon credit certification
				Total credits	Credits for RATCH/year	
RATCH Group PCL.						
Forest conservation project to enhance biodiversity and create carbon sinks under Thailand Greenhouse Gas Management's T-VER scheme (Klong Takien Forest in Kasetsuvarn Subdistrict, Bo-Tong District, Chonburi Province)	Department of Royal Forest	339	15 years (17/07/24-30/09/39)	4,830.75 (or 322.05 tCO ₂ e/year)	289.85 (90%)	Expectation T-VER registration in 2025 and verify carbon credit in 2030
Mangrove reforestation for carbon credits	Department of Marine and Coastal Resources	113.47	10 years (24/08/23-23/08/33)	3,120 (or 312 tCO ₂ e/year)	280.8 (90%)	T-VER registration in 2024 and verify carbon credit in 2027
Forest Carbon Credits Management for Sustainable Development Project (Bannacharoen community forest, Chaing-rai Province)	Mae Fah Luang Foundation	1,000	5 years (2022-2027) (Purchasing carbon credits for a 3-year period from 2022 to 2025)	1,653.54 (or 551.18 tCO ₂ e)	551.18 (as project agreement)	T-VER registration in 2024 and verify carbon credit in 2025

Forestry and green space projects	Collaborator/ Initiator	Area (rai)	Period of credit calculation	Volume of carbon credits (tCO ₂ e)		T-VER Registration/ Carbon credit certification
				Total credits	Credits for RATCH/year	
Forest Carbon Credits Management for Sustainable Development Project (community forests in the North and Northeast)	Mae Fah Luang Foundation	10,000	5 years (2023–2028) (Purchasing carbon credits for a 3-year period from 2023 to 2026)	16,404.21 (or 5,468.07 tCO ₂ e)	5,468.07 (as project agreement)	T-VER registration in 2024 and verify carbon credit in 2026
Preservation, restoration and management of 5 community forests in Sa Kaeo, Khon Kaen and Nakhon Ratchasima provinces for GHG emission reduction	Department of Royal Forest	3,195	15 years (2024–2038)	25,879.5 (or 1,725.3 tCO ₂ e)	862.65 (50%)	T-VER registration in 2025 and verify carbon credit in 2030
Preservation, restoration and management of 2 community forests in Phrae Province	Department of Royal Forest	2,500	15 years (2024–2038)	20,250 (or 1,725.3 tCO ₂ e)	675 (50%)	Registration in 2025
Ratchaburi Electricity Generating Co., Ltd.						
Ratchaburi Power Plant's sustainable reforestation project		47.92	20 years (01/09/19–31/08/39)	1,140 (or 57 tCO ₂ e/year)	57 (certified for the first three years 390 tCO ₂ e)	The next round of carbon credits certification in 2027



Forest conservation to enhance biodiversity and create carbon sinks in Klong Ta Kian Forest, Kasetsuvarn Subdistrict, Bo-Tong District, Chonburi Province



Mangrove reforestation for carbon credits in Chanthaburi Province



Forest Carbon Credits Management for Sustainable Development in Bannacharoen Community Forest, Chaing-rai Province



Forest Carbon Credits Management for Sustainable Development Project in community forests in the northern and northeastern regions



Preservation, restoration and management of 5 community forests in Sa Kaeo, Khon Kaen and Nakhon Ratchasima provinces for GHG emission reduction



Preservation, restoration and management of 2 community forests in Phrae Province

Mangrove reforestation on areas with high sedimentation level

Ratchaburi Electricity Generating Co., Ltd., a core subsidiary, launched a mangrove reforestation project for a 12-rai area in Bang Kaew Subdistrict, Ban Laem District, Phetchaburi Province, which suffered from severe erosion and land loss. The first phase was kicked off in 2024, to explore the possibilities in growing trees on areas with a high level of sedimentation. Six sample 10x10 meter plots were planned for 3 type of mangroves – Red Mangrove, Grey Mangrove and Indian Mangrove – to find the best choice. Grey Mangrove was proved the best for the area, followed by Red Mangrove. Both will be planted on the entire 12-rai area in 2025. Baby trees will be protected from waves by an 800-meter-long bamboo fence for a higher survival rate. The project reflects the company's dedication to restore and preserve mangroves, which play a key role in the ecosystems and biodiversity conservation. Mangroves protect the land from waves while sedimentation accumulates around their roots. Mangroves also serve as carbon sinks and the habitat and nursery of aquatic animals. The project also supports SDG 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development, Target 14.2 Sustainably manage, and protect marine and coastal ecosystems.



Mangrove Reforestation Project on Accreting Sediment Areas

by Ratchaburi Power Plant in Bangkeaw, Subdistrict, Ban-Leam District, Petchaburi Province

Supports to carbon sinks/removals

RATCH has proceeded with its supports to community forests nationwide via the Love the Forests and the Community Project. The Community Forest Contest 2024 offered prize money to the 16 forests winning the national-level and regional-level awards as well as the awards for outstanding development. Located in the North, the Northeast, the South, the East and the Central Region, the forests span 37,062.61 rai and are able to sequester approximately 233,494 tons of carbon or equivalent to 856,146 tons of greenhouse gases. The forests also help store groundwater, discharge runoff, and with biodiversity create a huge value of ecosystem services.

Love the Forests and the Community Project's carbon and water storage capacity and ecosystem services

Community forest contestants

- In 2024: 801 communities
- 17-year period: 18,676 communities

Capacity of carbon sequestration
(average 6.3 tons/rai)

Capacity of carbon sequestration

- In 2024: 233,494 tons of Carbon
- 17-year period: 10,124,554 tons of Carbon

Awarded community forests

- In 2024: 16 communities, for prize money worth THB 1.45 million
- 17-year period: 1,789 communities, for prize money worth THB 47.37 million

Water retention in soil and run off discharge
(≈686 cubic meters/rai)

Water retention in soil and run off discharge

- In 2024: 25.42 million cubic meters
- 17-year period: 1,102.45 million cubic meters

Total area of awarded community forests

- In 2024: 37,062.61 rai
- 17-year period: 1,607,072 rai

Value of forest ecosystem services
(≈THB 89,737/rai)

Value of forest ecosystem services



- In 2024: THB 3,326 million
- 17-year period: THB 144,214 million

References: The Biodiversity-Based Economy Development Office (BEDO), Department of Royal Forest

GHG emission reporting

The 11 power plants under RATCH's operational control (contributing 80.06% of total revenue) have calculated the carbon footprint for organization or the volume of greenhouse gas emissions from direct and indirect activities (Scope 1–3), in order to assess the performance and devise emission reduction plans in the following years, particularly with collaboration from upstream suppliers.

GHG Emissions based on carbon footprint calculation in 2024

indicators		Unit	2022	2023	2024
Volume of direct emissions	Scope 1 emissions	tCO ₂ e	8,515,787	4,984,325	5,296,098
Volume of indirect emissions from purchased electricity (location-based method)	Scope 2 emissions (Location Based)	tCO ₂ e	31,367	28,363	39,387
Volume of indirect emissions from purchased electricity (market-based method)	Scope 2 emissions (Market Based)	tCO ₂ e	31,367	28,363	39,387
Volume of other indirect emissions	Scope 3 emissions	tCO ₂ e	3,113,000	1,549,089	1,769,016
Greenhouse gas emission intensity: Scope 1 and 2 emissions per unit of electricity	GHG Intensity (Scope 1 & 2)	tCO ₂ e/MWh	0.4152	0.3874	0.3247
 Targets	<ul style="list-style-type: none"> • GHG intensity per unit of electricity is below the Grid Emission Factor. • In 2030, GHG intensity per unit of electricity is cut 15% from the base year 2015. • In 2030, Scope 1 and 2 emissions are reduced by 70% (from the base year 2015). • Carbon neutrality achieved by 2050 	 Operational progress	2024		
			<ul style="list-style-type: none"> • GHG Intensity = 0.3247 tCO₂e/MWh (below the Grid Emission Factor) • GHG Intensity down 28.9% from base year • Scope 1 and 2 emissions = 3,358,707 tCO₂e (down 38.6% from base year) • In pursuit of the 2050 carbon neutrality goal 		

RATCH's power plants in Thailand in the scope of reporting emitted 0.3247 tCO₂e/MWh of greenhouse gases, or lower than the Grid Emission Factor. The emissions showed a 28.9% decrease from the base year 2015, while RATCH targets to reduce the emissions by 15% in 2030 from the base year 2015 (at 8,694,192 tCO₂e) and achieve carbon neutrality in 2050.

Carbon footprint calculation at power plants and Head Office

The carbon footprint calculation in 2024 entailed RATCH Group's Head Office and 7 power plants including newly-included 770-MW Hin Kong Power Plant Unit 1, a gas-fired combined cycle power plant in Ratchaburi province. Commencing commercial operations in March 2024, the power plant concurrently started the calculation of carbon footprint for organization to get the data from the start for the setting of more effective emission reduction goals in the following years.

The calculation of all power plants and Head Office is pending for the verification and assurance by independent third party and the verification by Thailand Greenhouse Gas Management Organization (Public Organization). It is considered a part of RATCH's preparation for the upcoming disclosure rules.

GHG emissions (tCO ₂ e) based on the calculation of Carbon Footprint for Organization (CFO)											
Power plant	Direct emissions (Scope 1)				Indirect emissions (Scope 2)				Other indirect emissions (Scope 3)		
	<ul style="list-style-type: none"> Utilization of fuels for power generation Utilization of fuels for vehicles, machinery/equipment Leakage of sulfur hexafluoride (SF₆) and coolant 				<ul style="list-style-type: none"> Electricity purchase from other producers (EGAT/MEA/PEA)*** 				<ul style="list-style-type: none"> Emissions from upstream and downstream operations (suppliers/invested entities) 		
Year	(base year)	2022	2023	2024*	(base year)	2022	2023	2024*	2022	2023	2024*
Ratchaburi	7,128,375 (2015)	6,302,398	2,823,958	1,713,306	27,702 (2015)	22,270	19,965	17,872	2,729,674	1,179,998	949,311
RATCH Cogeneration	300,854 (2021)	307,544	316,014	328,285	1,069 (2021)	149	32	0	88,316	53,234	54,383
Nava Nakorn Electricity	515,185 (2021)	485,947	488,613	476,479	50 (2021)	31	0	0	142,845	89,866	79,363
Berkprai Cogeneration	-	-	261,923	250,735	-	-	186	113	-	56,776	56,234
RATCH Energy Rayong	-	-	211,523	236,046	-	-	214	107	-	35,158	49,032
Ratch Pathana Energy	533,254 (2022)	533,254	474,331	353,952	463 (2022)	463	511	618	140,022	134,057	99,556
Hin Kong (Unit 1)**	Commencing operations in 2024			1,637,017	-			7,818	-		453,817
Head Office	73 (2018)	58	802	76	1,110 (2018)	846	811	849	46	50	2,339

Note: * Under verification process

** Hin Kong Power Plant (Unit 1) commenced operations and carbon footprint calculation in 2024.

*** EGAT- Electricity Generating Authority of Thailand, MEA -Metropolitan Electricity Authority, PEA- Provincial Electricity Authority

Human resource capability enhancement to cope with climate change

In 2024, RATCH enhanced climate-related knowledge and skills for relevant personnel, so that they can apply the knowledge with work processes designed to cope with emerging risks in the near future as well as legal and regulatory amendments. The future legislation is also anticipated to be tougher, to hold all parties responsible for the emissions from their activities, in an effective way and in alignment with the country's requirements and goals.

Workshops on climate change for executives and operators

Internal carbon pricing (ICP)



ICP Capacity Building Workshop to boost the capacity of 43 operational-level employees of RATCH and operational controlled power plants in setting the internal carbon price. Attendees learnt about the pricing methodology and process as well as the application of each type of ICP for the Company's businesses or projects; and understood the hidden cost and break-even points of GHG emission reduction projects.

Climate-related risk assessment per TCFD recommendations



RATCH's Capacity Building on TCFD Workshop for 28 executives and job operators from all functions of RATCH and 7 power plants under operational control, for their understanding in the principles and framework of TCFD. Participants brainstormed in an assessment of preliminary project-level risks, for their understanding in the risk assessment methodology and procedure as well as the monetary value of impacts.

Calculation of Carbon Footprint for Organization (CFO)

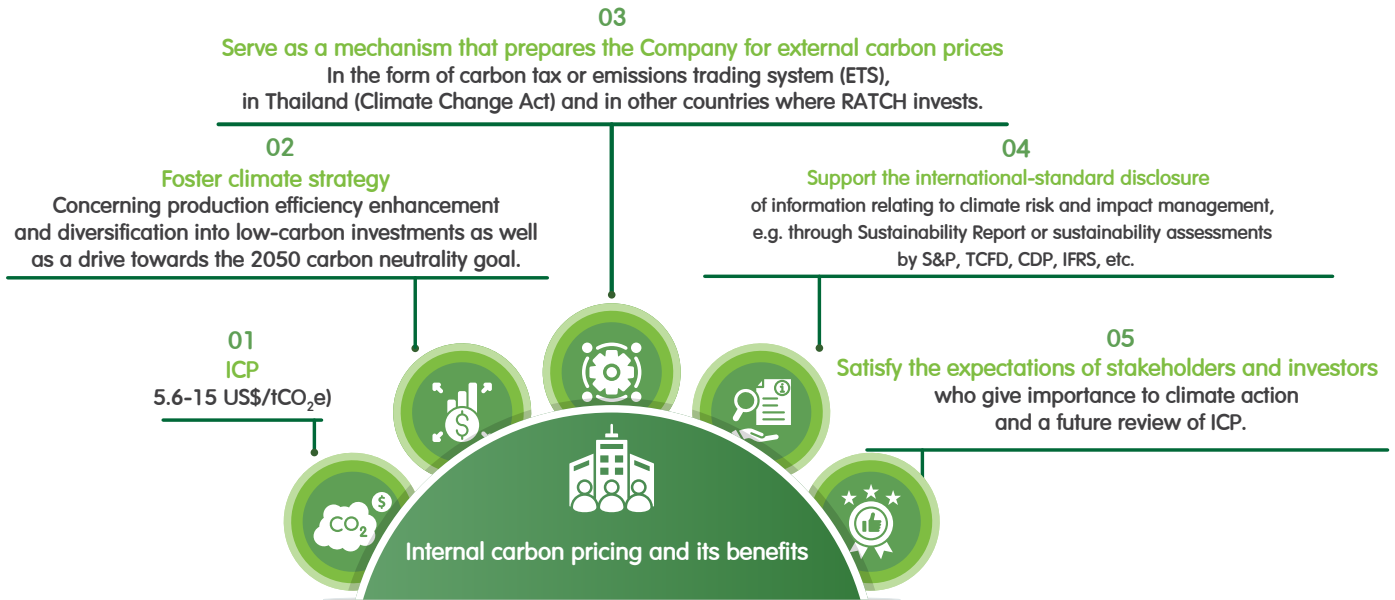


An in-depth workshop on Carbon Footprint for Organization, to strengthen knowledge in the methodology, data collection and calculation method in line with GHG Protocol. The training also focused on the documentation process concerning the application for TGO's Carbon Footprint for Organization certificate. 42 operational-level staff of RATCH and power plants attended the workshop.


Internal carbon pricing (ICP)

RATCH initiated the internal carbon pricing (ICP) study as part of the Climate Change Strategy, so as to know the internal carbon price which will determine the Company's operating cost in the future.

The study process started with a training on the concept, objectives and benefits of ICP for executive and operational-level personnel from all relevant functions. Then, the shadow price was set, using data or benchmarks based on external sources, benchmark against peers and internal consultation. The following is the summary of this study.



Disclosure of greenhouse gas

Disclosure framework	Target audiences	Results
 <p>Sustainability Report prepared in line with GRI Standards 2021</p>	Shareholders, investors, stakeholders, the general public	RATCH obtains the Assurance Statement to Sustainability Report 2024 and key indicators in environmental and social dimensions per GRI Standards 2021.
 <p>Stock Exchange of Thailand's SET ESG Ratings 2024</p>	Shareholders, investors, stakeholders, the general public	RATCH received "AAA" rating in the SET ESG Ratings, being in Category 2 for companies with market cap between THB 30,000 million – THB 100,000 million. (Inclusion in SET THSI Index for 10 consecutive years)
 <p>Sustainability assessment by FTSE Russell (SET's global partner)</p>	Shareholders, investors, stakeholders	RATCH is invited to the Stock Exchange of Thailand's assessment for the first time and gains a higher score because of the submission of more information.
 <p>Corporate Sustainability Assessment</p>	Investors, stakeholders	RATCH has been invited to submit a response to the S&P ESG Indices questionnaire for the fourth year in a row.



RATCH is bestowed the Honorary Sustainability Disclosure Award 2024 from Thaipat Institute, the sixth year in a row, thanks to the public disclosure of sustainability information in line with Ceres-ACCA criteria in terms of completeness, credibility and communication.

Environmental Management and Biodiversity



RATCH's power plants have generated electricity from fossil and renewable energy sources, with independent power producer (IPP) and small power producer (SPP) plants utilizing fossil fuels for the generation of a large quantity of electricity (83% of the Company Group's net output). The choices of fuels are determined by power demands or as ordered by the National Command Center. Meanwhile, the output from renewable energy sources (17% of the Company Group's net output) depends on natural conditions.

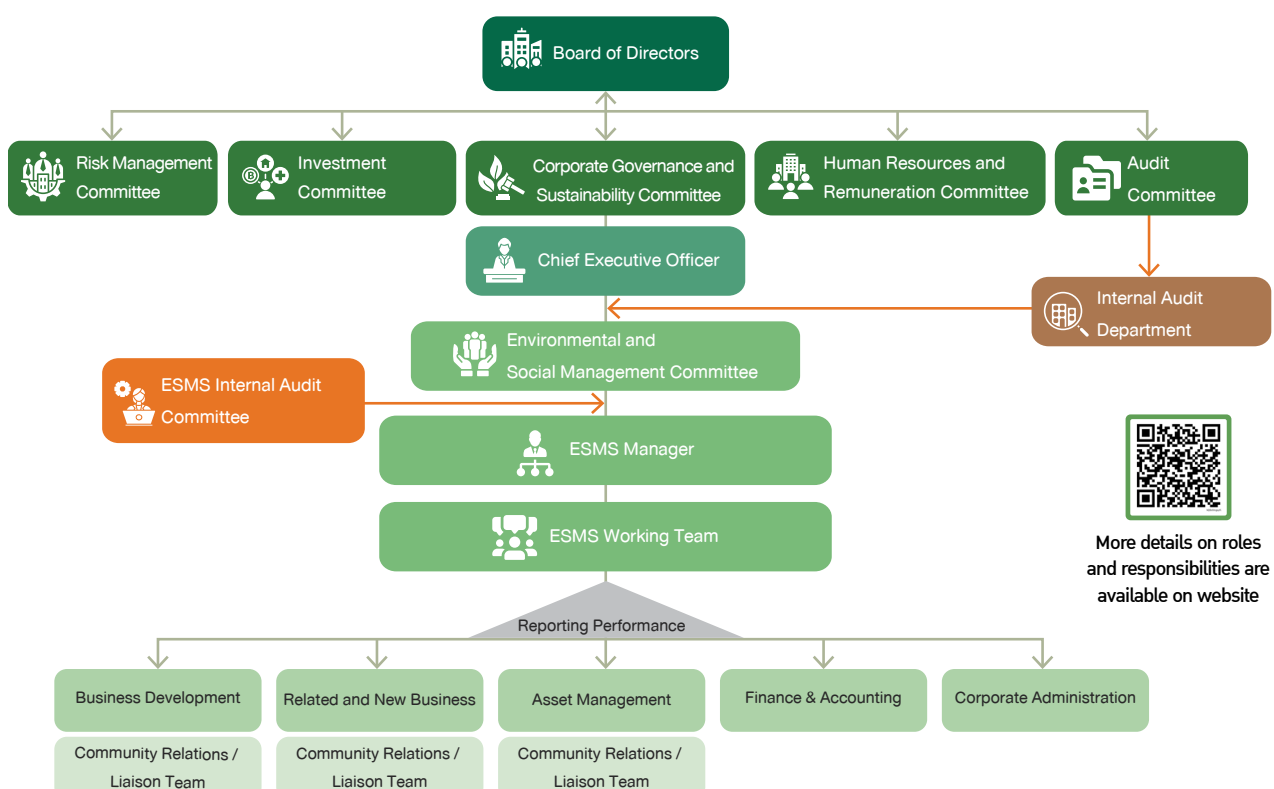
The production process requires water as a major raw material as power plants need water for the cooling system, demineralized water for boilers, etc. The power plants rely on two water withdrawal patterns: direct withdrawal from water sources like surface water (rivers and canals) and groundwater; and purchases of raw water or processed water like tap water. Both patterns take into consideration the water stress in the localities.

In 2024, the number of the Company Group's power plants in the scope of environmental data reporting totaled 7, with 770-MW Hin Kong Power Plant Block1 being added into the portfolio in the year. All plants generated 62.05% of total revenue.

Supervision of Environmental Operations

Under the Environmental and Social Management System (ESMS), RATCH has enforced the Environmental and Social Policy and assigned all personnel in line with the ESMS supervision structure, to drive the endeavor and ensure compliance with the manual and prescribed procedure. All functions are required to report their operations to the Board of Directors and relevant working committees for continuous improvements.

ESMS Management Structure



RATCH ESMS Framework

The PDCA (Plan-Do-Check-Act) model is applied for systematic work processes, to ensure continuous improvements on efficiency and environmental and social operations as well as alignment with requirements.



Natural resource and environmental management concept and principle

Under the natural resource and environmental management principle, RATCH puts an emphasis on the assessment of risks from its operations, from the project designing and development stage to the environmental, occupational health, safety and social operations. Then, measures are in place to prevent those risks and impacts, including sustainable procurement, personnel capability building, and performance assessment to pinpoint direct or indirect impacts caused by suppliers and sub-contractors. Suppliers are required to honor prescribed practices and RATCH has a set of guidelines to comprehensively and promptly tackle the impacts for minimum damage.

An efficient utilization is the management concept for raw materials or natural resources required for the production process, like water, energy (fuels and electricity), and chemicals. Resource utilization per unit of produced electricity is analyzed to warrant resource optimization.

Protection and Preservation of Biodiversity and Ecosystem << Responsibility for stakeholders and the environment >>



Utilization principle



Management of production process



Management of pollutants & waste



Water

Assess overall and area-specific impacts of raw material/resource utilization.

- 1 Plan production in line with demand.
- 2 Adopt lean production, to minimize or stop generating production waste.
- 3 Assess water demand and available supply, to prevent impacts like shortage, fight for water and effects on ecosystems.
- 4 Prepare supplementary water sources (for emergency use).

- 1 Treat used water accordingly to its types.
- 2 Treat water from the cooling system, after sedimentation and pH balancing, with RO treatment system to recover water for the production process.
- 3 Release treated water to the tree-watering system and nearby wetlands, to reduce water discharge.
- 4 Discharge the remaining water, after treatment to restore its natural state or meet specific requirements, to nearby water body.

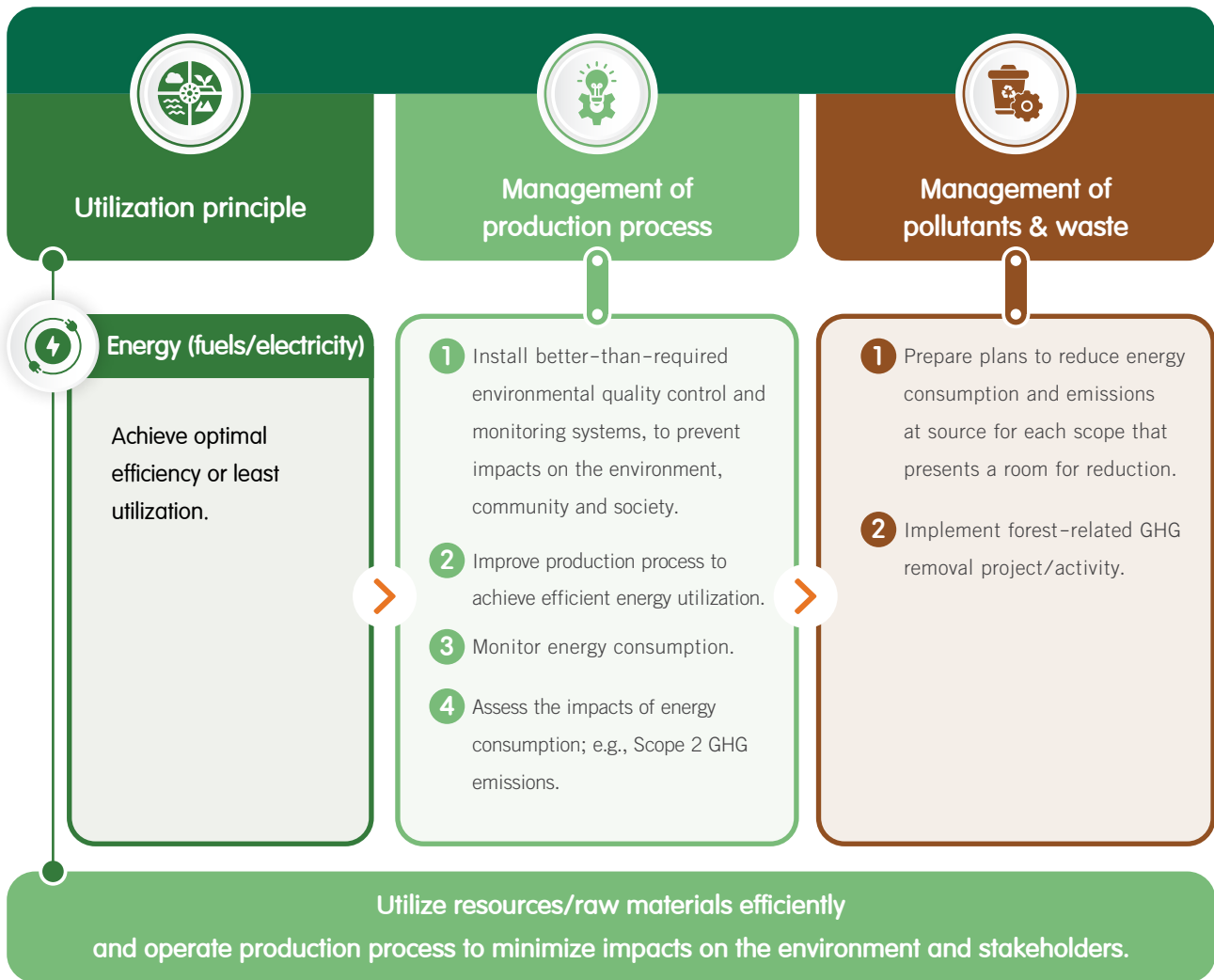


Raw materials/chemical

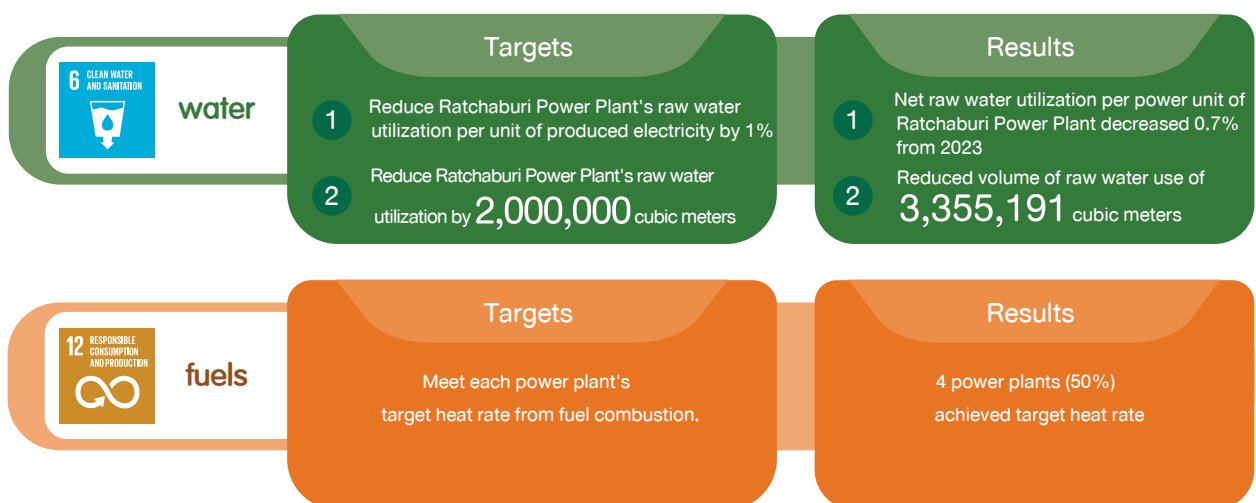
Optimize utilization for minimum waste/and reuse/recycle usable resources/materials.

- 1 Maintain and enhance production efficiency, for efficient utilization of resources/raw materials.
- 2 Reuse resources/raw materials as much as possible.
- 3 Install better-than-required environmental quality control and monitoring systems, to prevent impacts on the environment, community and society.
- 4 Incinerate waste (for energy or not) instead of landfill, to prevent impacts on soil, water sources and living beings in the food chain as well as GHG emissions.

- 1 Monitor the impacts of all relevant activities and report the results to stakeholders.
- 2 Neutralize chemical-contaminated water and reuse it.
- 3 Prepare separate storages and responses to chemical leaks; and return chemical packaging to suppliers for reuse.



Resource utilization targets and performance in 2024



In 2024, the group's 7 power plants utilized 98,991 million cubic meters of natural gas, 153,445 liters of diesel oil, and 15,971,826 cubic meters of raw water to generate 13,227,094 megawatt-hour (MWh). Out of 12,219,457 MWh distributed to the Electricity Generating Authority of Thailand while 1,007,637 MWh and 576,536 tons of steam for industrial customers.

Water resources and energy utilization measures

Water resources

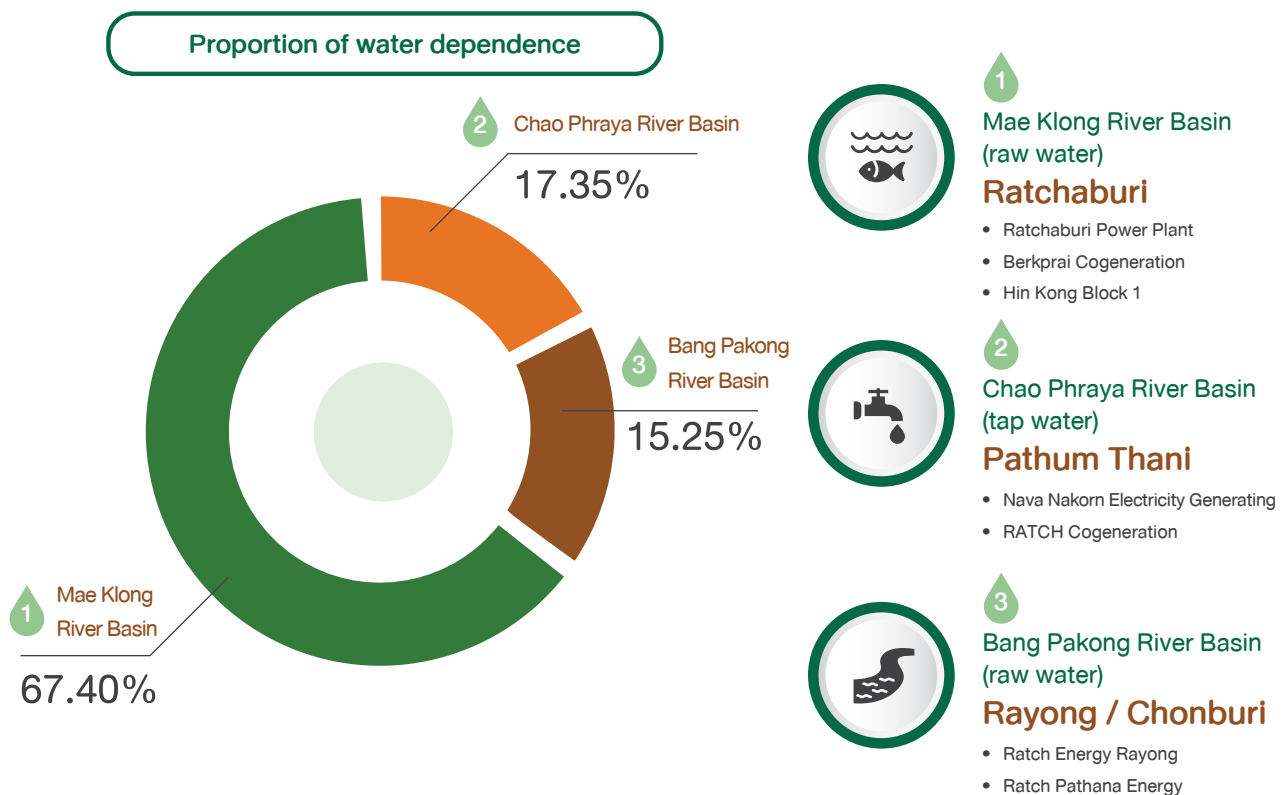
Climate change has affected the quantity and quality of water sources, as it induces both drought and flooding, aside from seasonal saltwater intrusion. Water resource management is a must for RATCH Group in preparation for the situations that may affect water withdrawals for electricity generation, which can impact revenue and lead to a fight for water with community or farmers.

As part of the Environmental and Social Management System (ESMS), RATCH devised the Water Risk Assessment Procedure. It serves as a risk assessment tool based on the criteria of WWF Water Risk Filter and World's Resources Institute (WRI) Aqueduct Water Risk Atlas, which analyzes likely impacts based on legal requirements, financial aspects, raw water volume, water quality, utilization balance and relevant stakeholders. The results are the basis for the water management plan.

Water stress assessment and water management

The Mae Klong River Basin, the Chao Phraya River Basin, and the Bang Pakong River Basin remained the primary water sources for RATCH Group's operations in 2024. Power plants in Ratchaburi province withdrew water directly from the Mae Klong River for their production, while those in Chonburi and Rayong provinces used water from the Bang Pakong River. Meanwhile, power plants in Pathum Thani province used tap water that suppliers produced from water in the Chao Phraya River Basin.

Proportion of primary power plants' raw water consumption (sorted by river basin)



The assessment in 2024 showed a high-water stress level (at 40–80%) in the Chao Phraya River Basin and the Bang Pakong River Basin and the guidelines to manage risks and water utilization were launched, to keep power plants' generation capacity intact without having to fight for water.

Risk and water utilization management guidelines

The guidelines for power plants using raw water or tap water from the river basins with high water stress level are as follows:

- Nava Nakorn Generating Power Plant (NNEG) and RATCH Cogeneration Power Plant, located in Pathum Thani province and withdrawing raw water from the Chao Phraya River Basin for generation process, entered 25-year tap water supply contracts (through end of the power plants' life cycle).
- Ratch Pathana Energy Power Plant (formerly Sahacogen (Chonburi)) in Chonburi province and Ratch Energy Rayong Power Plant in Rayong province used raw water from Bang Pakong River Basin through raw water suppliers with 10-year and 25-year supply contracts, respectively.
- The power plants with raw water or tap water supply contracts required the suppliers prepare secondary and emergency water sources, to ensure power generation continuity in case of drought or water shortage in the river basins.
- Reserve ponds or secondary storage system were in place for at least 10 days of internal use, along with water quality improvement systems.
- Water cycles in the cooling system were optimized, to reduce raw water withdrawal.
- Water reuse cycles for internal use were optimized, e.g. reusing RO-treated wastewater in the production process or using rainwater for production, and equipment cleaning/tree watering purposes.
- Water pipelines were regularly inspected to prevent the leakage and loss of raw and tap water.

Water reuse in production process

All power plants set the target to maintain and increasing water cycles in the cooling system at their best efforts, to minimize the withdrawal of raw water. A number of 7 power plants (contributing 62.5% of fossil fuel-based generation capacity) succeeded in this endeavor.

Powerplant	Location	Water Cycle Target	Average Water Cycle
Ratchaburi Thermal Plant 2 Units (735 MW/Unit, total 1,470 MW)	Ratchaburi	Unable to set target due to inconsistent production	-
Ratchaburi Combined Cycle Plant 3 Units (725 MW/Unit, total 2,175 MW)		4-6	4.88
Hinkong Block 1 (770 MW)		4-5	4.27
Berkprai Cogeneration (99.46 MW)		3-5	3.58
Nava Nakorn 2 Units (201.57 MW)	Pathum Thani	4	4.37
RATCH Cogeneration (119.75 MW)		6	7.77
RATCH Cogeneration (Expansion Phase) (31.2 MW)		5	5.93
RATCH Energy Rayong (98 MW)	Rayong	5-10	6.26
RATCH Pathana Energy (153 MW)	Chonburi	5-13 (Block 1)	6.78
		3-8 (Block 2-3)	4.70

At Ratchaburi Power Plant which is the Company's primary IPP plant (with 3,645 MW capacity), there have been continuous efforts to lower raw water withdrawal particularly for 3 combined cycle units which were operational all year. The goal was to bring down the water stress level in the Mae Klong River Basin. In 2024, the power plant reduced raw water consumption by 3,355,191 cubic meters.

Water consumption (Ratchaburi Power Plant)

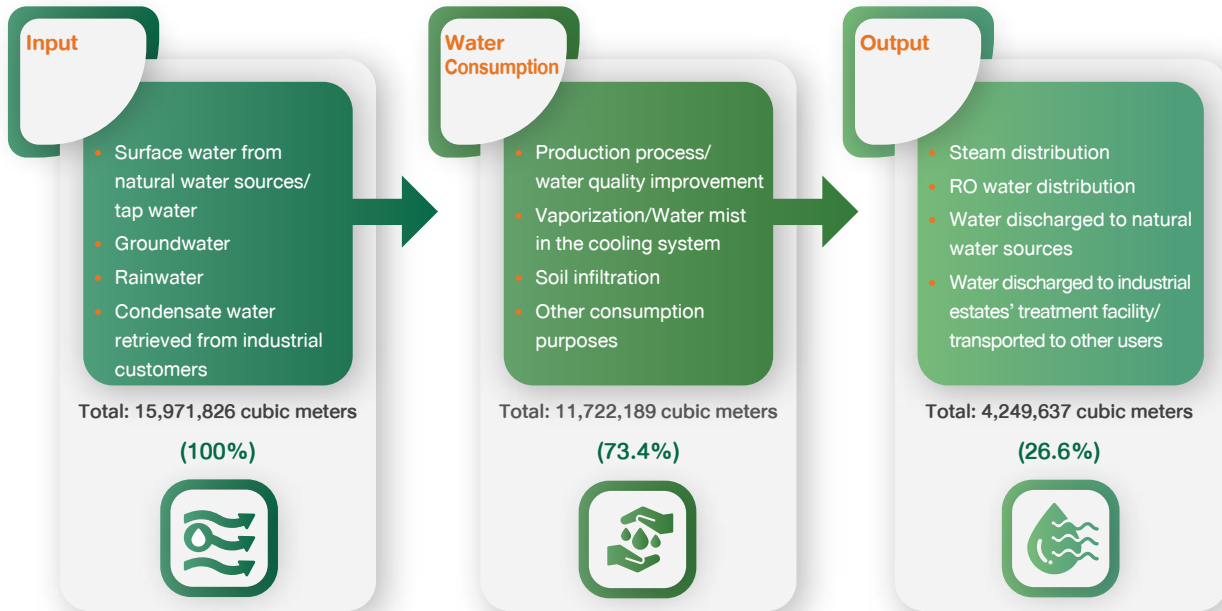
Actions to reduce consumption	Equivalent to reduced raw water withdrawal (cubic meters)	Reduced volume in total (cubic meters)	Target (cubic meters)
Water cycles in cooling system	2,360,317	3,355,191	2,000,000
Reuse of RO-treated wastewater	304,425		
Reuse of treated water for equipment cleaning/tree watering purposes	690,449		

Water balance analysis

Power Plant	Water Source	Water Stress Level			Water Utilization	Discharge Volume	Net water utilization (raw water-water discharge)	Water use per power unit (cubic meter/MWh)	Power output (%)
		Low-Medium (%10-20)	Medium-High (%21-40)	High (%41-80)					
		Million Cubic Meters							
Ratchaburi	Mae Klong River	-	✓	-	4.57	1.14	3.44	1.00	34.45
Berkprai		-	✓	-	0.91	0.27	0.64	1.49	4.62
Hinkong (Unit 1)		-	✓	-	5.21	1.31	3.91	1.07	36.73
Nava Nakorn Electricity Generating	Tap water from the Chao Phraya River	-	-	✓	1.81	0.62	1.19	1.61	8.48
RATCH Cogeneration		-	-	✓	0.94	0.19	0.75	1.24	5.78
RATCH Energy Rayong	Bang Pakong River Basin	-	-	✓	0.71	0.12	0.59	1.17	4.59
RATCH Pathana Energy		-	-	✓	1.71	0.54	1.17	2.42	5.35

Net water consumption

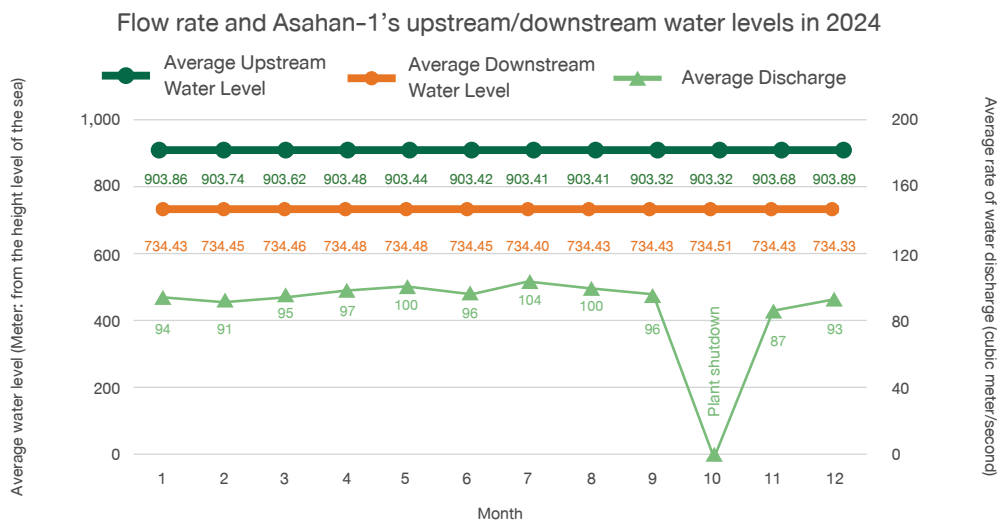
In 2024, 7 power plants located in Thailand withdrew 15,971,826 cubic meters of water while the output or water released to natural waterways totaled 4,249,637 cubic meters (or 26.6% of input). The net water consumption was 11,722,189 cubic meters or 73.4% of inflows.



Water management at Asahan-1

The 180-MW Asahan-1 Hydroelectric Power Plant in Indonesia (47.89% owned by RATCH) is a run-of-river hydroelectric power plant on the Asahan River in North Sumatra, Indonesia. Without pondage, the power plant adopts the water balance method, keeping inflows equal to outflows. The hydropower plant plays a role in strengthening the electricity security of North Sumatra.

In 2024, it generated 1,074,744 megawatt-hour of electricity for PLN, Indonesia's national electricity utility, under a 30-year contract (2011–2040). Excess water was released via spillways. The project gives importance to the maintenance of upstream water level and natural flow rate, to ease impacts on upstream and downstream community and prevent water shortage or fight for water. Since 2022, there had been no report of water-related conflicts with community or fight for water.











Fuels and energy

RATCH controlled the operations of 7 power plants in Thailand in 2024 (with combined capacity of 5,118 MW). They are Ratchaburi Power Plant, Berkprai Cogeneration Power Plant, Nava Nakorn Electricity Generating Power Plant, RATCH Cogeneration Power Plant, Ratch Energy Rayong Power Plant, Ratch Pathana Energy Power Plant, and Hin Kong Power Plant. Their natural gas and electricity consumption generated 100,976 million megajoules of electric power and steam, which can be classified below:

- Generated electric power totaling 48,919 million megajoules (13,588,671 megawatt-hours)
- Distributed electric power and steam totaling 47,622 million megajoules (13,228,268 megawatt-hours) and 1,301 million megajoules (466,328 tons), respectively.

At Ratchaburi Power Plant of which installed capacity is 3,645 MW, only 3 combined cycle generators, each with 725 MW capacity, were operational in 2024, using natural gas as fuel. Two generating units with 735 MW capacity each were on reserve shutdown.

List	Unit	2024	2023	2022
 Natural gas	Million Cubic Feet	98,991	87,674	149,202
	Million Megajoule	100,970	89,428	152,186
 Bunker oil	Liter	0	92,755,799	290,691,483
	Million Megajoule	0	3,689	11,561
 Diesel oil	Liter	153,445	6,168,914	21,881,178
	Million Megajoule	6	225	797
 Energy use from transmission system	MWh	52,172	40,813	46,905
	Million Megajoule	188	147	169
 Renewable energy use	MWh	17,085	16,600	13,860
	Million Megajoule	62	60	50
 Total produced electricity	MWh	13,588,671	11,141,093	18,958,341
	Million Megajoule	48,919	40,108	68,250
 Total distributed electricity	MWh	13,228,268	10,842,852	18,488,776
	Million Megajoule	47,622	39,034	66,560
 Total distributed steam	Tons	466,328	459,544	475,252
	Million Megajoule	1,301	1,292	1,338

Guidelines and targets for fuel and energy utilization

Factors to Consider	Operational Guidelines	2024 Target	Performance in 2024
Designing of combustion system	<ul style="list-style-type: none"> ✓ Design and opt for technology with highest combustion efficiency for the most efficient fuel utilization 	<p>Each power plant's heat rate meets their specified levels.</p> <ul style="list-style-type: none"> • Average heat rate target of IPPs: 6,885 Btu/kWh) • Average heat rate target of SPPs: 7,684 Btu/kWh) 	<p>Heat rates met the power plants' specified levels.</p> <ul style="list-style-type: none"> • IPP power plants' average heat rate was 6,879 Btu/kWh. • SPP power plants' average heat rate was 7,838 Btu/kWh.
Machinery/ Equipment readiness	<ul style="list-style-type: none"> ✓ Schedule maintenance as planned (major and minor overhaul), to maintain production efficiency for safety and efficient fuel utilization. ✓ Detect leakage of fuel storage tanks and transmission and keep maintenance schedules. 	<p>All power plants can maintain machinery/ equipment in line with the planned outage.</p>	<p>Maintenance works at all power plants in 2024 were carried out as planned.</p>
Production efficiency	<ul style="list-style-type: none"> ✓ Engage job operators and operation & maintenance service providers suppliers in the creation and development of energy/fuel-saving solutions for enhanced production efficiency. 	<p>All power plants can meet their targets on the reduction of energy/fuel utilization.</p>	<p>All power plants met their targets in enhancing production efficiency through the reduction in energy/fuel utilization (100%). Average production efficiency is at 43.67–67.34%. (Details in Climate Action Section)</p>

7 IPPs and SPPs

with 5,118 MW
in combined capacity



✓ Reduced heat consumption:

80,768 MMBTU

✓ Reduced electricity

consumption: 2,207 MWh



Cost savings after improvements
to production process

Total: 17,727,597
Baht



Environmental Quality Management

In 2024, RATCH integrated the Environmental and Social Management System into the operations, for power business and others. The system starts in the project designing stage through the selection of efficient and eco-friendly technology and machinery/equipment. In the construction stage, risks are considered along with control measures relating to the production (generation), maintenance for stable operations, and installation of environmental monitoring systems to meet safety and environmental standards. ESMS will also be exercised when power plants are decommissioned upon the expiration of power purchase agreements, to restore the site to a condition as good as nearby areas.

RATCH's ESMS also supports two UN Sustainable Development Goals which are SDG 12: Responsible Consumption and Production (Target 12.5: Substantially reduce waste generation through prevention, reduction, recycling, and reuse), and SDG 13: Take urgent action to combat climate change and its impacts (Target 13.1 Strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries).

Environmental management framework



In 2024, the Company Group's 7 fossil fuel-based IPPs and SPPs, with 5,118 MW in equity capacity or 45.2% of total equity capacity (62.05% of total revenue in 2024), strictly complied with legal and other requirements including the prevention/correction and environmental quality monitoring measures prescribed in the EIA/EHIA reports. RATCH thus received no complaint or was liable to penalties from non-compliance with or violation of environmental laws.

Environmental quality management guidelines

Environmental quality management guidelines				
Air	Water	Noise	Waste	Biodiversity
Impacts : Pollutants and air pollution affecting community and the environment	Impacts : Changing water quality at discharge points	Impacts : Loud noise activities affect workers and neighboring community	Impacts : Contamination of pollutants in air, soil and water from waste disposal particularly landfill	Impacts : Changes in land use/ecosystems, air and water pollutants, as well as noise and vibration affect the living beings' livelihood, food sources and habitats
Measures to prevent and mitigate impacts on the environment and community				
<ul style="list-style-type: none"> • Install burners like Dry Low NO_x to control nitrogen oxide. • Install Flue Gas Desulfurization (FGD) at power plants using fuel oil. • Install demineralized water injection to reduce nitrogen 	<ul style="list-style-type: none"> • Install water improvement and treatment systems for particular types of waste water. • Ensure the quality of treated water exceed legal requirements prior to discharge. • Reuse treated water. 	<ul style="list-style-type: none"> • Install noise-reduction devices at the source. • Grow trees or install noise barriers around the premises. • Place warning signs and provide job operators personal protection equipment. • Set working hours for the tasks in loud-noise areas. • Prepare a notification letter to inform community of upcoming activities that generate loud noise. 	<ul style="list-style-type: none"> • Minimize waste volume. • Reuse or recycle waste. • Dispose waste as required by law. • Minimize waste to landfill, to prevent soil and water contamination and impacts on the food chain. 	<ul style="list-style-type: none"> • Implement the measures specified in EIA reports and Biodiversity Action Plan to prevent and mitigate environmental impacts related to air/water quality, noise and land use. • Maintain the sites in the original condition/adjust site surrounding to near original condition. • Increase green areas and preserve the habitats in and around the site.

Environmental quality management guidelines				
Air	Water	Noise	Waste	Biodiversity
Environmental quality monitoring measures				
<ul style="list-style-type: none"> Install Continuous Emission Monitoring System at stack. Install monitoring systems or devices to examine ambient air quality in surrounding community areas. 	<ul style="list-style-type: none"> Install an online water quality monitoring system and monitor the quality of effluent consistently. Monitor the water quality at discharge points, above and below, consistently. 	<ul style="list-style-type: none"> Measure average noise level and maximum level as specified in EIA at work premises and nearby community areas. Measure daily cumulative noise exposure of job operators working in loud-noise areas. 	<ul style="list-style-type: none"> Ensure disposal method and waste volume for disposal of waste are in line with the permit. Conduct a random check on waste processors to inspect if the disposal meets the specified method and conditions. 	<ul style="list-style-type: none"> Monitor the sum of species and quantity of plants and terrestrial/aquatic creatures, including wild animals, plankton and benthos, as required by EIA. Assess the impacts, changes or similarities of the species and their population.
Operational goals				
<ul style="list-style-type: none"> Acting in compliance with legal and relevant requirements. Environmental quality – air pollutants, water and noise from the production process – is better than regulatory requirements. Recover as much waste as possible and avoid landfill for hazardous waste disposal. No complaint from stakeholders and no penalties from regulatory non-compliance. 				

Performance in 2024

All power plants' operations were in line with the environmental impact prevention and mitigation measures and environmental quality monitoring measures related to the quality of water, air, noise and waste. Their performance even exceeded legal and other requirements, in line with the goals.

Air quality

Air quality at stack of Thailand-based power plants

All 7 power plants in Thailand under RATCH's operating control (contributing 62.05% of total revenue) consistently measured combustion-related pollutants via the Continuous Emission Monitoring Systems (CEMS) or the collection of random samples from stack for pollutant measurement. In 2024, the pollutants at all power plants remained within permissible levels and in line with targets. CEMS are inspected for their accuracy by external verifiers on an annual basis, to affirm the accuracy and reliability of reports submitted to the governing or regulatory body.

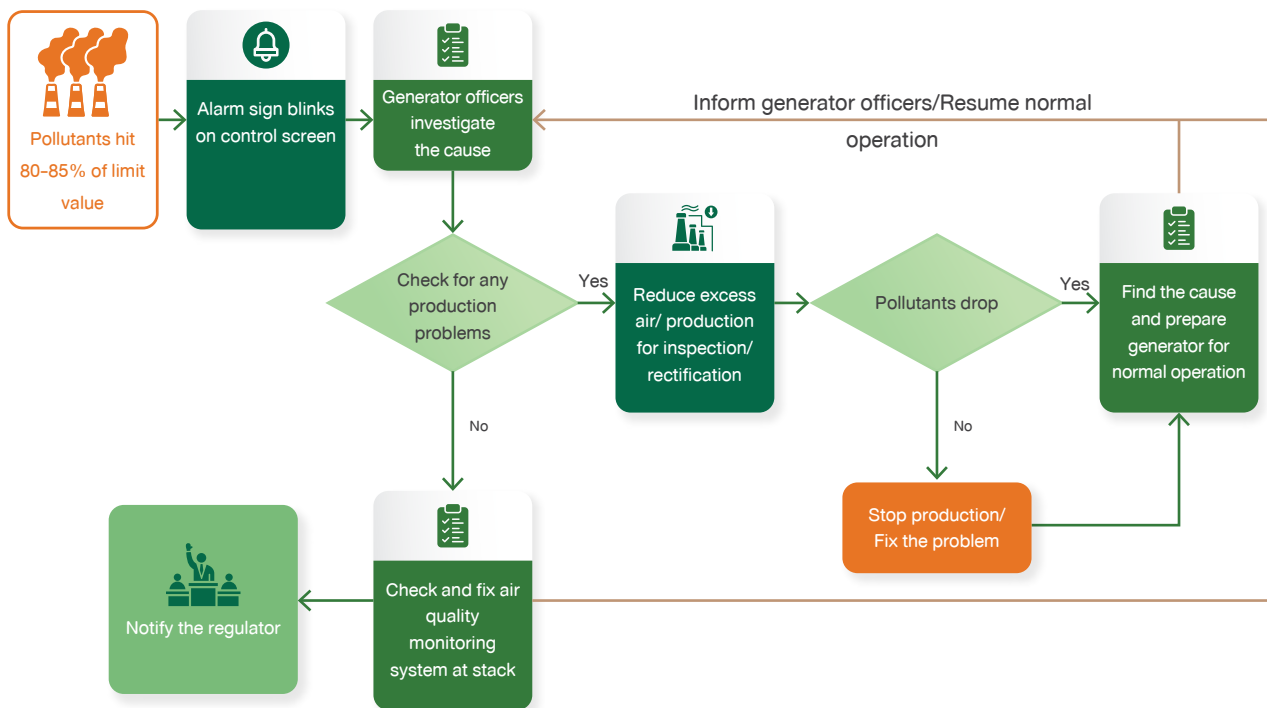
Power Plant	Average concentration of pollutants from combustion				
	NO _x (ppm)		SO ₂ (ppm)		Secondary fuel
	Natural gas	Fuel oil	Natural gas	Fuel oil	
Ratchaburi Thermal	Reserved shutdown				Bunker oil
Ratchaburi Combine Cycle	33.70	–	2.72	–	Diesel oil
Target (below legal limits) *	120	180	20	320	–
Hinkong Unit 1	45.33	0	0.59	0	Diesel oil
Target (not exceeding EIA-specified limits)	59	99	10	20	–
Berkprai Cogeneration	34.29	–	<0.1	–	None
RATCH Cogeneration	42.01	–	<1	–	None
Nava Nakorn Electricity Generating	24.79	–	0.67	–	None
RATCH Energy Rayong	37.82	–	0.51	–	None
Target (not exceeding EIA-specified limits)	60	–	10	–	–
RATCH Pathana Energy HRSG4#	58.77	–	0.57	–	None
Target (not exceeding EIA-specified limits)	108	–	18	–	–
RATCH Pathana Energy HRSG5#	20.54	–	0.36	–	None
Target (not exceeding EIA-specified limits)	90	–	15	–	–
RATCH Pathana Energy HRSG6#	41.78	–	0.34	–	None
Target (not exceeding EIA-specified limits)	60	–	10	–	–

Note: * Standard limits as in the B.E. 2547 Notification of Ministry of Industry on the limit of air pollutants emitted by power-generating, transmission or distribution plants.

Continuous Emission Monitoring Systems (CEMS)

The power plants place a warning system to alert all involved when reported pollutants at stack hit 80–85% (High Alarm) or 95% (High High Alarm) of standard limits. The alarm sign will blink on control screens and controllers promptly check the production process and the monitoring system's accuracy. Irregularities will be fixed as soon as possible while the regulator and relevant offices are notified of the incident. If the irregularities remain, the power plants will reduce production or eventually stop production until the situation returns to normal.

Warning system



Ambient air quality monitoring in community

In 2024, all the 7 power plants monitored the ambient air quality at monitoring stations located in neighboring community, during the seasonal periods as specified in EIA or EHIA. At Ratchaburi Power Plant, given its large size, the Ambient Air Quality Monitoring Systems (AAQMs) is installed at 4 locations around the power plant for 24-hour continuous measurement. monitoring. AAQMs were tested for efficiency and accuracy every year by external inspectors.

The power plant's result of air quality monitoring	24-hour average			1-hour average		
	"Total" suspended particulate ($\mu\text{g}/\text{m}^3$)	Particulate matter smaller than 10 microns ($\mu\text{g}/\text{m}^3$)	SO ₂ (ppb)	SO ₂ (ppb)	NO ₂ (ppb)	O ₃ (ppb)
Ratchaburi	9-132	8-122	0-6	0-8	0-41	0-138
Hinkong Unit 1	17-100	5-46	4-5	4-6	3-12	Not monitored
Berkprai Cogeneration	21-84	7-50	0.8-4.2	0.1-5.5	1.5-19.8	Not monitored
RATCH Cogeneration	33-154	13-94	2.6-4.8	1.6-6.3	11.9-24.7	13.9-29.8
Nava Nakorn Generating	14-213	8-116	1.2-6.4	0-7.2	0.7-27	Not monitored
RATCH Energy Rayong	19-89	9-44	<1-9.9	<1-24	<1-19.6	Not monitored
RATCH Pathana Energy	32-433	19-167	<1-68	1-68	1-38	Not monitored
Target (below legal limits*)	330	120	120	300	170	100

Note: $\mu\text{g}/\text{m}^3$ = microgram per cubic meter, ppb = part per billion

* Standard levels in line with the Notifications of National Environment Board, No.21, No. 24, No. 28 and No.33

The monitoring in 2024 showed the ambient air quality at all power plants and nearby community stayed within standard limits. Only Ratchaburi Power Plant experienced recurrence of above-limit atmospheric ozone level and particulate matter, 10 micrometers in diameter or less (PM10), upwind and downwind directions, in the dry season only once at a single station during February. In addition, on top of EIA measures, Ratchaburi Power Plant and its environmental consultant jointly measures PM2.5 at the monitoring station in Ban Chao Nua for 5 consecutive days, twice a year. The results were compared with the ambient air quality standard for PM2.5 prescribed in the Notification of the National Environmental Board B.E. 2565 (2022). The objective was to study and analyze the pattern that originated PM2.5, which satisfied the community's inquiry and served as the database for Ratchaburi's provincial authorities. For the ambient air quality monitoring of RATCH Pathana Energy power plant, the total dust and particulate matter smaller than 10 microns (PM10) at the Nong Phang Phuai community station was higher than standard levels due to road construction in the nearby area.

PM2.5 measurement (2024)		
Monitoring station	Date of measurement	PM _{2.5} (µg/m ³)
Ban Chao Nua (At air quality monitoring station)	27 May–1 June 2024	8–11
	16–21 December 2024	8–14
Standard limits per the Notification of the National Environmental Board B.E. 2565 (2022) on the ambient air quality standard for PM2.5		No more than 37.5

Air quality at stack of Australia-based power plants

In 2024, two natural gas-fired power plants in Australia—the Townsville Power Plant in Queensland and the Kemerton Power Plant in Western Australia—operated intermittently. These plants only generate electricity during periods of high system demand or to support peak electricity requirements. Consequently, in compliance with environmental regulations, air quality monitoring at the stacks is conducted at specific intervals: every two years, every 4,000 operating hours for natural gas operations, and every five years for diesel firing operations. Continuous air quality monitoring is not required.

The Townsville Power Plant is scheduled for its next stack air quality monitoring in 2025. Similarly, the Kemerton Power Plant is scheduled for stack air quality monitoring for diesel operations in 2025 and natural gas operations by 2026.

Water quality

All power plants treat each type of wastewater as required before discharge to natural waterways or common treatment facilities (for power plants located in industrial estates/zones). The power plants with their own treatment facility and discharging water directly to natural waterways have wastewater treated in accordance with the types with methods including neutralization and air infiltration. About 80–90% of their wastewater exchange heat in the cooling system for a number of cycles, before going to the sedimentation ponds. The temperature is then lowered to meet legal standards and near natural condition before discharge.

Power plants' water management



IPPs

Ratchaburi Power Plant and Hin Kong Power Plant, RATCH's key assets (contributing 40.86% of total revenue in 2024), withdraw raw water from the Mae Klong River for power production.

Raw water goes under quality improvement before use and each type of wastewater is treated separately. Some of the wastewater is reused in the production process after treatment with the reverse osmosis process. Some is used to water trees and green areas.

Excess wastewater is discharged to waterways after its quality is treated to meet standards.

The quality of water at discharge points, above and below, are tested to watch out for any impacts from discharge and assure community of zero impacts on living organisms and public consumption.



SPPs

Most of RATCH's SPPs (contributing 21.18% of 2024 revenue) are located in industrial estates. Preliminary treatment process is in place, before the wastewater is discharged to the industrial estates' common treatment facilities/discharge systems.

Power plants prepare ponds or water tanks to store tap water/ raw water from suppliers and improve the water quality before internal use.

Parts of wastewater goes under the preliminary treatment process before discharge to industrial estates' common treatment facilities or transportation to other organizations for reuse. Wastewater from the cooling system goes to the estates' stabilization ponds for cooling and sedimentation before discharge.

The quality of water at discharge points, above and below, is tested to watch out for any impacts from discharge on living organisms and public consumption.

Results of wastewater quality measurement

Parameters	Unit	Power Plant							Standard (Target)		
		Ratchaburi ⁽¹⁾	Berkprai	Hinkong Unit 1	RATCH Cogeneration	Nava Nakorn	RATCH Energy Rayong	RATCH Pathana Energy	Department of Royal Irrigation's standard ⁽²⁾	Ministry of Industry's standard ⁽³⁾	MONRE's standard ⁽⁴⁾
Temperature	degree Celsius	30.4	28.1	31.0	31.0	30.4	30.6	32.9	Not exceeding 40 / (Not exceeding 33 only for Ratchaburi Power Plant)	Not exceeding 40	Not exceeding 40
pH	-	7.2	8.0	8.2	8.8	7.8	8.0	7.5	8.5-6.5	5.5-9.0	5.5-9.0
BOD	mg/liter	2.2	2.8	3.1	5.2	2.1	2.6	2.3	Not exceeding 20	Not exceeding 20	Not exceeding 20
COD	mg/liter	21.1	32.5	27.8	87.4	Not Monitored	48.7	40.5	Not exceeding 120	Not exceeding 120	Not exceeding 120
TDS	mg/liter	855	592	687	1,523	870	1,468	823	Not exceeding 1,300	Not exceeding 3,000	Not exceeding 3,000
Conductivity	Microsiemens /cm	1,088	976	1,045	2,775	380	2,142	1,120	Not exceeding 2,000	Unspecified	Unspecified

Note :BOD (Biochemical Oxygen Demand) means the amount of oxygen required to remove waste organic matter from water.

COD (Chemical Oxygen Demand) means the amount of oxygen necessary to chemically oxidize the organic substances in water.

TDS (Total Dissolved Solids) means the dissolved combined content in water.

⁽¹⁾ Wastewater quality of Ratchaburi Power Plant and Ratchaburi-Power Power Plant

⁽²⁾ Department of Royal Irrigation's standard, per Order No. 73/2554

⁽³⁾ Ministry of Industry's standard, per Notification on factory wastewater standard B.E. 2560

⁽⁴⁾ Ministry of Natural Resources and Environment's wastewater discharge standard

Ratio of outflows back to nature

The measurement of Total Dissolved Solid (TDS) in the effluent from 7 RATCH operational-controlled power plants against the 1,000 mg/liter benchmark of the ISO 14046's Environmental Management (Water Footprint – Principals, Requirement and Guidelines) showed effluent with TDS level not exceeding 1,000 mg/liter accounted for 84.13% and effluent with TDS level above 1,000 mg/liter 15.87%.

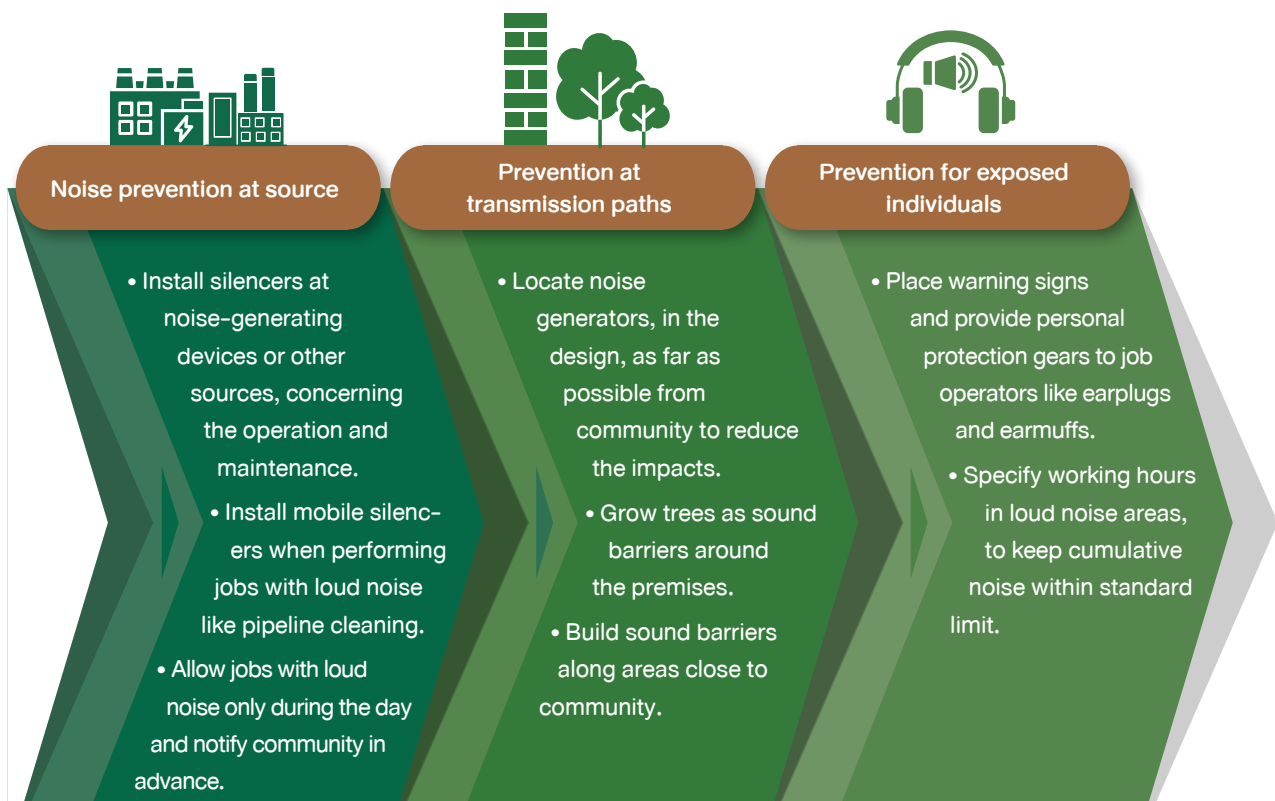
Effluent (based on TDS)	Inflows (cubic meters)	Outflows (cubic meters)
Effluent with TDS level not exceeding 1,000 mg/liter	15,963,826 (99.95%)	3,575,176 (84.13%)
Effluent with TDS level exceeding 1,000 mg/liter	8,000 (0.05%)	674,461 (15.87%)

Power plants' discharge volume

Power Plant	Discharge		Point of discharge
	cubic meters	%	
Ratchaburi	1,200,063	28.2	Khlong Bang Pa and subsequently to Mae Klong River
Berkprai Cogeneration	268,698	6.3	Mae Klong River
Hin Kong (Unit 1)	1,306,626	30.7	Mae Klong River
RATCH Cogeneration	193,013	4.5	Reused by other organizations
Nava Nakorn Generating	615,246	14.5	Nava Nakorn estate's water treatment facility
Ratch Energy Rayong	122,006	2.9	Khlong Chang Tai
Ratch Pathana Energy	543,986	12.8	Saha Pathana Group Industrial Park's water treatment facility
Total	4,249,637	100	-

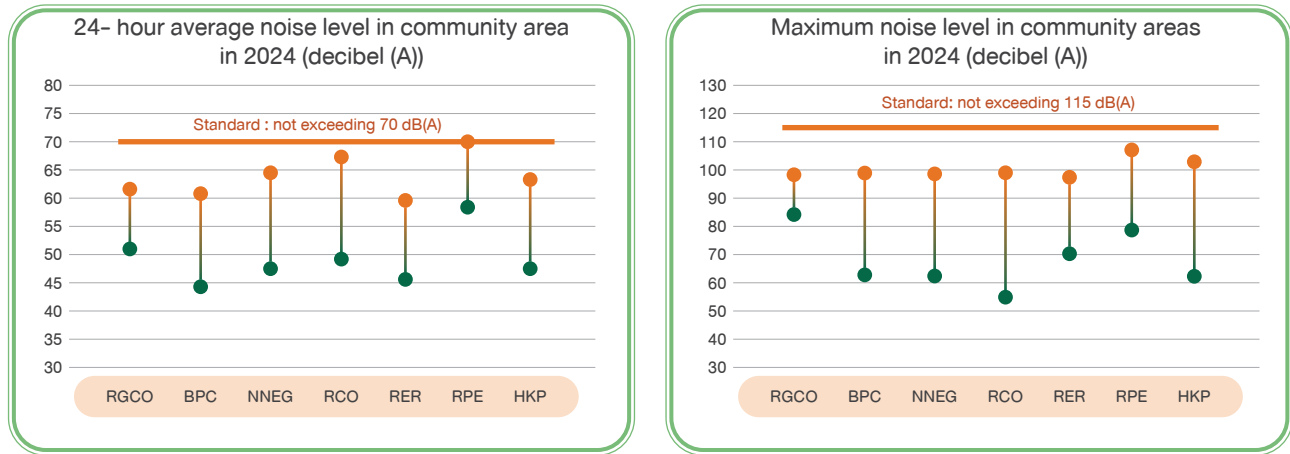
Noise management

Noise generated by construction works and the operations and maintenance of power plants may cause impacts on community and living organisms as well as job operators in the areas. All power plants are thus equipped with noise control systems or devices that reduce noise at source, aside from other prevention measures that depend on the project's conditions and the affected. The measures are set to deal with noise in 3 aspects: sources of noise, transmission paths and individuals exposed to the noise.



Results of noise level monitoring in 2024

All 7 RATCH operational-controlled power plants in Thailand (contributing 62.05% of total revenue in 2024) were able to control noise impacts in line with EIA measures. The average noise level and maximum noise level in 2024 at the power plants and in community were within standard limits and did not cause impacts on community.



Note : The standards of 24-hour average noise level and maximum level are specified in the No.15 Notification of the National Environmental Board B.E.2540 (1997).

Waste management

The 3R principles – Reduce, Reuse and Recycle – remained the heart of waste management, for both hazardous and non-hazardous waste from the production process, maintenance processes and office building activities. RATCH's goal is to achieve zero waste to landfill and targets were recently set to reduce the Company Group's non-hazardous waste.

Target and waste management guidelines

Targets		Waste management guidelines
Hazardous waste	Zero Hazardous Waste to Landfill	<ul style="list-style-type: none"> Prepare the list of resources/materials required for all maintenance works and the utilization plan, taking into account the necessity of all items in the all processes, to minimize waste (Reduce). Establish an efficient procedure to handle unused production materials, that emphasizes maximum reuse through repairing or recycling. Explore appropriate disposal methods with the priority given to the selection of waste processors keen in Reuse or Recycle; incinerate the rest with or without energy recovery; and avoid waste to landfills. Seek permission for the transportation of waste for disposal as required by law and follow up on until the disposal is completed.
Non-hazardous waste	<p><u>Songkhla Biomass Power Plant</u></p> <ul style="list-style-type: none"> Reduce rubber tree root waste to 5-10% from 20% of purchased biomass materials. <p><u>RATCH Group's</u></p> <ul style="list-style-type: none"> Ensure the volume of general waste does not exceed that of the base year (2023). 	

RATCH Group's waste is mostly non-hazardous and the rest is hazardous originated from scheduled power plant maintenance works which are a major overhaul every 6 years and minor maintenance of machinery/equipment every 1 or 2 years. The hazardous waste posts a challenge for power plants' annual waste reduction targets. The Group's power plants have applied various methods to prevent and mitigate impacts. Aside from the 3R principle, they opt for the disposal by authorized waste processors which demonstrate the methods that originate least impacts on the environment, soil, water and living organisms in the food chain. Waste processors are instructed to start with reuse like separating oil from contaminated water, and then recycle or recover for the production of other products; incinerate waste for energy or steam recovery; or burn the waste without energy recovery. The leftover hazardous waste that could not be disposed of by other methods will go to hazardous waste landfills while non-hazardous waste goes to sanitary landfills.

Thailand-based power plants' waste management

All power plants have obtained the permissions from the Department of Industrial Works, the Ministry of Industry, for the disposal of production waste inside the premises (e.g. for land filling/levelling and fertilization production) and the transportation of waste out of the premises for reuse or disposed of by other methods. The power plants monitor the process, from the transportation of waste to disposal plants until the processors file disposal reports to the Department of Industrial Works.

Results of power plants' waste management

In 2024, the 7 power plants that contributed 62.05% of annualized revenue recovered 2.11% of waste and disposed 97.89% of waste. In 2025, the Hin Kong Power Plant will repurpose sludge from the water treatment system for recovery operations instead of disposal operations. Details are as follows:

Method	Operation	Waste Volume (ton)		Total Volume (ton)	%
		Non-Hazardous	Hazardous		
Converting waste through recovery process (%2.11)	Reuse	0	0	0	-
	Recycle e.g. stationary waste (glass, paper, plastic)	6.25	20.85	27.10	1.03
	Other Recovery Operations e.g. rubble from construction work, used lubricating oil	22.44	6.99	29.43	1.10
Waste disposal (97.89%)	Incineration with Energy Recovery e.g. oil-contaminated rags	0.60	25.76	26.36	0.99
	Incineration without Energy Recovery e.g. oil-contaminated waste	0	27.39	27.39	1.02
	Landfilling e.g. water treatment sludge	2,224.74	37.57	2,262.31	84.62
	Other Disposal Operationse.g. sludge	17.85	283.02	300.87	11.25

Waste management at Songkhla Biomass Power Plant and RATCH Group

Songkhla Biomass Power Plant: Recovering tree roots for power generation

Operational method

Improve the rubber root-separating sieves in collaboration with suppliers, during the preparation of raw materials for the production process.

Objective

To reduce rubber tree root waste and the disposal expenses for unwanted materials (roots and dirt)

Target

Reduce rubber tree root waste from 20% to 5-10% of total purchased rubber tree root

Results in 2024

- Recovering 134,780 kgs of roots (2.5% per 2 months) or 15% per year of waste for the production. However, the suppliers are in the process of further improving the efficiency of the screening equipment.
- Reducing production waste, disposal expenses, and greenhouse gas emissions originated from transportation and disposal

RATCH Group: Reducing office waste

Operational method

- Campaign for reusable or personal cups when buying beverages.
- Separate food waste for fertilization.
- Separate dry leaves and tree branches for bio-extract making.
- Sort waste for the recycling process through quarterly 5S activities and biannual Big Cleaning activity.

Results in 2024

General office waste for disposal by local disposal authorities totaled 18,524 kg or 61.7 kg per person (based on 300 job operators), which was above the base year 2023 due to an increase in waste from the building's refurbishments.

However, there were signs of progress as follows:

- Plastic cups decreased by 3,630 units (weighing 60 kilograms), which is equivalent to a reduction of 75.3 kgCO₂ in greenhouse gas emissions.
- Waste for recycling process increased by %12 of the total waste, with an increased proportion compared to the year 2023.

The Office Building's Environmental Management Working team analyzed the sources of office waste and outlined the guidelines to achieve the target in the following year.

Biodiversity Conservation

RATCH has outlined the operational guidelines for the development and construction of new projects or acquisitions. Under the Environmental and Social Management System (ESMS), it is compulsory to have all aspects of risks to biodiversity assessed as required by law and universal standards. In addition, RATCH has the policy not to invest in projects in areas that may pose adverse risks on World Heritage Site, historical sites, or areas that boast high biodiversity and habitats of endangered species, endemic species or near-extinction species, based on the International Union for Conservation of Nature (IUCN)'s Red Lists.

The following is the ESMS's biodiversity management procedure in the project development and construction stage:

1

Biodiversity screening

- Business development unit integrate biodiversity risk assessment into the project's environmental and social impact assessment (ESIA).
- Gathering data for the analysis of biodiversity sensitivity at the site including location, project size, and baseline biodiversity or existing species of living beings.
- Seeking legal advice if the location is a biodiversity-sensitive areas or the habitats of species on IUCN's Red Lists.

2

Biodiversity baseline study

- Business development unit appoints ecologists or ecology experts to prepare the biodiversity baseline study at the site: to obtain data on ecological characteristics, meteorological geographical features and others.
- Experts prepare the list of species significant to biodiversity in consultation with stakeholders like local community and local experts.
- Scheduling seasonal surveys at areas with high risks to biodiversity to monitor changes that may be subjected to seasonal changes or climate change while areas with medium risks may require an annual survey or a single season survey, to obtain baseline data for comparison.
- Applying data from previous ESIA as biodiversity baseline, to identify the risks from current operations.

3

Assessment of biodiversity impacts

- Assessing direct and indirect impacts from the project: e.g. dust; air/water pollution; and noise and vibration that may affect food sources and habitats or cause migration or a decrease in species or population density.
- Assessing the severity of impacts on each type of living organisms in the affected area, periods of time when impacts are felt, and restorability
- Assessing the impacts and determining if the project requires the Biodiversity Action Plan (BAP), prepared with universally-accepted and reliable tools or approaches like TNFD's LEAP, IBAT and WWF Biodiversity Risk Filter.

4

Biodiversity Action Plan (BAP)

- BAP is prepared for a project with high and possibly-uncontrollable impacts on biodiversity or when required by law or the licensing authority.
- BAP outlines the boundary of operations, work plans, objectives, targets and responsible persons. The plan requires the engagement of relevant stakeholders for suitability and completeness to encompass, for example, species, habitats or ecosystems to be preserved, species with possible population decrease, the emergence of invasive species, change/loss of habitats, and factors that may permanently damage the ecosystem and biodiversity.
- Identifying details of the operations and performance indicators for impact-mitigating measures and positive impacts based on the Mitigation Hierarchy's framework (Avoid, Reduce, Regenerate, Restore and Transform). The goals are to achieve No Net Loss (NNL) or Net Gain (NG) in biodiversity.
- Informing stakeholders and relevant parties of the results of biodiversity impact mitigation and conservation actions under BAP.

Monitoring of biodiversity management

The 19 power plants under RATCH's operational control (contributing 83.08% of annualized revenue) conducted the biodiversity impact assessment and found 8 projects showing biodiversity risks. Action plans have been prepared for implementation at the projects and neighboring areas.

Three projects were included in the scope of biodiversity reporting in 2024: 1) 770 MW Hin Kong Power Plant (Unit 1) in Ratchaburi province, located on a 188-rai or 30.2-hectare area; 2) Lincoln Gap Wind Farm in Australia covering 6,800 hectares; and 3) Snapper Point Power Station on a 27.3-hectare area in Australia. They were assessed for impacts on biodiversity and actions have been in place to monitor the impacts on aquatic and terrestrial beings as required by law.

The monitoring results in 2024 at all power plants yielded insignificant changes as all have fully complied with the rules and measures specified in EIA/EHIA and Biodiversity Action Plan (BAP).

Details	No. of plants (Site)	Area (hectare)
Combined operating area	19	31,866.7
Assessment of impacts on biodiversity	18	31,861.9
Areas showing impacts on biodiversity	8	30,768.1
Areas with biodiversity management plans	8	30,768.1

Biodiversity conservation at Thailand-based IPPs

Two independent power producer (IPP) power plants – Ratchaburi Power Plant and Hin Kong Power Plant which cover 2,015 rai (322.4 hectare) and 188 rai (30.2 hectare), respectively – have assessed the impacts in the construction and operational stages and devised prevention/mitigation measures. Details are as follows:

Ratchaburi Power Plant (322.4 hectare)	
Impact assessment	The operation affects wildlife's habitat and food sources, the ecosystem and aquatic living organisms. That concern six groups of living beings – birds, mammals, amphibians, reptiles, plankton (phytoplankton and zooplankton) and benthos.
Monitoring measures	Biannual surveys of wildlife population and species as well as the diversity index of living organisms in wastewater discharge site.
Monitoring results in 2024	<p><u>Wildlife</u></p> <p>The surveys found 109 species of wild animals and none of them was considered endangered species under the Wildlife Reservation and Protection Act B.E. 2562 (2019). Of total, 87 species were protected under the law. Details are as follows:</p> <ul style="list-style-type: none"> 6 mammal species 87 bird species, with 84 being protected mostly because of their natural beauty or their help in attacking agricultural pests. The protected species included <i>Dendrocygna javanica</i>, <i>Cypsiurus balasiensis</i>, <i>Acridotheres tristis</i>, <i>Dicaeum cruentatum</i>, <i>Ploceus philippinus</i>, and <i>Lonchura punctulate</i>.

Ratchaburi Power Plant (322.4 hectare)

Monitoring results in 2024

- 9 reptile species, with 3 being protected (*Calotes versicolor*, *Varanus salvator*, and *Ptyas korrs*).
- 7 amphibian species

Changes

In the year, wildlife species increased by 1 and bird species increased by 2, while amphibian species decreased by 1. In the 27-year monitoring period, few changes have been recorded. The wildlife still find the ecology desirable for their habitats, breeding, nesting and as a food source. Wildlife species was numbered in the range of 61–118 in the years, being visible at the site and surrounding areas when the conditions – like weather, season, land use pattern, quality and quantity of food, human interference – were favorable.

Wildlife classification by conservation status

- **By status of threatened wildlife in Thailand in 2020:** 109 species were classified threatened species.
 - **Near Threatened (NT):** 2 bird species which are *Athene brama* and *Ploceus manyar*.
 - **Vulnerable (VU):** 1 bird species (*Ardea purpurea*) and 1 mammal species (*Pteropus lylei*)
 - **Least Concern (LC):** 105 species are least concern species due to abundance in the wild and low risk of extinction (7 amphibian species, 9 reptile species, 84 bird species, and 5 mammal species).
 - None is considered endangered (EN) species.
- **International Union Conservation of Nature; IUCN (2024):** 109 species were classified
 - **Near Threatened (NT):** 1 species (*Ptyas korros*)
 - **Vulnerable (VU):** 1 species (*Pteropus lylei*)
 - **Least Concern:** 107 species (7 amphibian species, 8 reptile species, 87 bird species, and 5 mammal species)

Aquatic living beings

The 2 surveys on phytoplankton, zooplankton and benthos in Khlong Bang Pa (a point of Ratchaburi Power Plant's discharge) in January and July 2024 showed the diversity index of phytoplankton in the range of 2.55–2.70, zooplankton 1.45–1.74 and benthos 0.99–1.22. Compared with the Wilhm and Dorris biological parameters, this showed the water quality at the power plant's discharge point remained liveable. The only change concerned the diversity and density, which was unstable due to the unstable conditions of the waterways. The diversity and density also varies in different seasons.

Hin Kong Power Plant (30.21 hectare)

Impact assessment	<ul style="list-style-type: none"> ● Terrestrial biological resources <p>The operations will not cause loss of forest areas as the project is surrounded by agricultural land, urban areas and the military forest zone. During the construction stage, wildlife may be affected by noise and air pollution but in the operational stage, they can return to the surrounding areas for their habitats and a food source.</p> <ul style="list-style-type: none"> ● Aquatic biological resources <p>As the construction may lead to sediment discharge to waterways, earth bunds were constructed around the site to prevent the impact. In the operational stage, the quality of water discharge may affect aquatic biological resources like phytoplankton, zooplankton, benthos, aquatic animals and aquatic plants.</p>
Monitoring measures	The sum of species, density and diversity index of aquatic biological resources – phytoplankton, zooplankton, benthos, aquatic animals and aquatic plants – are monitored at the point of discharge, and 500 meters up and down, twice a year (during rainy and drought seasons).
Monitoring results	<p><u>Aquatic animals</u></p> <p>The diversity index of phytoplankton, zooplankton, benthos, and aquatic animals was quite similar. Compared with the Wilhm and Dorris biological parameters (1968), it showed the point of discharge remained liveable. An exception concerned benthos at the point of discharge, where the water quality was not liveable in some seasons (with diversity index below 1.0).</p>

Biodiversity conservation by Thailand-based SPPs

Power Plant	Significant impacts	Monitoring measures	Monitoring results in 2024
Berkprai Cogeneration Power Plant (Area: 8.6 hectare)	The release of wastewater from the production process to Mae Klong River may affect the ecosystem and living organisms in water – phytoplankton, zooplankton, benthos and aquatic plants.	Tracking biannually, in rainy and drought seasons, the sum of species, abundance, and density to calculate the biodiversity index of living organisms in water – phytoplankton, zooplankton, benthos, baby aquatic animals and fish eggs at the point of water withdrawal and discharge– 500 meters above the point of discharge, and 50, 500, 1,000 meters below the point of discharge.	<ul style="list-style-type: none"> ● In May and October, surveys were conducted to find the sum of species, abundance, and the diversity index of phytoplankton, zooplankton, benthos, baby aquatic animals and fish eggs at points of water withdrawal and discharge. ● The surveys showed quite similar diversity index of phytoplankton, zooplankton, and benthos and low density of fish eggs.

Power Plant	Significant impacts	Monitoring measures	Monitoring results in 2024
NNEG Power Plant and the Expansion (Area: 6.9 hectare)	<p>The release of wastewater from the production process to Khlong Chiang Rak Noi may affect the ecosystem and living organisms in water – phytoplankton, zooplankton, benthos, fish eggs and baby fish, if the water treatment does not meet required standards.</p>	<p>Tracking biannually the sum of species, abundance, and density to calculate the biodiversity index of living organisms in Khlong Chiang Rak Noi. As additional measures, the power plant has dredged and collected waste in the canal, to restore the water quality; and released fish to increase the varieties in collaboration with communities and relevant offices since 2017.</p>	<ul style="list-style-type: none"> • In April and November, surveys were conducted to find the diversity index of phytoplankton, zooplankton, and benthos and the density of fish eggs and baby fish in Khlong Chiang Rak Noi, a wastewater receiving area of Nava Nakorn Industrial Zone, at the point of discharge, above and below. • The surveys found the diversity index of phytoplankton, zooplankton, and benthos and the density of fish eggs and baby fish was similar at all points, depending on water quality in each season.
RATCH Cogeneration Power Plant (Area: 8.1 hectare)	<p>The operation does not cause impacts on the ecosystem and biodiversity as the project is located in a city area and treated wastewater is transported to other organizations for reuse.</p>	Not specified	Not specified
RATCH Energy Rayong Power Plant (Area: 4.6 hectare)	<p>The assessment of impacts on the environment and biodiversity showed no risks or impacts on living beings.</p>	Not specified	Not specified

Biodiversity conservation at renewable power plants abroad

Power Plant	Significant impacts	Points to monitor	Monitoring results
Collinsville Solar Farm (Area: 70.9 hectare)	<p>The impact assessment on environment and biodiversity caused of its operation showed no risks or impact on living beings.</p>	Not specified	Not specified

Power Plant	Significant impacts	Points to monitor	Monitoring results
Mt. Emerald Wind Farm (Area: 2,400 hectare)	The construction and operational phases can affect the animal habitats, abundance and species.	Tracking the sum and variety of native animals, once a year for birds and bats and twice a year for quolls, at 5 sampling locations (including 2 locations at the project site)	The surveys in 2024 showed the number of birds, bats and quolls was similar and unaffected by the operations.
Yandin Wind Farm (Area: 15,000 hectare)	The construction and operation cause impacts on living beings, such as native fauna or birds that may collide with wind turbines, cables or maintenance vehicles.	Tracking the sum of species and variety of native birds and plants every 2 years.	The survey found no carcasses and no incident of birds colliding with wind turbines.
Collector Wind Farm (Area: 6,200 hectare)	The construction and operations cause impacts on plants, animals, forest land and pastures.	Tracking the sum and species of birds and bats annually and surveying animal carcasses on a monthly basis.	The survey found carcasses of birds at the sampling locations, but they are not protected or rare species.
Lincoln Gap Wind Farm (1-2-3) (Area: 6,800 hectare)	The construction and operations cause impacts on plants, animals, forest land and pastures.	Tracking the sum and species of birds and bats annually.	The survey results in 2024 were similar to those in 2023, and birds and bats were unaffected by the operations.
Snapper Point Power Station (Area: 27.3 hectare)	The assessment of impacts from the operations showed no risks or impacts on living beings.	Not specified	Not specified
Asahan-1 Hydroelectric Power Plant (Area: 40.9 hectare)	The construction and operations cause impacts on plants, forest land and wildlife habitats.	The project does not specify the points for monitoring but rather sets to restore forest land to substitute the loss of forests due to the project development.	In 2024, trees were planted around the Lake Toba catchment area in Toba, North Sumatra, to restore forests and ecosystem affected by the project development.

Respect for Human Rights



RATCH, as a good corporate citizen, respects human rights in its business operations and work processes, adopting the UN Guiding Principles on Business and Human Rights (UNGPs) as the operational framework for the interactions with stakeholders including employees, community and suppliers as well as the provision of favorable work environment and safety. The Board of Directors in 2022 endorsed the Human Rights Policy and enforced it on 30 June 2022. The Human Rights Due Diligence was subsequently conducted by external experts to assess human rights risks and impacts, reporting and information disclosure.

In addition, human rights are a significant part of RATCH's sustainability strategy and the ultimate goal is the entire enterprise, including subsidiaries, affiliates and joint ventures, reports zero violation of human rights by 2030.



Human Rights Policy

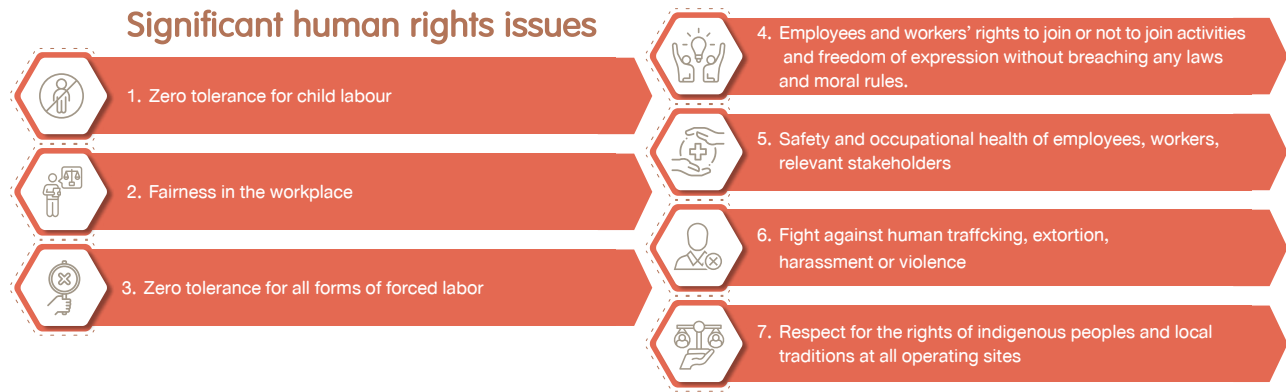
In 2024, RATCH reviewed the completeness of the Human Rights Policy, enforced in 2022 and written in line with the UNGPs and Declaration of Human Rights (UDHR), International Labor Organization's Declaration on Fundamental Principles and Rights at Work, and relevant national laws. The review showed the policy entailed all significant issues and remained suitable to the Company's business context. At the meeting No. 14/2024 on 19 December 2024, the Board of Directors approved the review of the policy and enforcement of the 2022 policy which was still in line with UNGP. The Human Rights Policy shapes RATCH's practices towards employees, stakeholders in the supply chain and community. RATCH also expects its joint ventures, business partners and suppliers at home and abroad demonstrate their respect for human rights in all work processes.



Human Rights Policy

Significant human rights issues

RATCH is committed to responsible operations and human rights principles. Proactive measures are in place to prevent violations of human rights, along with mitigation measures to deal with violation incidents and handle the affected with care. RATCH has identified the human rights issues significant to the Company's business context and all are contained in the Human Rights Policy for concrete implementation.



Human Rights Due Diligence (HRDD)

Under RATCH's Human Rights Policy, the Human Rights Due Diligence (HRDD) is compulsory every 3 years. Conducted in line with the UNGPs, the process is to identify human rights risks and impacts.

As a holding company with equity holdings in power-related subsidiaries and joint ventures, the process in 2022 entailed all subsidiaries and joint ventures, and the employee-related human rights impacts in 2023 covered RATCH and businesses under the Company's operational control. The human rights risk and impact assessments were conducted by the external expert.





Human Rights
Due Diligence

Human rights risk management and prevention

The risk assessment found that a human rights issue significant to RATCH, subsidiaries and joint ventures concerns the health condition and safety of community, employees and suppliers. All entities showing the risk have properly established and exercised prevention and control measures. The actions implemented in 2024 can be summarized as follows:

Actions implemented in 2024

Rights holders of RATCH Cogeneration Power Plant	
Suppliers/Contractors	Community
<ul style="list-style-type: none"> • Safety training for suppliers/contractors and sub-contractors prior to the start of work • Make requirements on work permission, PPE and work environment. 	<p>Establishment of the Community Engagement Committee (involving public and civic sectors) as a stage for joint discussion with community and relevant stakeholders.</p>
	

Rights holders of Ratchaburi Power Plant

Community

- “Mobile Clinic” to offer medical treatment and healthcare consulting services to 9 communities around the power plants, with a total of 2,727 people receiving services.
- Educational training for 4 schools in 4 districts located around the power plant about the emergency response plan prepared through a participatory process and participation in the drill.
- Community members were engaged with the exercise of the emergency response plan. For example, allowing the municipal fire brigade from the area near the power plant to participate in Level 3 emergency response drills and allowing community representatives to observe the exercises.



Suppliers' employees

Apply the Stop Work Authority and Lock-out/Tag-out (LOTO) with suppliers' works, particularly in maintenance that involves many of suppliers' employees.



Human rights issues under Environmental and Social Management System

In 2024, RATCH kicked off the Environmental and Social Management System (ESMS) as a tool in managing possible human rights risks from the operations of the Company, subsidiaries and joint ventures and impacts. Human rights issues have been clearly incorporated into the ESMS manual and guidelines, for convenience of use. Most human rights issues are included in the risk assessment process.

In 2024, RATCH organized a training course for relevant offices about the ESMS manual and 13 key work procedures.



Management of employee-related human rights aspects

The assessment of human rights risks on the employees of RATCH and controlled business entities in 2023 showed the low level of risks in all aspects; work environment, occupational health and work safety, freedom of association and collective bargaining, discrimination and intimidation, and illegal workforce. Nevertheless, RATCH took employees' recommendations into consideration and outlined additional actions aside from the prescribed prevention and control measures. The actions implemented in 2024 are summarized below:

Recommendations	Continuous communications on the Human Rights Policy and guidelines through communication channels for employees' engagement in the prevention of internal violation
Actions in 2024	<ul style="list-style-type: none"> Communicated the Human Rights Policy to the employees of 3 operational controlled business entities in Thailand and 3 in Lao PDR via meetings, talks and discussions, to ensure their understanding in the Company Group's human rights and sustainability operations for their cooperation in preventing violations across the supply chain of each entity. Increased communications frequency and channels in additional languages to reach employees at all operating sites, to ensure the understanding in the same direction among the Company Group's employees. Organized an employee training on human rights, attended by 24 participants, focusing on basic knowledge about international human rights principles, the UN Guiding Principles on Business and Human Rights (UNGPs), and the integration of human rights management into the operations. The post-training evaluation showed 27.27% demonstrated the highest level of increased knowledge and understanding and 54.55% gained a high level, and 18.18% exhibited a moderate level.
Recommendations	Inspection of work condition; and review of pay, compensation and welfare for more fairness and suitability to each employee's job description/performance as well as continuous increases in the cost of living
Actions in 2024	<ul style="list-style-type: none"> Reviewed and adjusted welfare, ensuring it was equitable, fair and suitable to each employee's job description/performance and the current cost of living. <ol style="list-style-type: none"> Increased the annual leave for employees with more than 10 years of working period from 10 days to 15 days and the rights to forward unused annual leave to the next year. Cumulative annual leave is capped at 20 days. Raised the allowance by THB 5,000 for dental care, eye care, vaccination, traditional Thai medicine/alternative medicine treatment, and treatments for mental illnesses for employees at all levels. Adjusted the performance evaluation criteria for employees in the Vice President level and lower. To make them fairer to all despite different lines of command and job descriptions, the criteria give scores according to their responsibilities at the enterprise, function, department, division, individual levels, as well as their engagement and behaviors.
Recommendations	Safety culture for employees' awareness and strict compliance with the Company's safety and occupational health policy as well as safety measures
Actions in 2024	<ul style="list-style-type: none"> Repeatedly emphasized the inspection of machinery/ equipment and personal protection equipment (PPE) prior to the start of work, to maintain them in good and ready-to-use condition and make a change in due time, as accidents are mostly caused by negligence. Made safety one of the employee performance evaluation indicators. Consistently organized safety training for all employees across the organization and increased the intensity and frequency for job operators with high-risk jobs or working in risk areas.



Recommendations

Non-discriminatory treatment, fight against harassment, the diversity policy, the communications of complaint channels to all employees and assurance of complainant protection and fair investigation/correction of complaints

Actions in 2024

- Communicated the complaint channels to all employees as well as the complainant protection measures as prescribed in the Code of Conduct.
- Allowed complainants to remain anonymous to ease their concerns about negative impacts.
- Improved the complaint-handling procedure in the Code of Conduct and reviewed the Company's regulations. All employees shall study and understand them and sign their acknowledgements.

Recommendations

Protection of employees from the repercussions of exercising their freedom of association and collective bargaining and from employment of illegal labor


Actions in 2024

- Encouraged voluntary association through various activities like sports and music clubs.
- Allowed employee to submit their recommendations on welfare improvement through the Welfare Committee's employee representatives, so that the recommendations are tabled for further discussion and negotiation with the employer's representatives for a better quality of life and a happy and safe work environment.



Complaint channel

RATCH has established a complaint and whistleblowing channel for stakeholders/rights-holders' reports of suspected human rights violations or non-compliance with the Human Rights Policy. Complaint receivers are as follows:

Receiver	E-mail	By post	Website
Chairman/Directors	directors@ratch.co.th	Name of recipient RATCH GROUP PCL. 72 Ngam Wong Wan Rd., Bangkhen, Muang Nonthaburi, Nonthaburi, 11000 Thailand	Complaint form https://www.ratch.co.th/en/anti-corruption-whistle-blowing/whistleblowing-channel 
Independent Directors	id@ratch.co.th		
Audit Committee	ac@ratch.co.th		
Chief Executive Officer	ceo@ratch.co.th		
Head of Internal Audit Department	internalaudit@ratch.co.th		
Immediate supervisors	For employee		

The reporter/complainant shall be entitled to protection and justice for filing useful information or clues as specified in the Code of Conduct. The reporter/complainant can opt for anonymity, if considering the report/complaint may harm his/her safety or cause any damage.

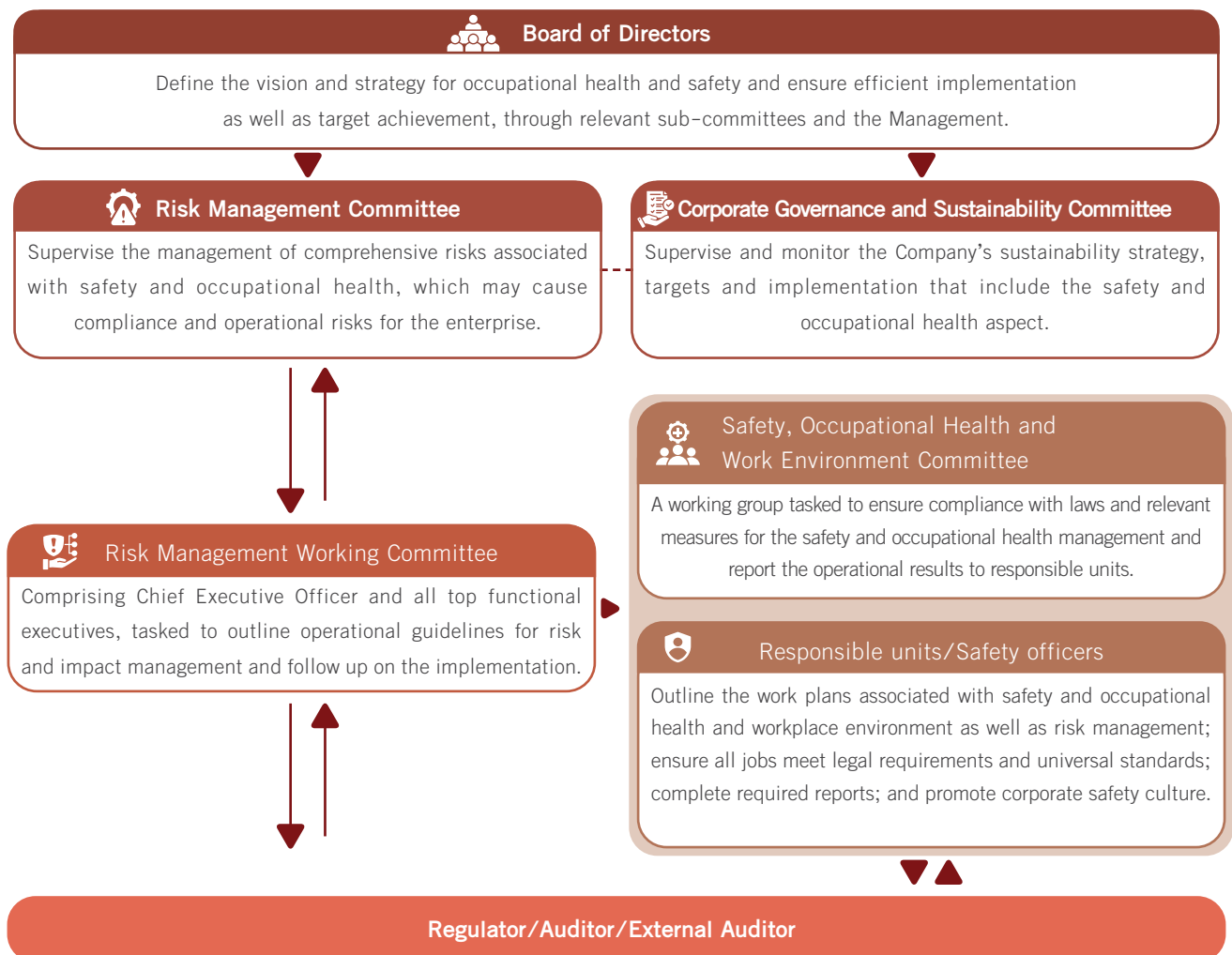
In 2024, RATCH and all entities under operational control did not receive any complaint nor witnessed any violation incident.

Safety and Occupational Health



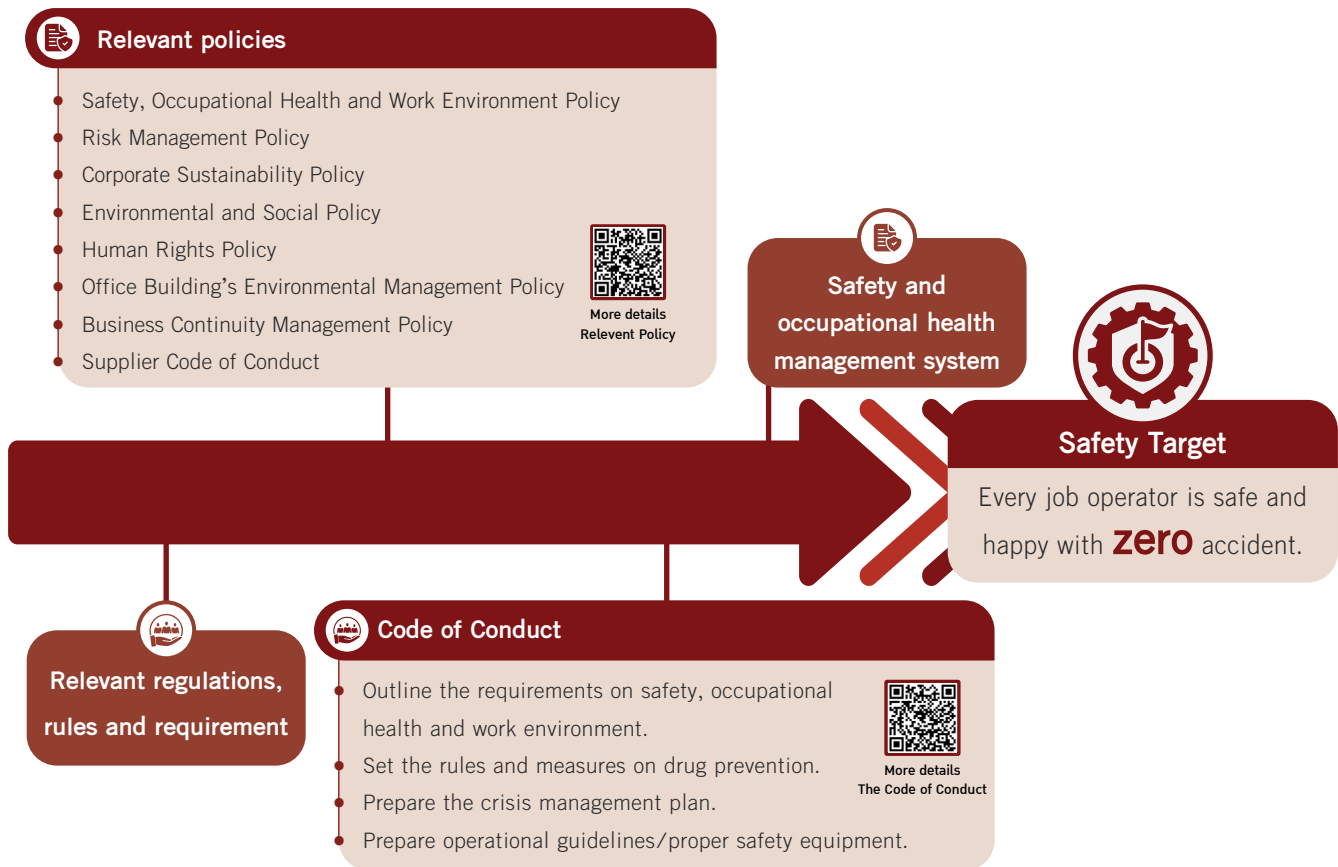
RATCH sets the zero-accident target for all work process across all business entities it invests in. Leading it towards the goal are the operational and supervisory framework formulated in line with legal principles and human rights principles. While exercising the safety framework and imposing it on contractors and sub-contractors, the Company also ensures the provision of hygienic and safe workplace environment.

Supervision structure of Safety and occupational health management



Safety and occupational health guidelines

RATCH and all business entities under its operational control have established the safety and occupational health management framework chiefly in line with job complexity and risks. The guidelines, requirements, work plans and standards associated with this issue are as follows:



Ratchaburi Electricity Generating Co., Ltd. and Ratch Pathana Energy PCL., which contribute 47.4% of revenue, have applied the Occupational health and safety management systems (ISO 45001) in their operations.

Safety targets and performance in 2024

RATCH and the entities under operational control (generating 84.64% of revenue) have identified the following targets to ensure the efficiency of safety operations:

Target	Safety Performance
RATCH Group PCL	
Zero accident	<ul style="list-style-type: none"> • No lost-time injury • 1 accident without lost time <ul style="list-style-type: none"> ◦ Investigated the incident's cause and provided personal protective equipment (PPE) suited for working conditions, as well as enhance precaution measure to prevent recurrence.

Target	Safety Performance
Ratchaburi Electricity Generating Co., Ltd. (RGC)	
<ul style="list-style-type: none"> • Zero accident • Total Injury Frequency Rate (TIFR) ≤ 1.5 • Zero fire damage and zero fatalities 	<ul style="list-style-type: none"> • No lost-time injury • No fire incident occurred • 1 accident without lost time <ul style="list-style-type: none"> ◦ Conducted risk assessment of new jobs and set safety measures, together with communicating the measures to job operators.
Ratch Cogeneration Co., Ltd. (RCO)	
<ul style="list-style-type: none"> • Total Injury Frequency Rate (TIFR) ≤ 1 • No fatal accidents • No fires that cause a complete halt to production 	<ul style="list-style-type: none"> • No work-related accident (TIFR = 0) • No fire incident occurred
Ratch Energy Rayong Co., Ltd. (RER)	
Zero accident	<ul style="list-style-type: none"> • No work-related accident • Conducted job risk assessment and set safety measures before work start • Employees were well aware of work safety
Ratch Pathana Energy PCL. (RPE)	
<ul style="list-style-type: none"> • No fatal accidents • Occupational Injury Frequency Rate (OIFR) = 0 • Lost-time Injury Frequency Rate (LTIFR) = 0 • No accidents causing property damage exceeding THB 50,000 	<ul style="list-style-type: none"> • No fatal accidents • Occupational Injury Frequency Rate (OIFR) = 0 • Lost-time Injury Frequency Rate (LTIFR) = 0 • 2 accidents without lost time <ul style="list-style-type: none"> ◦ Changed work process and strictly controlled job operators' use of personal protective equipment and fully complied to specified work procedures ◦ Provide specific equipment for job operators handling risky jobs and trained them how to use it properly to ensure safe working • 1 accident that caused property damage exceeding THB 50,000. <ul style="list-style-type: none"> ◦ Investigated causes of the accident and improved working area safety, together with encouraging workers paying more attention to work safety and prevention of repetitive incident.
Nava Nakorn Electricity Generating Co., Ltd. (NNEG)	
<ul style="list-style-type: none"> • Zero accident • Safety management is complied with relevant laws and regulations 	<ul style="list-style-type: none"> • 1 accident without lost time <ul style="list-style-type: none"> ◦ Investigated cause of the incident and improve workplace safety by installing anti-slip devices on walkways and posting warning signs to alert job operators and prevent repetitive accident.
Berkprai Cogeneration Co., Ltd. (BPC)	
Zero accident	No work-related accident
Fareast Renewable Development Pte. Ltd. (Asahan-1)	
Zero accident	No work-related accident

Target	Safety Performance
Songkhla Biomass Co., Ltd. (SKB)	
<ul style="list-style-type: none"> Zero incidence of work stoppage lasting three or more consecutive days Zero incidence of disability or death No property damage accidents exceed 1 million baht per year 	<ul style="list-style-type: none"> No work-related accident No accidents causing property damage
Hin Kong Power Co., Ltd. (HKP)	
Zero accident	No work-related accident
Solarta Co., Ltd. (SLT)	
Zero accident	No work-related accident
Ratch-Australia Corporation Pty Ltd (RAC)	
Zero accident	No work-related accident
Asia Water Co., Ltd. (AWC)	
Zero accident	No work-related accident
Ratch-Lao Services Co., Ltd. (RL)	
Zero accident	No work-related accident

Hours worked and accident statistics

Power Plant/ Office	No. of operators (person)			No. of hours worked (hours)			Fatality Rate*		Lost Time Injury Frequency Rate* (LTIFR)		Total Injury Frequency Rate* (TIFR)		Total Recordable Occupational Illness Rate* (TROIR)	
	Employee	Supplier	Total	Employee	Supplier	Total	Employee	Supplier	Employee	Supplier	Employee	Supplier	Employee	Supplier
RATCH	217	2,274	2,491	440,033	279,449	719,482	0	0	0	0	0.45	0	0	0
RGCO	45	578	623	162,044	1,295,538	1,457,582	0	0	0	0	0	0.15	0	0
RCO	21	47	68	38,234	164,091	202,325	0	0	0	0	0	0	0	0
RER	35	568	603	70,541	40,613	111,154	0	0	0	0	0	0	0	0
NNEG	35	1,111	1,146	163,360	1,091,999	1,255,359	0	0	0	0	1.22	0	0	0
BPC	20	50	70	34,208	167,008	201,216	0	0	0	0	0	0	0	0
RPE Group**	209	1,964	2,173	416,027	629,235	1,045,263	0	0	0	0	0.48	0.32	0	0
SKB	76	16	92	137,372	60,328	197,700	0	0	0	0	0	0	0	0
RL	222	-	222	536,859	-	536,859	0	0	0	0	0	0	0	0
HKP	23	63	86	29,968	313,800	343,768	0	0	0	0	0	0	0	0
SLT	3	63	66	5,622	210,352	215,974	0	0	0	0	0	0	0	0
RAC	36	-	36	49,639	-	49,639	0	0	0	0	0	0	0	0
Asahan-1	20	95	115	36,960	518,825	555,785	0	0	0	0	0	0	0	0
AWC	7	11	18	2,226	2,226	4,452	0	0	0	0	0	0	0	0
Total	969	6,840	7,809	2,123,092	4,773,463	6,896,555	0	0	0.00	0.00	0.28	0.08	0	0

Note: * Incident statistics per 200,000 hours worked

** Ratch Pathana Energy PCL. Including Sahacogen Green (SGN) and Sahagreen Forest (SGF)

Safety operations

RATCH and the operational controlled entities have adopted the following 6-step safety operations framework:

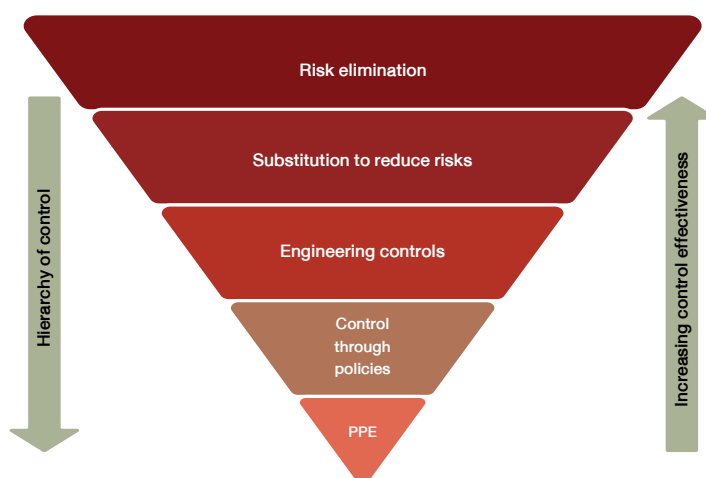


Job risk assessment

RATCH and all operational controlled entities analyze and identify the factors that may cause danger in the workplace and evaluate the severity and likelihood for the formulation of preventive or control measures. The goal is to minimize the likelihood and impacts. The analysis process contains 5 steps: 1) Hazard Identification, 2) Risk Analysis, 3) Risk Evaluation to classify risks according to severity, 4) Risk Control with measures to reduce or eliminate risks, and 5) Monitoring and Review to evaluate the efficiency of control measures.

Risk management and control measures

RATCH controls risks and danger at workplace accordingly to the risk level of a particular job. The process involves the elimination of risks; replacement of materials, work processes or tools which pose risks; engineering control associated with the improvement of working areas, machinery and equipment for more safety; administrative controls through the improvement of work processes and safety policies; and the application of personal protective equipment (PPE).



Results of job risk assessment in 2024

Risk level	No. of jobs risk assessment										
	RATCH	RGCO	RCO	RER	NNEG	BPC	RPE Group	SKB	Asahan-1	HKP	SLT
High	1	0	25	0	0	0	0	0	230	0	0
Medium	0	422	683	0	35	351	312	0	313	0	15
Acceptable	13	233	615	110	15	25	249	167	0	1,090	9
Low	41	306	0	0	3	358	995	137	15	0	15
Total	55	961	1,323	110	53	734	1,556	304	558	1,090	39
Measures/ operational approach applied for risk control	31	422	708	110	378	10	908	304	-	1,090	523

Risk control and prevention measures

Workplace inspection

RATCH and the business entities included in the scope of reporting strictly schedules the frequency of workplace inspections, involving responsible units and the responsible working committee. The frequency is set in line with the level of job risk as follows:

Level of job risk	Frequency of workplace inspection			
	Supervisor	Safety Officer	Safety Professional	Safety, Occupational Health and Work Environment Committee
High	All time	Every day	Every day	Every month/As scheduled
Medium	Every 1 hour	Every day	Every day	Every month/As scheduled
Acceptable	As scheduled			
Low				

Performance in 2024

RATCH and the entities included in this report examined the safety procedures and risk control measures of their activities associated with job operators, machinery/equipment, workplace environment and the Stop Work Authority. The results are summarized below:

Control factor	Procedure/Measures	No. of inspected jobs			Performance/Improvements
		All jobs	No. of jobs passing inspections	No. of jobs failing inspections	
Job operators	<ul style="list-style-type: none"> Define the qualifications suitable for the job. Organize safety and job training and training for specific jobs Examine physical fitness prior to the start of work Observe compliance with safety rules and the instructions for specific jobs/work areas. 	9,591	9,574	17	Performance <ul style="list-style-type: none"> Job operators were qualified and ready per requirements. Job operators received complete training. Corrective action <ul style="list-style-type: none"> Concerned unsafe work conditions such as sub-standard scaffoldings, failure to wear PPE were forced to stop working and comply with safety measure prior to the work resumed
Tools/ machinery/ equipment	<ul style="list-style-type: none"> Procure and use machinery/ equipment/tool that meets safety standards. Run the required inspection or test. Conduct safety test prior to use or as scheduled. Maintain machinery/equipment as planned. 	11,927	11,927	0	Performance <ul style="list-style-type: none"> Tool/machinery/ equipment was tested for safety and readiness

Control factor	Procedure/Measures	No. of inspected jobs			Performance/Improvements
		All jobs	No. of jobs passing inspections	No. of jobs failing inspections	
Workplace environment	<ul style="list-style-type: none"> Assess/inspect work environment prior the start of the work and ensure proper conditions before giving permission. Inspect/assess jobs with medium to high risks and work environment during the operation. Clear work area/work environment after job completion. 	2,339	2,338	1	Performance <ul style="list-style-type: none"> The work environment was inspected per legal requirements. Sub-standard work environment was improved/rectified prior to the start of work. Corrective action <ul style="list-style-type: none"> Installed ventilation fans and operated at all times while working in confined space areas.

Control factor	Procedure/Measures	No. of Stop Work	Performance/Improvements
Stop Work Authority	To be exercised in the following cases: <ul style="list-style-type: none"> Observe sub-standard act or work conditions. Observe a change in the scope of work, work process and work environment. Emergency case 	In 2024, Stop Work Authority was executed 11 times	<ul style="list-style-type: none"> When the Stop Work Authority was exercised, supervisors were notified for rectification/ improvement of unsafe conditions before the work resumed. Recurrence prevention measures were imposed.

Measures to prevent danger/recurrence

Whenever danger, a risk or a near miss associated with the operations of employees and suppliers is observed, the Safety, Occupational Health and Work Environment Committee and relevant officers will work together in setting up recurrence prevention measures. The measures will involve the following key aspects:

1. Job operators' preparedness

- Reassess risks and train/communicate with all involved job operators and all suppliers for their acknowledgement, if work procedures are changed and all are required to follow the new measures devised accordingly to the risk reassessment.

2. Readiness of equipment/tool

- Prepare equipment/tool suitable to the job like ladders with guardrail to reach the firefighting system's on-off switch.
- Install additional equipment like guardrails on top of void space of Heat Recovery Steam Generator (HRSG)

Emergency incidents	No. of drills												
	RATCH	RGCO	RCO	RER	NNEG	BPC	RPE Group	SKB	RAC	AWC	Asahan-1	HKP	SLT
Pressure pipe break	-	1	-	-	-	-	-	-	-	-	-	-	-
Air quality unmet legal standards	-	1	-	-	-	-	-	-	-	-	-	7	-
Life rescue and First Aid	-	-	-	-	-	1	-	-	-	-	-	1	-
Plant blackout	-	-	-	-	-	-	-	-	-	-	-	3	-

Emergency incident statistics in 2024

RATCH Group and 14 entities in the reporting boundary experienced emergency incidents at 5 operating sites. All incidents were contained following the steps in the emergency response plans, without any impact on job operators. The causes of incidents were investigated, while job risks were reassessed and recurrence prevention measures were devised.

Emergency incidents	Preventive measures
3 fire cases	<ol style="list-style-type: none"> 1. Increase frequency of inspection and equipment maintenance on regular basis 2. Set an annual plan for inspection and production machinery/equipment maintenance to ensure their safety and readiness in use.
1 Electrical leakage	<ol style="list-style-type: none"> 1. Conducted Job Safety Analysis (JSA) and devised method statement of work procedures. 2. Determined workload to suit with number of job supervisor required to ensure thorough job control
3 Oil Leakages	<ol style="list-style-type: none"> 1. Used high-quality oil pipes and related equipment certified by accepted standards. 2. Increased number of Log sheet recording from 2 times per shift to 3 times per shift (every 3 hours). 3. Increased number of logging points covering entire working area for thorough inspection.

Crisis management

In spite of the comprehensiveness of risk management and prevention measures, accidents can happen. RATCH thus gives the highest priority to preparedness and the management of emergency incidents that may escalate to a crisis, to protect job operators and stakeholders and ensure no disruption to business operations. The Crisis Management Plan (CMP) and Business Continuity Plan (BCP) have been established to tackle the crisis systematically and efficiently and minimize impacts on stakeholders.

The Crisis Management Plan is reviewed and exercised at least once a year or immediately after the emergence of a new risk factor or incident. In addition, there are plans to consistently improve the knowledge and awareness among employees at all level through the drills.

In 2025, RATCH schedules a review on the Business Continuity Plan, the Crisis Management Plan and the Crisis Communication Plan and calls for an integrated drill for all of the plans.

Strengthening of community safety capability

Ratchaburi Power Plant has extended its safety operations to cover communities since 2019 through a project to strengthen community capability in disaster prevention and mitigation. The goal is to equip communities with the right knowledge and capability in preventing and rectifying emergency incidents. Training and drills have been organized under the project, which broadens the power plant's community disaster prevention and mitigation network.

Implementation of the community capacity building project: Disaster prevention and mitigation



2019

Initiated the project to strengthen community capability in disaster prevention and mitigation for 5 subdistricts adjacent to the power plant (Ban Sing, Sam Ruan, Pikulthong, Tha Rap, Ban Rai subdistricts)



2020



Organized training on the power plant's safety measures, community disaster prevention, first-aid and life-support, moving the injured from high grounds and household fire fighting for community leaders, Ratchaburi's provincial disaster prevention and mitigation officers and the power plant's security team.



2021



Organized training on Ratchaburi Power Plant's safety measures to disaster prevention and mitigation officers of 4 communities (Phaeng Phuai subdistrict in Damnoen Saduak district, Bang Pa subdistrict in Mueng district, Don Sai subdistrict in Photharam district and Wat Kaew subdistricts in Bang Phae district).



2024



Organized training on emergency first-aid/basic life support and basic firefighting to the disaster mitigation officers of subdistrict administrative offices and municipalities in 9 neighboring subdistricts (Pikulthong, Ban Rai, Ban Sing, Wat Kaew, Don Sai, Bang Pa, Sam Ruan, Tha Rap and Phaeng Phuai subdistricts) as well as the power plant's security team.



2023



Organized training on basic waste assistance and fire prevention and extinguishing for civil defense volunteers and disaster prevention, mitigation officers of neighboring subdistrict administrative offices and municipalities, and the power plant's security team.



2022



Organized an exercise of Ban Rai Subdistrict's disaster prevention and mitigation plan in collaboration with Ban Rai Municipality, Damnoen Saduak district and Ratchaburi Provincial Disaster Prevention and Mitigation Office, participated and observed by the power plant's network of 9 neighboring sub-districts, Damnoen Saduak Police Station and relevant government offices.



Goal

Communities have the right knowledge and capability in preventing and rectifying emergency incidents.

Promotion of safety and health awareness

RATCH gives a priority to the safety and personal health of all job operators. In addition to measures in place, RATCH promotes understanding and awareness in safety and personal health among employees at all levels so that they can help prevent work-related risks. A variety of knowledge-building activities are organized every year including Safety Day, newsletters, incident alert emails, safety inspections, and training courses, to strengthen the “Safety First” corporate culture whereby all employees correctly perform their duties in safe and healthy work environment.

Activities to promote safety knowledge and awareness in 2024

Activity

RATCH Group’s Office

- Exercised Elevator Emergency Rescue drill and firefighting at night.
- Organized 5S activity to clean, collect and reduce waste, unnecessary and flammable supplies, and to keep evacuation routes clear. In 2024, the 5S inspection were implemented quarterly by a 5S Working Team.
- Safety inspection implemented by the Safety, Occupational Health, and Work Environment Committee to ensure working conditions and workplace environments of employees and contractors met accepted standards.
- Promoted safety awareness on common hazards in the office and how to select an electrical outlet.



Ratchaburi Electricity Generating Co., Ltd. (RGC0)

- Arranged the Safety Day 2024: “SAFETY & ENERGY GOOD LIFE” to raise the power plant employees’ awareness on safety and energy conservation. The activities included a seminar on the topic of how to building awareness of energy conservation and work safety, a clip video contest in title of “No tolerance for near miss”, and a contest on safety slogan creation. 427 participants attended the event with a satisfaction rate of 91.83%.
- Provided training on the topic of “Drive Safely, Mind Traffic Discipline” presented by the officers of Ratchaburi City Police Station. 60 participants attended, with satisfaction score of 93.60%.



Berkprai Cogeneration Co., Ltd. (BPC)

- Arranged Zero Accident Campaign under the theme of “Zero Accident & Good Environmental Management” to promote safety awareness among employees and prevent accident in workplace. The activity also celebrated the power plant’s achievement of 850,000 safe working hours target since generation commencement on June 1, 2019.



Activity

Ratch Cogeneration Co., Ltd. (RCO)

- Organized the Safety Day 2024: Finding Hazards in RCO Style, mitigating risks and moving ZERO Unsafe Conditions” by providing a training on hazard Identification and risk assessment and a contest of safety poster design and slogan creation.



Nava Nakorn Electricity Generating Co., Ltd. (NNEG)

- Continued the Zero Accident Campaign initiated in 2023 with a higher target of 2,300,000 accident-free working hours leading to work stoppage and enhance knowledge on and awareness of work safety and accident prevention.
- Organized a NNEG SAFETY & ENVIRONMENT DAY 2024 to enhance awareness of safe workplace environment for the management and operators through activity booth providing information about work safe, PPE usage, environmental quality monitoring, occupational diseases, and mental health, CPR demonstration, and a seminar on the topic of “Mental Health Care and Stress Management” by the Mental Health Center Region 4, Pathum Thani.



Ratch Energy Rayong Co., Ltd. (RER)

- Arranged a Safety Day and Saving Energy 2024 to build employee awareness on safety and energy conservation and encourage them working together for safer workplace which is a key driver for organizational safety.



Ratch Pathana Energy PCL. (RPE)

- Launched the Suggestion for Safety, Environmental, and Energy Conservation Program to build employees and contractors’ awareness by jointly seeking risky points in workplace and work process. It came up with 16 suggestions.



Sahacogen Green Co., Ltd. (SGN)

- Introduced a Safe Driving for Truck and Wheel Loader Program for contractors to learn more about proper and safe truck driving practice to reduce truck-related road accident and wheel loader accident in storage and biomass fuel yard areas. In addition to traffic safety measures, buildings repainting, warning signs installing, and road edge painting were done.



Activity

Sahagreen Forest Co., Ltd. (SGF)

- Exhibited a Safety Envi Day 2024 with a Safety Talk activity to enhance safety knowledge and awareness among employees and contractors, which a part of a safety culture promotion in the workplace.



Hin Kong Power Co., Ltd. (HKP)

- Introduced a Zero Accident Campaign with a target of 150,000 working hours without a work stoppage due to accidents. To achieve the target, the safety and occupational health minute before daily meetings was implemented to enhance knowledge and awareness.
- Arranged Safety Talks and a training under knowledge sharing program to build safety awareness and embed safety culture among employees and contractors.
- Communicated information about safety, occupational health, and environmental and health care to all employees.



Songkhla Biomass Co., Ltd. (SKB)

- Organized Annual Fire and Evacuation Drill in 2024 to prepare employee readiness for handling emergency incident, as well as a training on physical and mental well-being management. The activity participated by 77 employees with a satisfaction score of 100%.
- Arranged a Safety Energy Day 2024 with edutainment activities focused on safety, occupational health, environmental management, and energy conservation to raise employee awareness.



Health protection and promotion for job operators

RATCH Group is dedicated to taking care of health and hygiene of both the Group's and suppliers' job operators. Realizing the importance of the protection and correction of work-related health issues, RATCH conducted a thorough analysis of illnesses associated with job descriptions and workplace environment so that an appropriate healthcare approach can be outlined for the Company's and suppliers' job operators working in the premises.

Performance in 2024

Ratchaburi Power Plant : Hearing problems

Targets	Power plant and suppliers' job operators
Preventive measures	<ul style="list-style-type: none"> Hearing Preservation Project for job operators with high-risk jobs Annual hearing test Analysis of risks and impacts based on the test results Re-examination of job operators with irregular results and provision of self-care manual Immediate treatment to those considered in need of treatment Monitoring of the treatment of those with high risks and rearrange work environment

Actions in 2024

- Hearing Preservation Project and placement of PPE signs in areas with noise level above 85 dB(A)
- Test the hearing ability of job operators exposed to loud noise with hearing loss of no more than 15 dB(A) in one ear.
- Organize training on danger from loud noise.



Ratchaburi Power Plant and RATCH Group PCL. : Office syndrome

Targets

All job operators of the power plant

Preventive measures

- Supports to muscle-strengthening and relaxing exercises like yoga, badminton and golf.
- Distribution of the information on the causes of office syndrome via channels like billboards, email and the Intranet.
- Training sessions on the causes of disease, prevention and treatment.

Actions in 2024


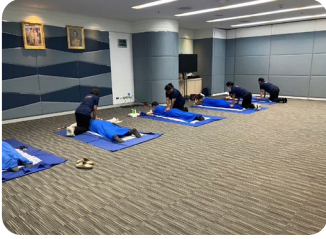




- Good Health and Happy Mind 2024 under the theme of “sustainable human resources with healthy culture”, to provide self-care tips, knowledge on diseases and treatments particularly office syndrome. The activity attracted 34 participants or 79.07% of all employees. Satisfaction score was 90.50%.



- Annual mental check for Ratchaburi Power Plant's 305 job operators or 100% through an online system: 17 were found to experience extreme stress or depression and received email-based counselling services on an individual basis.
- Badminton Competition (Ratchaburi Power Plant's badminton club VS. RATCH Group PCL's badminton club), which bolstered employees' relationships and good health.



- Wellness & Emotional Support Activity by RATCH Group PCL., focusing on health tips for working-age people to prevent chronic diseases. Participants gained knowledge about appropriate exercises and nutritional food as well as massage to relieve fatigue caused by office syndrome. The activity contained 5 events as follows:
 - Mental Wellness: 50 participants or 22.52% of all employees/Satisfaction score: 97.06%
 - Move Wellness: 36 participants or 16.22% of all employees/Satisfaction score: 98.46%
 - Nutritional Wellness: 48 participants or 21.62% of all employees/Satisfaction score: 99.26%
 - Relaxing massage: 144 participants or 64.86%/Satisfaction score: 98.82%

<p>Actions in 2024</p>	<ul style="list-style-type: none"> ○ Stress screening with Bio Feedback to examine mental and physical health through the electronic monitoring of bodily functions. At 2 events, it served 54 participants or 24.32% of all employees, whose satisfaction score was at 92.14%. <div></div> <div></div> ● Good Health, Good Work Activity to test physical fitness for the evaluation of risk of NCDs and provide exercise tips for muscle strength. It attracted 95 participants or 42.79% of all employees, whose satisfaction score was at 100%. <div></div> <div></div> ● Supports to exercise activities for muscle fitness and relaxation like yoga, walking-running, aerobic dance, badminton, tennis, golf, etc. ● Follow-up on employee medical examination results for the planning of activities in 2025.
<p>Ratchaburi Power Plant and RATCH Group PCL. : Infectious diseases like COVID-19, influenza and Respiratory Syncytial Virus (RSV)</p>	
<p>Targets</p>	<p>The power plant's employees, Suppliers' workers, and employees at Head Office</p>
<p>Preventive measures</p>	<ul style="list-style-type: none"> ● Ratchaburi Power Plant's action plan on emerging and re-emerging infectious diseases, to reduce health impacts particularly on generator operation officers for the continuity of power generation activity ● Preventive practices and measures at other power plants to prevent infection that may affect job operators' health and subsequently generation activities ● Exercise of the disease-control action plans ● Workplace disinfecting/ozone treatment (monthly/weekly) and cleaning rules ● Consistent publicizing of information on disease prevention, treatment, and containment
<p>Actions in 2024</p>	<ul style="list-style-type: none"> ● Disinfecting RATCH Group Building, covering the entire area, once a month. ● Area-based ozone treatment on a weekly basis and biannual ozone treatment for the entire building. ● Disinfecting frequently-touched surface in the common area every 2 hours. <div></div> <div></div>

Promotion of occupational health for employees and suppliers' job operators

Project/Activity	Results
RATCH Group PCL	
Air and environmental care at office building	<ul style="list-style-type: none"> Installed remoting controlled air purifiers for removing PM2.5 within buildings. Disseminated protection guidelines in high dust level scenario. Monitored biannually noise level, lighting, heat and chemicals to ensure compliance with legal standard.
Annual medical examination	90.46% of all employees received annual medical examination.
Ratchaburi Electricity Generating Co., Ltd. (RGCO)	
Disease-free, Drug-free: Good Health and Happy Mind Project and Safety Clinic for 2024	<ul style="list-style-type: none"> Established a safety clinic and disseminated safety information regularly. Launched a Health Day at Ratchaburi Power Plant under the theme “Healthy Variety,” aiming to educating well-being caring for employees who participated 254 persons. Provided the annual health check-up and risk-based health monitoring. Conducted Thai medicine massage for easing office syndrome for 2 times, with 107 participants. A Drug Prevention and Control program launched with testing drug for contractors, together with inspection of drug-related high risk areas. Conducted stress and mental health assessments for 100% of employees. Arranged a Mental Health Promotion in the workplace and Ratchaburi Power Plant Health Day activities. Launched Positive Energy Promotion Campaign under the theme “Adjust, Change, Shine Season 2,” aiming to encourage employees to maintain a healthy body mass index, with 109 participants.
Workplace environment check	Monitored the noise level, lighting, heat and chemicals for 2 times
Annual medical examination	100% of all employees received annual medical examination.
Ratch Cogeneration Co., Ltd. (RCO)	
Hearing Preservation Project	Installed warning signs to use PPE in areas with noise levels exceeding 85 dB(A) and regulated working hours in high-noise areas.
RCO Run for Charity 2024	Organized running and walking activity to promote health, with 32 participants covering a total of 6,918 kilometers, while charitable donation of THB 14,000 received.
Workplace environment check	Check the noise level, lighting, heat and chemicals twice a year.
Annual medical examination	100% of all employees received annual medical examination.
Ratch Energy Rayong Co., Ltd. (RER)	
Annual medical examination	100% of all employees received annual medical examination.
Workplace environment check	Check the noise level, lighting, heat and chemicals once a year.
Nava Nakorn Electricity Generating Co., Ltd. (NNEG)	
Annual medical examination	100% of all employees received annual medical examination.
Workplace environment check	Check the noise level, lighting, heat and chemicals twice a year.

Project/Activity	Results
Safe Driving Campaign for Songkran Festival 2024	Distributed a total of 112 “Stay Awake” kits containing beverages and anti-drowsiness or fatigue supplies and PR materials with given information about traffic discipline, road accident prevention and contact points of relevant emergency agencies to general public. It helped preventing and reducing road-related accident risk during the Songkran Festival.
Berkprai Cogeneration Co., Ltd. (BPC)	
Annual medical examination	100% of all employees received annual medical examination.
BPC Sports Club	Provided facilities and equipment for post-work exercise, achieving a satisfaction rate of 86.67%.
Ratch Pathana Energy PCL. (RPE)	
Hearing Preservation Project	Implemented protective measures for workers exposed to noise levels above 85 dB(A) for an 8 hours workday to prevent hearing loss.
The Best Healthy Program 2024	Promoted decent workplace by promoting health and well-being and calculating cumulative energy burning of participants, 57.14% of total employees, better than target of 40%.
Annual medical examination	68.05% of all employees received annual medical examination.
Sahacogen Green Co., Ltd. (SGN)/Sahagreen Forest Co., Ltd. (SGF)	
Annual medical examination	100% of all employees received annual medical examination.
Songkhla Biomass Co., Ltd. (SKB)	
Annual medical examination and Risk-Based Health Monitoring	All employees (100%) received annual medical examination.
Installation of HDPE Mesh Panels	Installed high-density polyethylene (HDPE) mesh panels around fuel storage and ash yards to control dust dispersion.
Hin Kong Power Co., Ltd. (HKP)	
Annual medical examination	100% of all employees received annual medical examination.

Building safety culture

RATCH Group emphasizes the safety awareness of all job operators in all situations and expects them to take a role in giving advice on and inspect the work conditions that may cause accidents or unsafe operations. Activities have been organized to promote knowledge, understanding and awareness on safety. Job operators received training that entails all aspects of occupational health and safety, so that they have the right, complete and practical knowledge.

Training to build knowledge and awareness on occupational health and safety in 2024

Training topic	No. of attendees (person)															Percentage of Training Participants	
	RATCH	RGCO	RCO	RER	NNEG	BPC	RPE Group	SKB	RAC	RL	AWC	Asahan-1	HKP	SLT	Total	Employee	Supplier/ Contractor
Orientation safety, occupational health and work environment before working and new hires	31	1,338	2,791	541	1,391	676	2,413	564	17	6	-	-	2,801	-	12,569	28.23	71.77
Safety, occupational health and work environment for committee, employees	2	2	-	4	1	2	1	-	-	81	-	-	1	-	94	97.87	2.13
Roles and responsibility of Safety officer (supervisor level and executive level)	-	15	2	-	1	1	14	1	-	3	-	-	9	10	56	80.36	19.64
Fire suppression at basic level, fire watch, use of fire protection equipment, and making Pre- Fire Plan	-	54	22	74	2	60	39	77	-	-	17	2	3	60	410	72.44	27.56
How to use tools and equipment; stationary crane, mobile crane, boiler, steam turbine	-	97	5	13	19	12	50	-	-	246	-	2	7	-	451	96.90	3.10
System operator and controller for working related to air emission, water and industrial waste	-	27	-	1	-	-	-	-	-	-	-	-	7	-	35	100	-
Prevention of Hazards and First Aid for Radiation, Chemicals, Electricity, Explosives, and the Use of PPE	-	193	28	105	1	38	172	1	-	150	-	2	5	102	797	84.32	15.68
Risk identification and assessment	-	-	-	-	-	-	-	4	-	-	-	-	-	-	4	100	-
Accident Investigation, Analysis, and Reporting	-	27	-	-	-	-	-	-	-	-	-	-	-	-	27	100	-
Requirements of ISO 9001, 14001 and 45001	-	9	-	-	-	-	-	8	-	169	-	-	24	-	210	100	-
Safety drive; general vehicle, fork-lift, loader, truck	-	6	-	-	-	2	24	-	-	-	-	1	6	-	39	92.31	7.69
Job operator in areas with use of natural gas and oil tank	-	-	-	7	5	2	-	-	-	-	-	-	10	-	24	91.67	8.33
Safety of work as confined space, high ground and aquanaut	-	23	5	3	8	-	21	-	-	-	-	-	-	-	60	100	-
Safety of work at coal-fired power plant	-	-	-	-	-	-	-	-	-	429	-	-	-	-	429	100	-
Awareness of Environmental Protection and Workplace Safety	-	249	-	-	-	-	-	-	-	131	-	-	3	34	417	91.85	8.15
Office syndrome and occupational disease	-	3	-	-	-	2	120	-	-	-	-	-	-	-	125	100	-

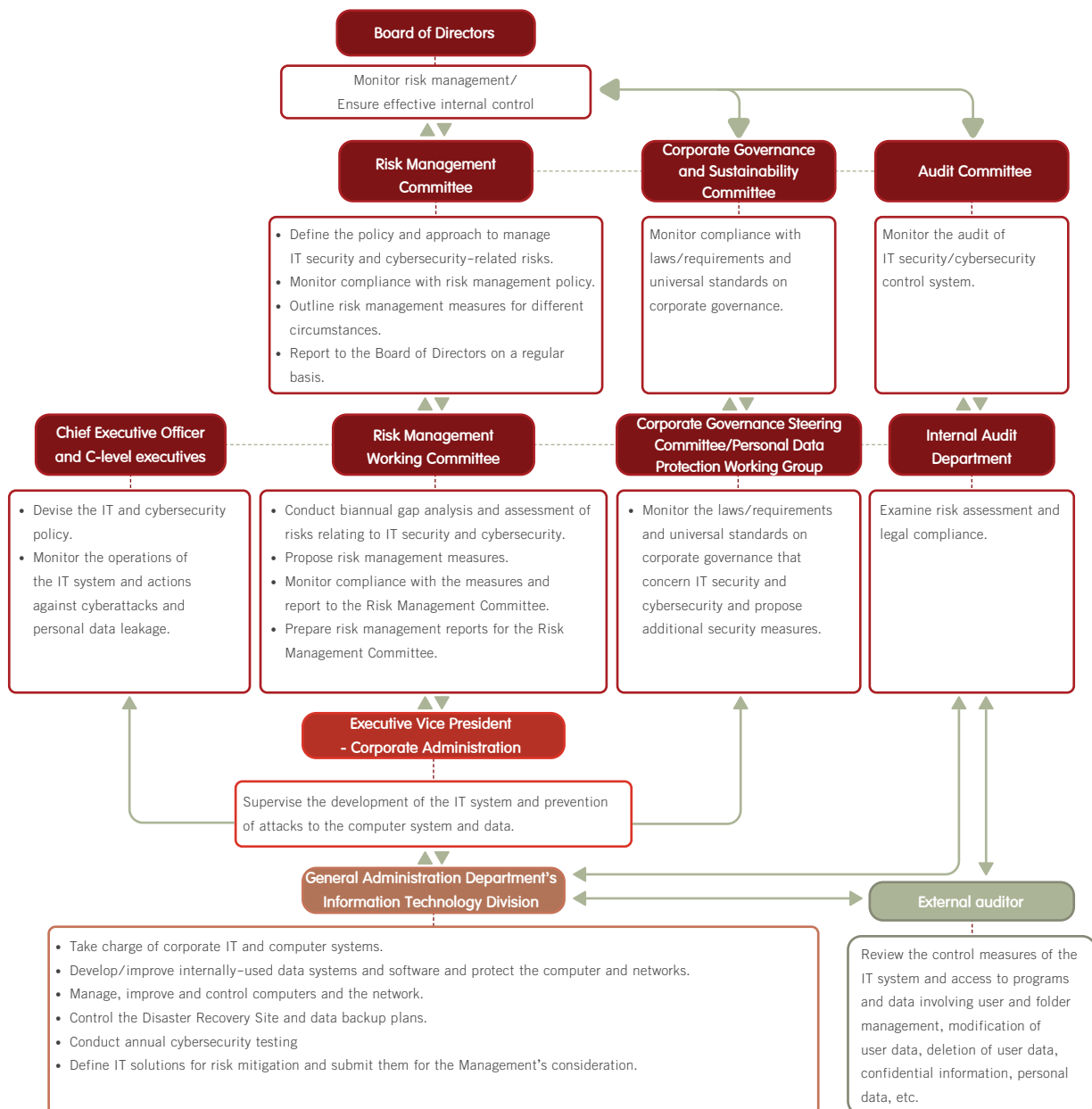
The safety and occupational health of job operators, suppliers and community has been RATCH Group's top priority. The Group is committed to creating safe workplace environment that also promotes good health. Policies and procedures are formulated in alignment with universal standards while personnel capability has been enhanced through training, safety inspections and consistent efforts on safety culture building. The goal is to ensure all members of the organization enjoy a happy and safe workplace and return home safely every day.

IT Security and Cybersecurity



Cyberattacks are a significant global risk, according to World Economic Forum's Global Risks Report 2024. RATCH, considering cyberattack a risk due to possible impacts on the operations, has given importance to cybersecurity and the security of information technology to ensure business continuity and proper protection of confidential information. In this regard, the Information Technology Division under the Corporate Administration Function is the primary unit responsible for the information technology system as well as IT security and cybersecurity. The division performs its duties under the Company's IT and cybersecurity policy and operational guidelines, to preserve competitiveness and retain stakeholders' trust.

Structure of IT security and cybersecurity supervision



Policy on information technology

RATCH enforced the Network and Computer Usage Policy and the Information Technology Security Policy that all employees shall abide by. The key points of the policies are as follows:

Network and Computer Usage Policy

Good practices for network and computer usage

Good practices for employees

1. Use the computer and network under prescribed rules and be liable to disciplinary and legal actions for violation.
2. Use network resources efficiently and do not perform any action irrelevant to their works or browse irrelevant websites.
3. Use polite and appropriate language and comply with good practice for the use of network.
4. Be cautious about safety and do not allow others to access their own account.
5. Safekeep passwords and avoid setting programs to automatically remember the passwords.
6. In case a virus is detected, it must be reported to the system administrator for prompt removal.
7. Delete unnecessary information from their personal computers.
8. Coordinate with the system administrator/computer network system unit for safety checks.
9. Do not use the network and computer for illegal and harmful actions or contrary to public orders or good moral; trading/seeking personal profits; disclosure of confidential information; infringement of intellectual property; privacy violation; receiving/sending damaging information; inhibiting the use of computer network by the Company; posting personal opinions harmful to the Company or others; and any other actions leading to conflicts of interest.
10. Do not install other programs/equipment without the Company's permission.
11. Do not send universal emails unnecessarily.

Good practices for IT administrators

1. To control, maintain and improve the computer network and identify instructions on data safety.
2. Assign the system access control.
3. Authorize to disable the use to prevent any damage.
4. Do not access or forward unauthorized information.
5. Do not reveal information obtained as part of their duties.
6. Comply with the Computer Crimes Act.
7. Ensure that installed software are copyrighted and do not cause harm to the system.
8. Prepare the network and computer usage manual.
9. Perform other related-networks duties as assigned by the supervisor.

Information Technology Security Policy

IT Security

Guidelines on IT Security Policy and security measures

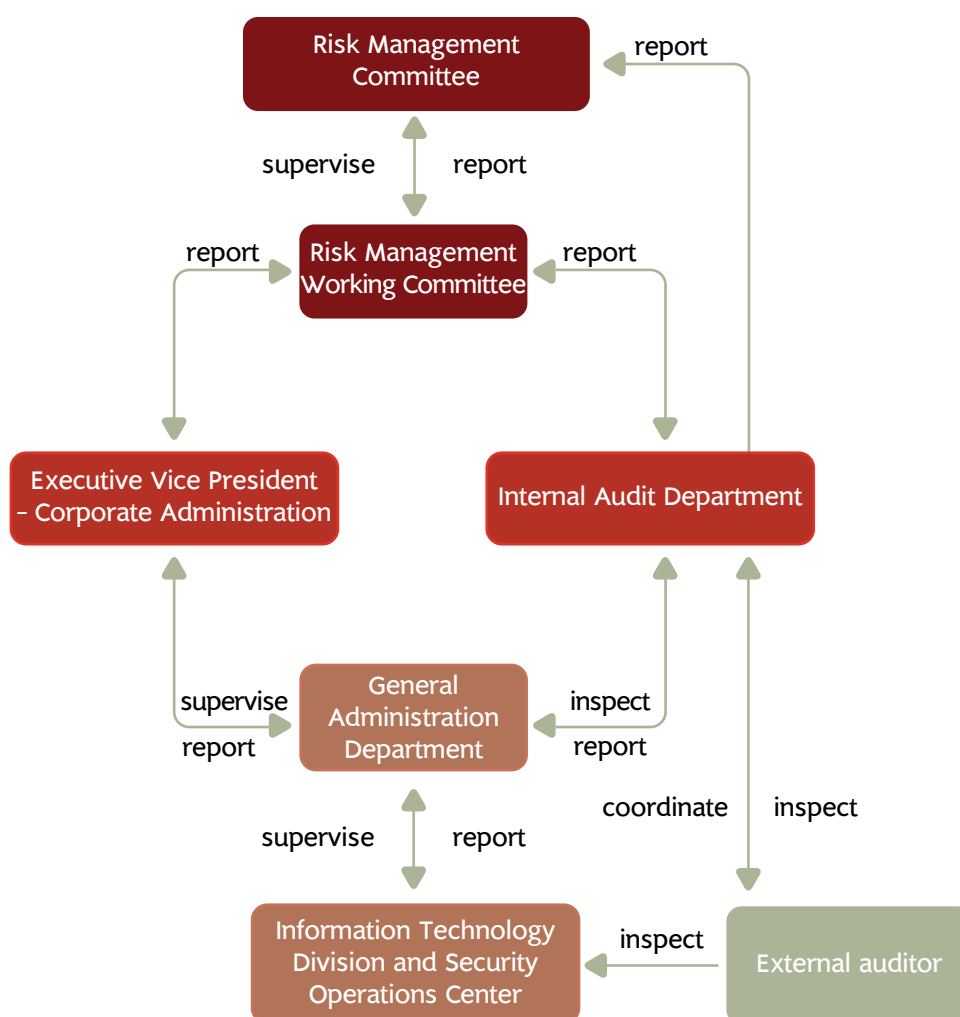
Organization of Information Security

Human Resource Security

IT Asset Management

1. Control of computer and equipment usage
2. Control of software usage
3. Control of IT assets and access to computer
4. Electronic mail usage
5. Control of access to information and IT system
6. Control of data encryption
7. Provision of physical and environmental security
8. Safeguard the operations for operations security
9. Safeguard communications via computer network for communications security
10. Acquisition, development and maintenance of IT system
11. Outsourced party's access to IT system
12. Management of incidents that may harm IT security
13. Management of business continuity relating to IT security

IT security monitoring



Responsibilities

Risk Management Working Committee	Follow up on IT security and cybersecurity measures twice a year
Internal Audit Department	<ol style="list-style-type: none"> Review compliance with following policies/standard practices; <ul style="list-style-type: none"> Information Technology Security Policy Efficiency and adequacy of risk mitigation and security systems Emergency response plan in light of disasters Exercise of emergency plan under the Business Continuity Plan Security measures for computer equipment Assessment of security risks of the IT system Report the cyberthreat watch on an annual basis
Information Technology Division and Security Operations Center	Monitor, track, screen, prevent and respond to cyberattacks, originated internally or externally; and monitor IT systems such as Intrusion Prevention System, Firewall and Cybersecurity Protection System.
External Auditor	Review the IT system control and access to programs and data relating to folder management, user access modification and user revocation, etc. The annual review is included in the annual audit of the Company's financial statements.

IT and cybersecurity risks

The Company conducted IT and Cyber risks and clearly identified control and mitigation measures as following:

Risk factor: Physical and environmental risk	Level of residual risk: Low
Nature of risk: Internal and external user's access, usage and system check of Data Center Room where servers are located	
Control measures: <ul style="list-style-type: none"> • Install the system to block unauthorized access and the finger scan system that limits access only to authorized persons; control the Data Center Room's entry and exit of the outsourced party; and examine the entry and exit log on a monthly basis. • Prepare inspection by the Internal Audit Department and the external auditor. 	
Risk factor: Usage of application software on the Company's computers	Level of residual risk: Low
Nature of risk: Installation of unsafe or malicious software, intentionally or unintentionally	
Control measures: <ul style="list-style-type: none"> • Impose the computer and network usage regulations. • Install Firewall as well as Endpoint Protection and Data Inventory software for malware prevention; and inspect the effectiveness. • Raise employee awareness against the installation of unprovided programs on a regular basis and identify penalties for breach. 	
Risk factor: Usage of corporate network	Level of residual risk: Low
Nature of risk: Outsiders' access or attacks	
Control measures: <ul style="list-style-type: none"> • Establish cyberthreat protection to block access/attacks on servers and in-use computers. • Establish the 24-hour Security Operation Center (SOC), powered by AI or manpower, to watch out for and prevent external attacks to the Company's system/equipment. 	
Risk factor: Personal risks from inappropriate authorization	Level of residual risk: Low
Nature of risk: Data access and modification by unauthorized persons	
Control measure: Set control on computer system access and usage and install the intrusion prevention system.	
Risk factor: Disasters and emergency incidents	Level of residual risk: Low
Nature of risk: Man-made and natural disasters, interrupted power supply, and protests that may disrupt production/business operations	
Control measure: Prepare the IT-related Disaster Response Plan and Business Continuity Plan; and schedule an annual review and exercise.	
Risk factor: Incompatibility in management	Level of residual risk: Medium
Nature of risk: Incompatibility of policy and guidelines for possible risks/incidents	
Control measures: <ul style="list-style-type: none"> • Assess risks, likelihood, impacts, directions and trends encompassing risks associated with the production, job operators or emergency situations. • Schedule an annual review on the policy, guidelines and response plan to emergency situations. • Organize training to raise awareness in the cyberthreat policy, guidelines and protection. • Run a test on data backups and SAP by internal and external parties. • Seek an external audit on IT system control/protection. 	

Risk factor: AI management**Level of residual risk: Medium****Nature of risk:** Inappropriate and uncontrolled application of AI technology that causes harm or data leakage**Control measures:**

- Educate employees on appropriate and safe application of AI technology.
- Establish AI policy/usage guidelines.
- Develop the AI usage system that is systematic, safe and verifiable.

Cybersecurity system

RATCH employs the following practices to guard against cyberthreats:

1. Technical protection

Installation of security systems

- Install Antivirus and Antimalware software.
- Install Firewall to prevent unauthorized access.
- Install intrusion-prevention systems such as Intrusion Prevention System (IPS) and Intrusion Detection System (IDS).
- Require a regular change of password.
- Provide the log storage, for the assessment of possible loopholes and risks.

Data Encryption

- Require AES, RSA, SSL, and TLS encryption for data transmission.
- Use VPN (Virtual Private Network) when connecting external Internet networks.

Account management and access control

- Apply the Multi Factor Authentication (MFA) login process.
- Limit access under the principle of least privilege access.
- Disable unused accounts to reduce system gaps.

Patch Management

- Update operating systems, software and firmware to address security vulnerabilities.
- Monitor, examine and timely install developers' security patches.

2. User behavior-related prevention

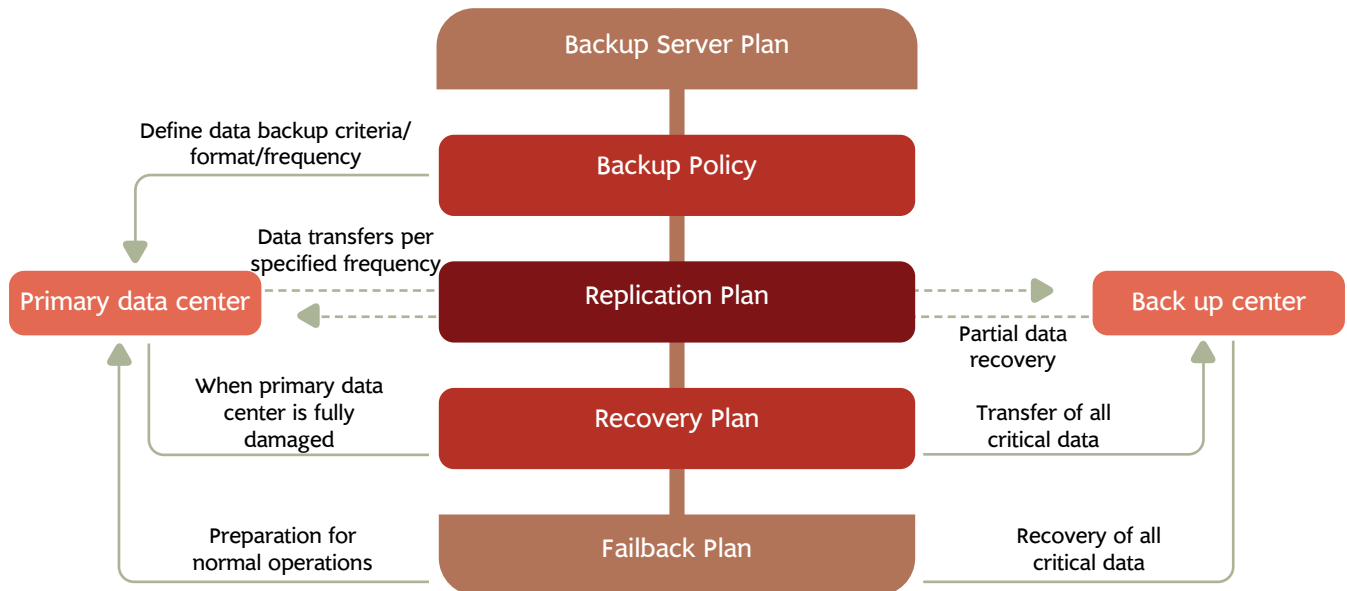
- Educate employees about the usage of equipment, software, and applications as well as prevention of cyberthreats on a regular basis.
- Create safe passwords, avoid reusing passwords, set password change time and safekeep passwords.
- Use equipment and network with care, and avoid connecting to external Wi-Fi networks and use of external device.

3. Prevention through corporate policies and measures

- Network and Computer Usage Policy
- Information Technology Security Policy
- Vulnerability Assessment Scan (VA Scan) to examine and improve network security and address vulnerabilities.
- Provision of the data backup system with regular backup and periodical data recovery tests.
- Provision of Security Testing & Monitoring for periodical vulnerability inspection and application of Security Information and Event Management for real-time cyberattack detection.
- The Security Operations Center (SOC) service is utilized to monitor and prevent threats to information technology systems 24 hours.

Response to IT and cybersecurity disasters and emergency incidents

RATCH has established the backup center and recovery plans for disasters and emergency incidents relating to IT security and cybersecurity, in preparation for emergencies that may affect the IT system's capabilities and effectiveness. The response process is as follows:



Assessment of IT security and cybersecurity

RATCH participated in the Stock Exchange of Thailand's Cyber Resilience Survey 2024 for listed companies, for the 3rd consecutive year, to assess the Company's cybersecurity and improve the security accordingly.

The assessment focused on the 6 functions of the National Institute of Standards and Technology (NIST)'s Cybersecurity Framework which are:

NIST Function	NIST Control	
<u>Govern</u> Governance structures for effective cybersecurity risk management	• Policies, Processes, and Procedures	• Organizational Context
	• Oversight	• Roles, Responsibilities, and Authorities
	• Risk Management Strategy	• Cybersecurity Supply Chain Risk Management
<u>Identify</u> Identifying, managing and improving	• Asset Management	• Improvement
	• Risk Assessment	
<u>Protect</u> Implementing appropriate safeguards to protect infrastructure services	• Awareness Training	• Data Security
	• Identity Management, Authentication, and Access Control	• Technology Infrastructure Resilience
	• Platform Security	
<u>Detect</u> Identifying and detecting cybersecurity events	• Adverse Event Analysis	• Continuous Monitoring

NIST Function	NIST Control	
<u>Respond</u> Appropriate actions to detected cybersecurity events	<ul style="list-style-type: none"> Incident Analysis 	<ul style="list-style-type: none"> Incident Management
	<ul style="list-style-type: none"> Incident Mitigation 	<ul style="list-style-type: none"> Incident Response Repairing and Communication
<u>Recover</u> Service recovery for business continuity	<ul style="list-style-type: none"> Incident Recovery Communication 	<ul style="list-style-type: none"> Incident Recovery Plan Execution

RATCH uses the assessment results as the basis for future improvement of cybersecurity in various fronts such as operational guidelines, the analysis of internal and external risks, the assessment and management of risks which will be extended to cover the supply chain, prevention plans and measures, inspection process, etc.

Tracking of IT and cybersecurity incidents

RATCH puts in place the system to guard against breach and IT and cybersecurity incidents. The Management and the Risk Management Working Committee are informed of such incidents and reports are presented to the Risk Management Committee, the Corporate Governance and Sustainability Committee and the Board of Directors on a quarterly basis.

The tracking in 2024 by internal and external specialists showed no breach of IT security and cybersecurity guidelines or incidents to the IT infrastructure.

Operational inspection	Unit	Year		
		2022	2023	2024
Breaches or non-compliance with IT security and cybersecurity guidelines				
Total number of data breaches or cyber incidents	Times	0	0	0
Total number of customers and employees affected by the breaches	Person	0	0	0
Total amount of fines/penalties relating to data breaches or other cyber incidents	Baht	0	0	0
IT Infrastructure Incidents				
Total number of IT infrastructure incidents	Times	0	0	0
Financial impact caused by such incidents	Baht	0	0	0



The Corporate Administration Function, through Human Resources Department, is the primary unit responsible for the Company Group's employee management and development.

The organizational chart illustrates the hierarchy and reporting structure of the Board of Directors and its various committees and departments. At the top is the **Board of Directors**, which sets forth vision, strategy, and supervisory roles. It oversees the **Human Resources and Remuneration Committee** and the **Audit Committee**. The **Human Resources and Remuneration Committee** is responsible for devising policy, selecting/nominating directors/executives, and outlining performance appraisal approaches. It reports to the **Chief Executive Officer**, who in turn oversees the **Human Resources Management Steering Committee**. This committee provides recommendations on policy, strategy, candidate qualification, performance appraisal, employee appointments, salary increases, and employee development plans. The **Human Resources Management Steering Committee** reports to the **Human Resources Department - served as Secretary**, which is responsible for setting human resource management strategy and devising action plans. The **Audit Committee** supervises and monitors internal auditing, reporting to the **Internal Audit Department**, which inspects operations for compliance with company policies. The **Internal Audit Department** reports to the **Human Resources Department - served as Secretary**. The **Human Resources Department - served as Secretary** also oversees the **Welfare Committee**, which considers employee welfare recommendations, follows up on welfare provision, and reports performance to employees. The **Human Resources Department - served as Secretary** also reports to the **Executive Vice President - Corporate Administration**, who oversees the **Chief Power Business Development Officer**, **Chief Financial Officer**, and **Chief Asset Management Officer**. The **Executive Vice President - Related and New Business** also reports to the **Human Resources Department - served as Secretary**. A QR code is provided for more information, and the chart is dated 2023.

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graph TD
    Board[Board of Directors] --> HRRC[Human Resources and Remuneration Committee]
    Board --> AC[Audit Committee]
    HRRC --> CEO[Chief Executive Officer]
    CEO --> HRS[Human Resources Management Steering Committee]
    HRS --> HRD[Human Resources Department - served as Secretary]
    HRD --> WFC[Welfare Committee]
    HRD --> EVP[Executive Vice President - Corporate Administration]
    AC --> IAD[Internal Audit Department]
    IAD --> HRD
    EVP --> CPO[Chief Power Business Development Officer]
    EVP --> CFO[Chief Financial Officer]
    EVP --> CAMO[Chief Asset Management Officer]
    EVP --> EVPN[Executive Vice President - Related and New Business]
    WFC --> HRD
    
```

Board of Directors
Set forth vision, strategy and supervisory

Human Resources and Remuneration Committee
• Devise policy, strategy
• Select/nominate directors/executives
• Outline performance appraisal approach and metrics

Audit Committee
Supervise, and monitor the internal auditing

Chief Executive Officer

Human Resources Management Steering Committee
• Give recommendations on policy, strategy
• Pre-qualify candidates for EVP positions and above
• Determine performance appraisal method, KPIs and criteria
• Consider employee appointments, promotion, and rotation
• Consider annual salary increase and bonus
• Consider the employee development plan, welfare, and benefits

Internal Audit Department
Inspect the operations to ensure compliance with the Company' relevant policies, rules and procedures

Human Resources Department - served as Secretary
• Set human resource management strategy, method and practice standards
• Devise the human resource management action plan and targets aligned with the strategy; implement the plan and ensure the targets achieved

Welfare Committee
• Consider and provide recommendation on employee welfare
• Follow up appropriateness of welfare provided
• Report the performance to employees

Executive Vice President - Corporate Administration
Chief Power Business Development Officer
Chief Financial Officer
Chief Asset Management Officer
Executive Vice President - Related and New Business

More information

Employees

Human resources management and development framework

RATCH outlines the principle and guidelines on employee stewardship as follows:

Code of Conduct

The guidelines in RATCH's Code of Conduct concerning employees uphold the respect for labor rights, equality, non-discrimination, and legal compliance. These guidelines are embedded in the human resource management procedure and regulations, serving as the guiding principle that the employees, workers and relevant parties of RATCH, subsidiaries and joint ventures under operational control shall comply with.

More details



Code of Conduct

Code of Conduct-guided employee practices

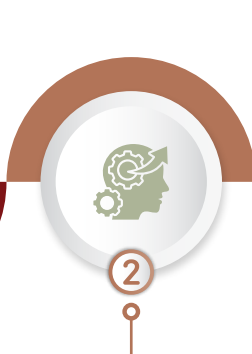
1. Strictly comply with labor or employee-related legislation and regulations.
2. Treat employees with respect to individuality and human dignity.
3. Avoid any unfair action that may affect employees' job security, threaten or cause psychological tension.
4. Offer remuneration and welfare that are fair and comparable with those of other leading companies.
5. Promote, transfer, reward and punish employees in an equitable, honest and just process based on each employee's knowledge, competency and suitability.
6. Emphasize thorough and consistent personnel management and development to enhance their knowledge and competencies.
7. Provide a safe and supportive work environment in accordance with occupational health standards for job operators' quality of life.
8. Welcome employees' participation in activities, opinions and recommendations based on their honest viewpoint and professional knowledge.
9. Create a complaint channel for employees to lodge a complaint in the event that they do not receive justice from the specified system and process.
10. Keep employee personal data confidential and do not share the data, in whatever form, to irrelevant individuals.

Employee Policy

Promote good quality of working life by providing universal-standard working environment, occupational hygiene and safety.



Promote career advancement in line with their competency.



Consistently improve employees' knowledge and capabilities, in preparation for the Company's business growth.

Encourage employee participation the organization's development and prosperity.



Manage the remuneration system and welfare properly and fairly.



Human Rights Policy

RATCH aspires to operate in alignment with universal labor standards that enshrines respect for labor rights and labor equality. The aspiration is reflected through the Human Rights Policy that encompasses all rights holders including employees, workers, and suppliers/contractors. The key elements cover zero tolerance to child labor and all kinds of forced labor, fair employment, equitable and non-discriminatory treatments, work safety, and opportunities to express opinions and suggestions and participate in the Company's activities. (More details are available in Section Respect for Human Rights, page 140 and Human Rights Policy)



Human Rights Policy

Human resource operations

Employment and turnover rate

RATCH has the policy not to employ child labor, or persons aged below 18 years. The recruitment criteria are based on candidates' qualifications and competencies for vacant positions, without discrimination in regard of race, skin complexion, gender, sexual orientation, age, religion, language, belief, social status, disabilities and political views.

Employment in 2024

New hires: 48 persons



Male

31 persons



Female

17 persons

Total employee: 586 persons



Male

395 persons



Female

191 persons

Voluntary employee turnover rate

Target



Not above 5%

Voluntary employee turnover:
20 persons



Male

14 persons



Female

6 persons

%



3.41%

Working days, days of leave and overtime

Under the Regulation of Personnel Management, RATCH clearly outlines the working days, working hours, rest time, weekends, holidays, annual vacation, days of leave, rights to take leave and rights to be paid. Also specified are the criteria and details of overtime work and work on holidays in case of emergency or requirement for continuous operations. Employee consent is required in these cases and the Company shall pay overtime or holiday pays as specified by law.

In 2024, to boost employee morale, RATCH extended the annual leave period for employees with 10 years of service or more, from 10 days to 15 days. The annual leave can be carried forward to the following year, but it shall not exceed 20 days. The annual leave with pay of employees with 1–10 years of service is 10 days.

Compensation and welfare

Compensation

RATCH aspires to see employee enjoy stability in life and quality of life and sets forth the compensation and welfare principles in the Code of Conduct. Employees are entitled to compensation and welfare which is comparable to those of leading organizations, based on the responsibility, knowledge, competency and experience as well as the economic condition and is fair to all genders. RATCH also offers the annual pay hike and bonus, based mainly on employee performance.

The salary and compensation structure are reviewed every 3 years, to ensure the rates are competitive and attractive enough to retain talents.

Comparative compensation of RATCH in 2024, national minimum wage and minimum wage in Nonthaburi Province, where Head Office is located

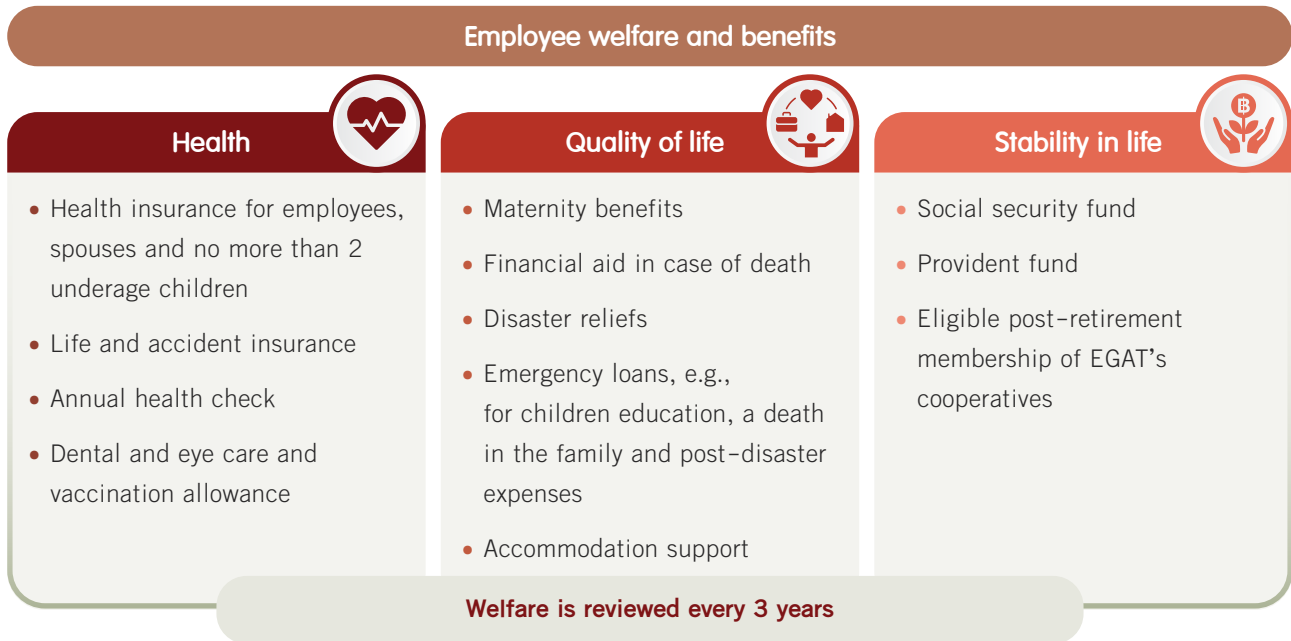
Compensation	Above national minimum wage (times)	Above Nonthaburi Province's minimum wage (times)
Entry-level salary for employees with diploma degrees	2.29	2.29
Salary for employees with bachelor degrees	2.75	2.75
Salary for employees with master's degrees	3.03	3.03

Comparative compensation of male and female employees holding officer to top executive titles in 2024

Position	Average compensation of female employees (Baht)	Average compensation of male employees (Baht)
Executive level (salary only)	6,164,714	6,283,969
Executive level (salary and other benefits)	11,220,804	8,963,782
Middle and junior management level (salary only)	1,882,139	2,138,908
Middle and junior management (salary and other benefits)	2,483,112	2,910,469
Officer (salary only)	573,834	290,743
Officer (salary and other benefits)	757,316	409,944

Welfare and other benefits

RATCH employees enjoy welfare beyond legal requirements. RATCH also extends additional welfare, to give employees and families a quality of life and happiness while working for the organization.



Welfare of employees working in foreign countries

RATCH provides welfare to employees stationed abroad which is sufficient to support the cost of living and the living conditions in each country, to ensure employees have a good quality of life and are motivated to perform duties efficiently.

Welfare	Descriptions
Expatriate allowance	Monthly allowance for employees stationed abroad, based on the cost of living in a particular country
Extra cost of living allowance	Additional allowance for employees accompanied by spouses or children
Living quarters allowance	Accommodation expenses during the working period, for the accommodation provided by the Company or selected by employees
Children education allowance	Applicable to children aged 3 years until they finish high-school education or equivalent
Vehicle allowance	Travelling expenses necessary for their jobs
Moving – in – out allowance	Expenses for the moving of their belongings in and out of the country they are stationed
Home leave	Financial support for employees' returning home 3 times a year, inclusive of arrival and departure travel expenses
Compassionate leave	Financial support for emergency home return in the event of sickness or departure of their parents, spouses or children aside from travel expenses
Life and accident insurance	Life and personal accident insurance with coverage worth at least THB 2 million
Annual Leave	Permission to take leave as stated by law in the particular country and the regulation of the company they are working for.

Aside, RATCH provides the following emergency assistance for employees working in foreign countries:

Emergency assistance for employees working in foreign countries

1. 24-hour emergency medical assistance
2. Medical assistance with physician-delivered advice, list of recommended hospitals in the locality and hospital care coordination
3. Travel assistance involving information of the destination country, visa and relevant law as well as help in case of loss of document and personal belongings
4. Safety assistance with advice and help for emergency evacuation in case of emergency situations, crisis or natural disasters

In 2024, RATCH reviewed and improved health-related welfare as suggested by the Welfare Committee, by adding the coverage for dental and eye care and vaccination, for thorough access to healthcare.

Performance evaluation

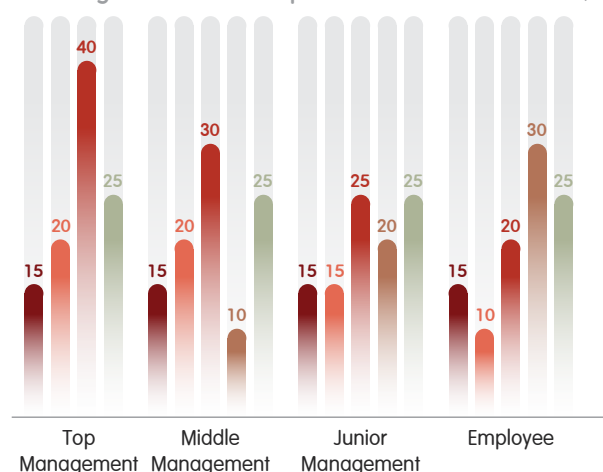
The evaluation process is conducted via the Human Resources Information System (HRIS), covering the 3 criteria to which weight ratio is clearly defined.

- 1) The key performance indicators (KPIs) of work-related performance, integrating the indicators in the organization, function, department and individual levels.
- 2) Engagement with the Company's activities and operations, such as training attendance, participation in ESG activities, serving as a member of committees or working groups, and participation in knowledge-sharing sessions
- 3) Assessment for desirable behaviors, based on the Company's values and core desirable competencies.

The evaluation criteria are outlined in line with the human resource management structure and they are communicated to employees on an annual basis. The evaluation results are the basis for the consideration of salary hike and bonus payment; the preparation of the personal development plan, succession plan and career advancement plan; appointments; and promotions.



KPIs weight of RATCH and operational-controlled entities (%)



- Corporate KPIs
- Function KPIs
- Department, Division, controlled entities KPIs
- Individual KPIs
- Competency

Performance appraisal approach		
Indicators	Method	Evaluator
Corporate KPIs	90 degree	Supervisors in the chain of command to functional chiefs
Function KPIs or assignments		
KPIs of department or equivalent level		
KPIs of division or equivalent level		
Individual KPIs		
Cooperation and participation in corporate activities		
Behavioral assessment in 6 areas: leadership, capability enhancement, flexibility, responsibility, decision-making and strategic thinking	180 degree	Supervisors, colleagues and the evaluated employee

In 2024, all employees (100%) were evaluated according to the criteria. The results were used as the basis for the consideration of pay hike, bonus payment, promotion and the personnel management plan as well as individual development plans.

Employee participation and collective bargaining

Welfare Committee

RATCH encourages and opens up the opportunities for employees' engagement. Employees can give their opinions, suggestions or demands and discuss with the Company on the improvement of welfare, for optimized equality and fairness. The Welfare Committee was established as required by law, as the stage to float employee demands and send it directly to the Company. The committee convenes meetings at least every 3 months and the Human Resources Department will submit the meeting resolutions for the Human Resources Management Steering Committee's consideration.

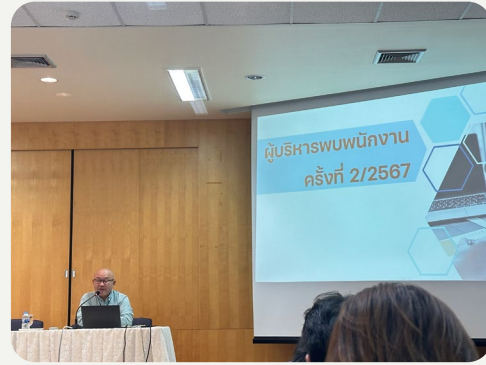
In 2024, through the committee, employees requested the extension of health care coverage to additional treatments as suggested by their physicians, including traditional Thai medicine or alternative medicine by licensed professionals; and other health conditions like psychiatric illness, illness caused by a chemical imbalance in the brain or hormonal imbalances, sleep disorders and skin diseases. The request has been responded.

Formation of Welfare Committee	RATCH*
No. of committee members (persons)	8
% of employee representatives in the committee	75
No. of meetings in 2024	4
Period of service	27 Feb 2024 – 26 Feb 2026

Note: * Entities employing more than 50 employees and therefore required to establish a Welfare Committee or entities establishing a Welfare Committee voluntarily.

If any entities in the Company Group have fewer than 50 staff and are not required by law to establish a Welfare Committee, meetings with employees are convened periodically like "Meet the Executive" events that are organized every 3 months. At the meetings, employees can discuss or make suggestions on the improvement in welfare, work environment and health promotion activities that suit the current situations.

Meet the Executive



Employee engagement activities

RATCH emphasizes the creation of value to society and has consistently encouraged employees, both in executive and staff levels, to take part in sharing activities and doing good deeds. In 2024, 279 employees or 84.29 % of total participated in social activities, equivalent to 988 man-day. The average value of their volunteering was approximately THB 2,539,527.

Company	No. of activities	No. of man-day	Average value of employee social contribution (Baht)
RATCH	6	392	1,368,213
RGCO	4	304	753,804
RCO	5	208	291,131
RER	1	84	126,378

Complaint and appeal channel

Out of respect for employee rights and fair treatment, RATCH has established the complaint and appeal procedure to ease employees' troubles or suffering related to work, concerning work conditions, employment conditions, supervision and assignments, compensation, benefits or any inappropriate act or abuses by supervisors.

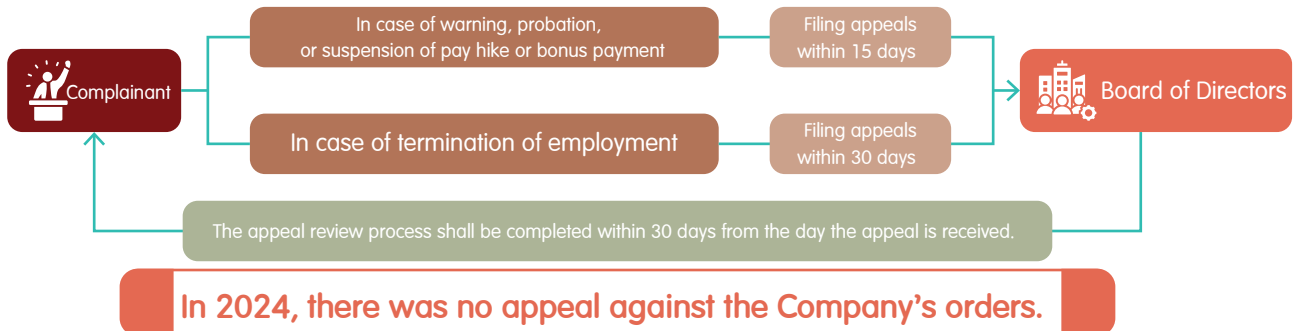
- Work-related troubles or suffering are classified into 2 cases: 1) termination of employment – employees can file the appeal to the Board of Directors within 30 days after receiving the termination notice and 2) abuses by supervisors – employees can file the complaint to the Chief Executive Officer
- Other kinds of troubles or suffering can be reported to supervisors at any time.

The consideration and investigation process will be completed within 15 days and the complainant will be informed of the result. The complainant and related persons who provide information, facts or evidence and/or review the honest complaint shall be protected though their actions may affect the Company: there will be no infliction of harm on the persons, including job termination or punishment

Appeals against the Company's orders

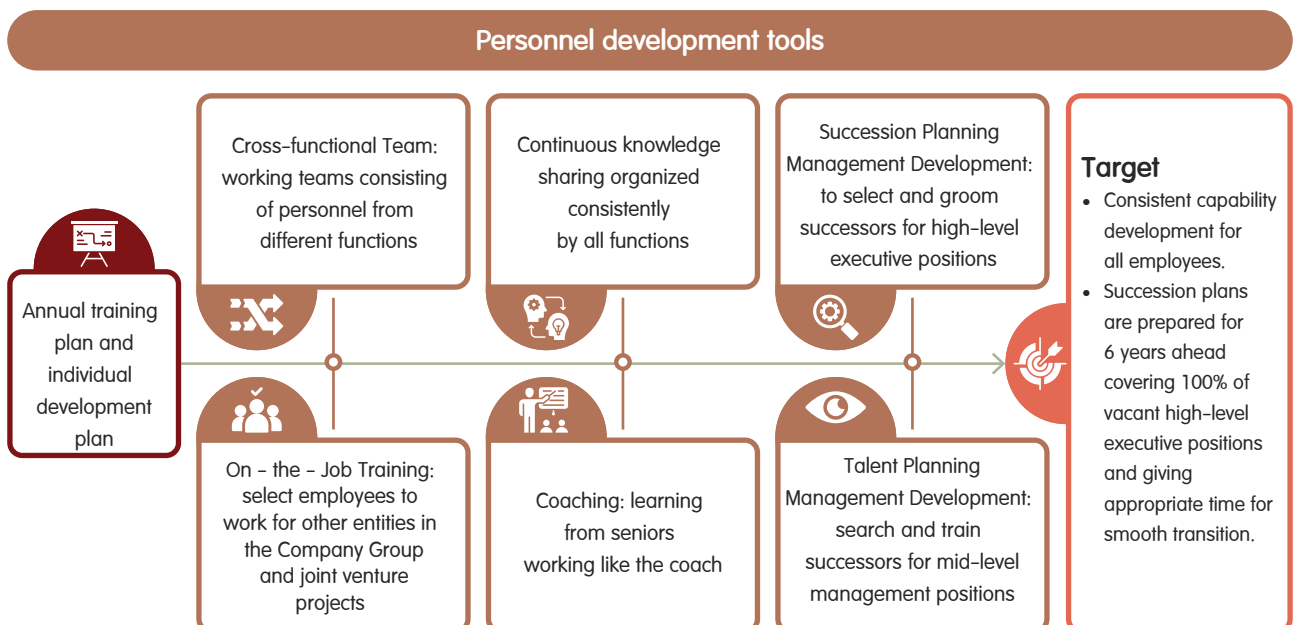
All employees have the rights to file an appeal to the Board of Directors against the Company's orders on the following issues:

- In case of warning, probation, or suspension of pay hike or bonus payment, the appeals shall be filed within 15 days after receiving the notice.
- In case of termination of employment, the appeals shall be filed within 30 days after receiving the notice.



Employee capability development

The employee capability development is based on their responsibilities, current positions, competencies and the career path of each employee. The process primarily focuses on improving their knowledge and skills necessary for their duties. The Human Resources Department is in charge of preparing and implementing the career path roadmap for consistent development as deemed necessary and appropriate.



Competency improvement

In carrying out the competency improvement, RATCH considers the 3 elements of competency.

Competency improvement framework



1. Core Competency

Basic characteristics or ability that all individual employee should process for competitiveness



2. Leadership Competency

Ability to efficiently manage their teams and conflicts, motivate team members, and be a good coach.



3. Job Family Competency

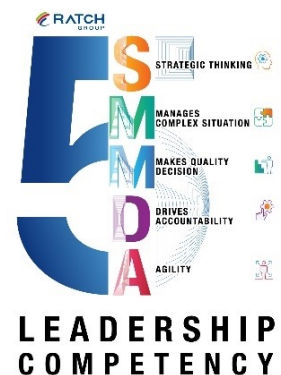
Functional Behavioral Competency

Positive personality traits that all should have, reflecting through supports to their teams

Functional Technical Competency

Professional skills and knowledge that employees need to successfully perform their jobs

In 2024, RATCH reviewed the leadership competency in alignment with the changes in the Company's business focus and the industry. The new set of desired competencies are expected to elevate the personnel's characteristics and skills, which will raise the Company's competitiveness and drive the organization towards success and sustainable growth. The 5 desirable characteristics are as follows:



S

Strategic Thinking : Rational thought process focusing on new ideas to influence holistic goals

1

Ability to understand the unique characteristics, overall picture, details and scope of operations of the organization; notice internal and external changes; make decisions; and formulate the direction and approaches to achieve goals.

M

Manages Complex Situation : Tackling complex issues with an all-round view

2

Skills to deal with complex issues by investigating the cause; cautiously analyzing the linkage of all relevant elements and factors; connecting the dots; foreseeing the overall picture of results; simplifying the data for easy understanding and clarity; analyzing solutions systematically; and preparing to confront complications to achieve an effective solution that will prevent the repetition of such issues.

M

Makes Quality Decision : Effective and data-based solutions

3

Ability to promptly make decisions, based on analytical thinking, knowledge, experience and personal judgement together with available data. Such decisions shall be practical even in uncertain or unclear situations, with technical supports and assistance from others for the highest effectiveness amid time constraints.

D

Drives Accountability : Awareness of obligations

4

Responsibility to duties and actions resulting from own decisions and actions; either positive or negative, to promote the accountability culture as well as win recognition from employees.

A

Agility : Quickness to change

5

Ability to adjust to changing situations, draw diverse solutions, and move quickly in serving all stakeholder groups to enhance operational efficiency and relationship for the best interests of all.

RATCH has consistently communicated the desired leadership competency to employees through internal communications channels. Aside, the “RATCH Group DNA Event” campaign was launched, to improve employees’ understanding and help them better connect the 5 characteristics with the Company’s business goals.



Competency assessment

RATCH conducted the High Performer Test in 2024 on employees at all levels from high-level executives, mid-level executives, and junior-level executives to other full-time employees. The test was set to find essential behaviors for success; learning ability; acumen; and leadership characteristic and the Individual Development Plan was prepared based on the results, in line with individual competencies and the Company’s goals.

Employees and their direct supervisors were notified of the results of the High Performer Test, so that they can design the short-term development plans and improve their performance in line with the Company’s expectations.

Topics under High Performer Test

consist of

1. **SWOT Analysis / Individual analysis** : Analysis of individual characteristics based on the SWOT framework
2. **Step to Take Action / Working method** : Ways to improve oneself
3. **Table of Your Potential / Latent qualities or abilities** : Current potential compared to Competency Cluster & Leadership Competency and how the individual development plan should be

Succession planning

RATCH prepares succession plans 6 years in advance, covering 100% of vacant high-level executive positions that gives appropriate time for smooth transition. Succession plans are prepared in 2 levels: Succession Planning Management Development to search for middle-level executives who can succeed high-level executive positions; and Talent Planning Management Development to search for junior executives who can succeed mid-level management positions. Potential candidates are assessed and included in the Talent Pool, for further development.

High-level executive positions

During 2024-2029, 2 high-level executives will reach their retirement age and RATCH has followed the Succession Planning Management Development scheme for all vacant positions (100%).

	2024	2025	2026	2027	2028	2029
High-level executives will reach their retirement age (Person)	0	0	1	0	1	0

Middle-level executive positions

Meanwhile, 69 junior executives are in the Talent Pool and to be prepared for the middle-level management positions, they need training, capability development or job rotation. These executives were assessed and 80% passed the test, with the average test scores of 92.10%.

Development program for manager	No. of Hours	No. of attendees (person)		Expenses (Baht)
		Male	Female	
1. Business Skill for Manager	24	20	16	496,512
2. Emotion Intelligence for Manager	12	15	18	236,016
3. Result Coaching	24	15	18	505,032
4. Performance Leader	12	15	18	252,516

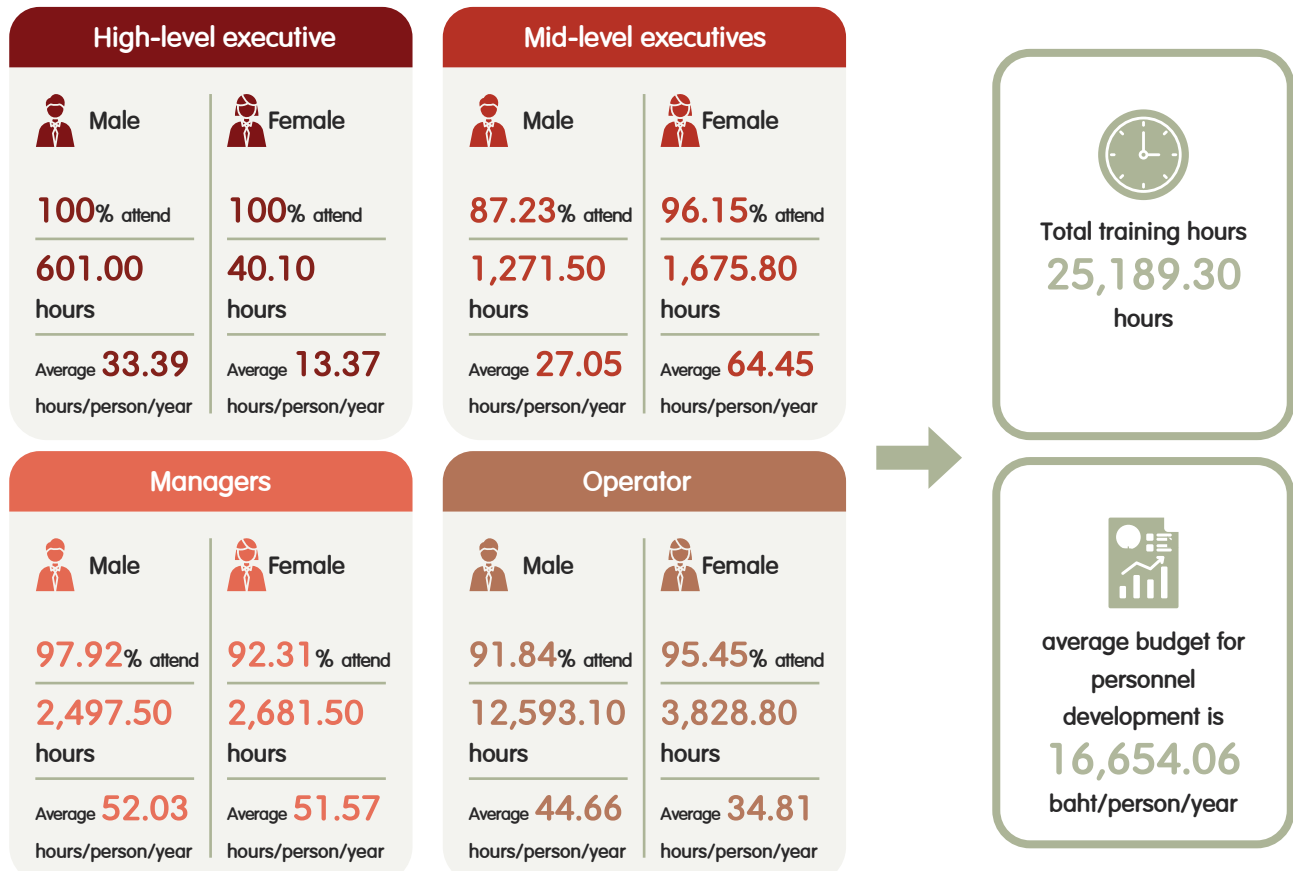
Talent Pool

RATCH has formulated succession plans to prepare potential candidates for various levels. The Talent Pool has been in place based on competency analysis along with the preparation of competency-based development training courses for each position group to ensure that the Company has a pool of candidates with required competencies. Through the proactive process, the candidates are prepared to succeed current executives while RATCH ably retain talents (talent retention) for business stability and continuity as well as supports for future business expansion.

Competency development

In 2024, RATCH organized training courses to enhance the knowledge, skills and capability of employees at all levels, from low-level employees to high-level executives. In the year, 546 employees attended training courses, for a total of 25,189.30 training hours or average of 42.99 training hour per employee. The training expenses were valued at Baht 9,759,280.

Summary of 2024 training



Not : The scope of data encompassed RATCH, RGCO, RCO, RER, RAC, and RL which contributed 70.00% of total revenue.

Training Courses

The arranged training courses focused on the three aspects of competencies – Core Competency, Leadership Competency and Job Family Competency (Functional Behavioral Competency and Functional Technical Competency). They can be summarized as follows:



Note: The scope of data encompassed RATCH, RGCO, RCO, RER, RAC, and RL which contributed 70.00% of total revenue.

Examples of training courses in 2024

Course	1. Empowering Organizations with Generative AI under RATCH AI Innovator Project	2. Result Coaching
Target group	Job operators and executives at all levels	Entry-level executives
Objectives	<ul style="list-style-type: none"> To obtain knowledge and understanding in artificial intelligence (AI). To learn about safe use of AI. To apply AI appropriately with assignments. To inspire AI application in daily routines. To provide basic training on AI use. To support RATCH AI Innovator Project (continuous corporate contest of AI-driven initiatives). 	<ul style="list-style-type: none"> To prepare executives with coaching concepts and attitudes for efficiency. To equip executives with coaching tips that inspire employees' creation and achieve the Company's goals. To provide practical lessons for job achievements and relationship-based team building.
Investment	Baht 428,000	Baht 505,000
Outcomes	<ul style="list-style-type: none"> 294 job operators and executives joined the course. All participants (100%) passed the post-training tests. 	<ul style="list-style-type: none"> 37 entry-level and mid-level executives joined the course. All participants (100%) passed the post-training tests.
Quantitative benefits for <u>job operators</u>	<ul style="list-style-type: none"> Higher efficiency and productivity with AI application. Application AI (open chat) will help reduced working hours by approximately 10,200 hours/year. New work culture that underlines speed and efficiency. Ability to join RATCH AI Innovator Project for prize money worth Baht 230,000. 	<ul style="list-style-type: none"> Ability to apply the techniques for successful skill coaching that involves job operators' skills to accomplish urgent assignments; and clarify coaching that inspires job operators with the mind power and attitudes in performing tasks and tackling obstacles with their best efforts for their long-term development. 84 employees were coached in this process. Ability to help employees obtain higher evaluation scores per their KPIs through the results-based coaching technique
Quantitative benefits for <u>RATCH</u>	<ul style="list-style-type: none"> Cost saving due to reduced work hours thanks to the use of AI. Enhanced competitiveness thanks to employees' increasing effective productivity. New opportunities based on employees' AI-driven initiatives, either for work process improvement or exploration of new business opportunities, with approximate THB 720 million/year in estimated economic value for the Company. 	<ul style="list-style-type: none"> Enhancement in employee engagement, which the score rose from 82.56% in 2022 to 90.91%. Decrease in turnover rate from 4.96% in 2023 to 3.41% in 2024

Internal knowledge sharing

Individually-acquired knowledge is considered a significant resource, as it combines direct experiences the individuals have learnt while performing their jobs. As such, knowledge exchange or sharing by experienced personnel is a tool in accelerate the Company's personnel development process. By passing the knowledge to others, the process also keeps the knowledge within the organization. In 2024, RATCH and Ratchaburi Electricity Generating Co., Ltd. organized a series of knowledge sharing sessions by internal and external experts, so as to promote a sustainable learning culture.

RATCH's Knowledge Sharing sessions

Topic	Objective	No. of attendees	Criteria	Benefits
1. Power generation business transition to national goal on greenhouse gas emission reduction	<ul style="list-style-type: none"> Enhanced employees' knowledge and understanding about national GHG-reduction mechanism and goals, as well as power generation business's transition and ways of GHG management. 	51	92.31% of applicability in daily routines (medium-high level)	<ul style="list-style-type: none"> Apply knowledge in plotting the Company's GHG-reduction solutions. Apply knowledge in their work in alignment with legal and regulatory requirements, to reduce risks/operating cost while boosting the Company's revenue-generating possibilities. Be prepared for the national GHG-reduction mechanism and target.
2. Human Rights Awareness in Business	<ul style="list-style-type: none"> Built knowledge and understanding in universal human rights, awareness in respect for human rights and the integration of human rights into the Company's operations. 	24	100.00% of applicability in daily routines (medium-high level)	<ul style="list-style-type: none"> Apply knowledge on human rights risk/impact assessment in daily routines and in preventing violations. Understand the organization's obligations to human rights and review their work processes for the alignment.
3. Cybersecurity Awareness	<ul style="list-style-type: none"> Created awareness in the necessity of prevention of cyber threats. Enhanced protection of personal data and corporate information and skills to identify and prevent cyber threats, to guard against possible risks. 	77	Post-Test (more than 80%) Result = 87% (8.7/10 Points)	<ul style="list-style-type: none"> Reduce risks of possible cybersecurity threats. Ensure employees safely use technology. Elevate corporate cyber security

RGCO Knowledge Sharing sessions

Topic	Objective	No. of attendees (persons)	% of applicability in daily routines (medium-high)	Benefits
How to sustain community engagement beyond financial support	<ul style="list-style-type: none"> To understand how to work with community, criteria and process concerning support consideration. 	38	81	<ul style="list-style-type: none"> Understanding in community support criteria and patterns for maximum benefits in the long term. Supports to the building of positive relationship with community.
How to sell degraded assets	<ul style="list-style-type: none"> To understand selling methods for damaged or degraded assets and spare parts. 	38	85	<ul style="list-style-type: none"> Knowledge about correct disposal methods for spare parts. Waste reduction
Community development project planning	<ul style="list-style-type: none"> To educate employees about the techniques and process involving preparation of community relations projects. 	40	80	<ul style="list-style-type: none"> Preparation of community development projects that meet community needs and the Company's criteria. Positive relationship with community.
Easy accounting	<ul style="list-style-type: none"> To educate employees about the recording of revenue and expenditures and cash flow forecast. 	40	80	<ul style="list-style-type: none"> Accurate cash flow forecast for reduced financial risks. Accurate and systematic bookkeeping Prevention of acts in violation of rules or the anti-fraud and corruption policy.



Promotion of employee well-being

Health activities for working-age people

Activities under the Wellness & Emotional Support scheme were organized successively in 2024, in response to employees' growing interest in health concern and the fact that good health affects the efficiency and effectiveness of their performance. Good health means employees can work happily and it can also retain valuable employees. The activities are as follows:

Activity	Descriptions	No. of participants	Satisfaction Level (%)
Test Your Stress with Bio Feedback	Physical and mental health check with the electronic monitoring of bodily functions.	54	92.14
Cervical Cancer Screening	Cervical cancer screening through Urine HPV DNA Test and distribution of iron supplements for iron deficiency anemia.	16	90.77
Eye Examination	Evaluation of visual acuity, eyesight, intraocular pressure, extraocular muscle motility, eye muscle movements, eye-rolling, alignment, meibomian glands, irregularities of visions and colors, vision and color, cataract screening and other abnormalities.	66	90.00
Workplace Happiness Workshop	Survey of workplace happiness, guiding participants to identify happiness-elevating spots.	50	97.06
Tackling Anxiety with Breathwork & Sound Healing Workshop	Healing practices through yoga breathing and sound for both physical and mental health illness and anxiety control, applicable to daily life.		
Functional Movement for Quality of Life by Fitness Trainer	Learning about functional movements for physical strengths and functional mobility that can ease muscle tightness while reducing health risks.	36	98.46
Desk and Chair Yoga Workshop	Applying yin yoga muscle-stretching techniques at your desk, to offset fatigue that results from hours spent in a seated position.		
Healthy Food & Rebalance Energy Workshop	Health tips concerning food selection and behavioral adjustments, to rebalance the energy and prevent non-communicable diseases (NCDs).	48	99.26
How to Lose Fat for Good Workshop	Consultation on the techniques of exercise and how to lose weight in a sustainable way.		
Massage for Relaxation and Easing of Office Syndromes	Massage services to boost relaxation or easing discomfort and aches caused by office syndromes.	144	98.82

Supports to Happy Working Life

- Setup of employee sport and health clubs, with a number of 7 clubs at present dedicated to golfing, football, badminton, exercise, running, tennis and music. Participants are numbered 124 people, or 51.45% of all job operators at office.
- Services for female employees with babies; a private, convenient and hygienic breastfeeding room fully equipped with necessary facilities and equipment like a breast milk refrigerator, where new moms can feed their babies or store their milk while performing duties at office.
- Setting the maternity leave duration at 98 days with 45-day pay, in line with legal requirements.
- More flexible working hours, allowing employees to work at home if necessary.

Building employee engagement

Employee engagement

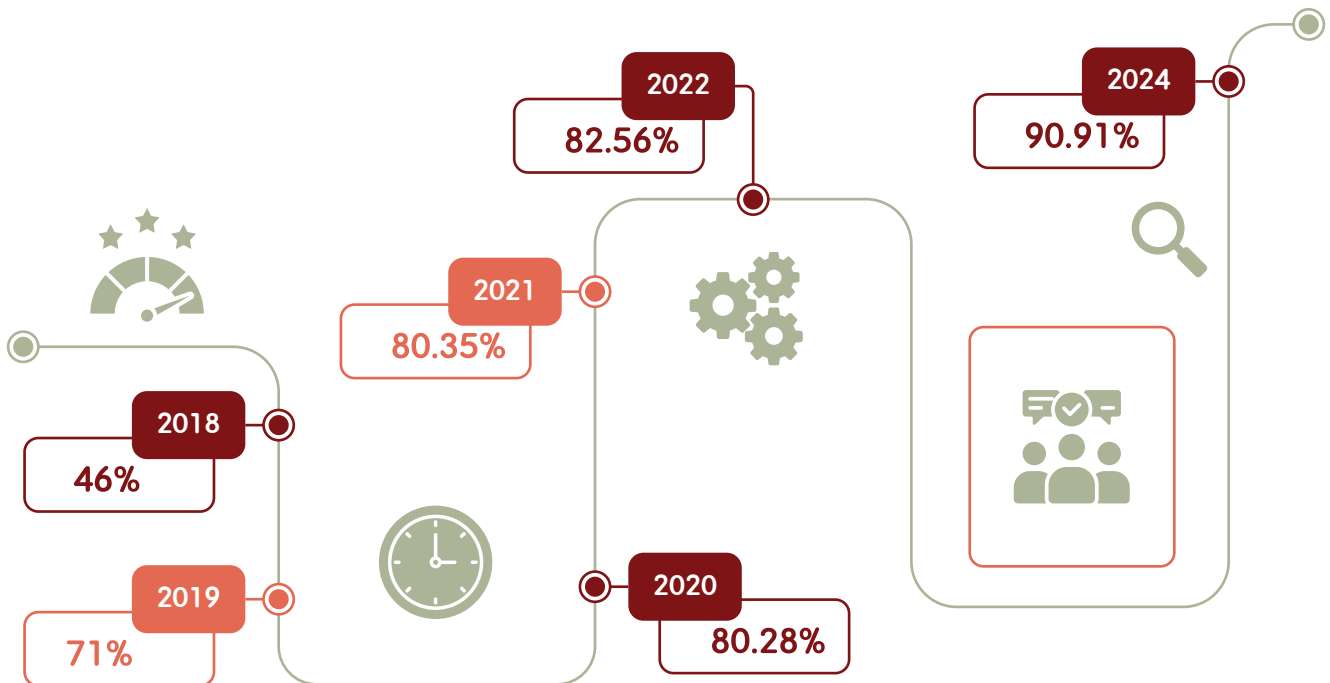
Teamwork is a key factor of continuous and efficient business operations. As a good teamwork requires understanding and good relationships, RATCH gives it a priority to strengthen the relationships, from the employee-to-employee level, to the relationships of employees and the executives within their functions and the cross-organizational level. Regular dialogues have been organized for relationship-building activities between employees and the Management, to strengthen their relationship, engagement, understanding, and teamwork. The Company also expects the activities to stir employees' loyalty and commitment, which will reduce the turnover rate and cut down replacement expenses.

Engagement activities	No. of engagement activities: 24 <ul style="list-style-type: none"> • By CEO's office: 4 activities • Business Development Function: 3 activities • Asset Management Function: 10 activities (included cross-function engagement) • Accounting & Finance Function: 3 activities • Corporate Administration Function: 4 activities (included cross-function engagement) • Cross-functional: 1 activity 	<ul style="list-style-type: none"> • Meeting with the Executives: 4 times • Department head-level meetings: 12 times • Employee birthday parties: 4 times • Activities to promote company values: 4 times
Openness to comments and recommendations	<ul style="list-style-type: none"> • Establish two-way communication channels to receive employees' comments and recommendations on work improvement like employee meetings, Townhall meeting, functional meetings, and communications via the Welfare Committee. • Monitor recommendations submitted to other channels which are the opinion box, Intranet, email, etc. • Communicate via engagement building activities. 	<p>Target: Employee recommendations are appropriately and completely responded to. (100%)</p> <p>Result: No employee complaint or recommendation</p>

Engagement survey

An employee engagement survey was conducted in 2024, covering all employees. Its objective was to hear their opinions on the organizational management and the opinions are the basis for further improvements. The survey showed the engagement rate of 90.91%, better than 80% target.

Results of employee engagement survey



Employee Personal Data Protection

RATCH gives importance to personal data protection for stakeholders, particularly employees, workers, job applicants and all who have resigned and maintained the right to protection under the Personal Data Protection Act B.E.2562. (2019) and the Company's intention. RATCH's Privacy Notice was announced to prohibit the usage of collected data without data owners' consent and required the safeguarding of personal data from threats. Data owners are eligible to withdraw their consent any time and the withdrawal can be done through the corporate website: www.ratch.co.th.

In 2024, no privacy breach nor consent withdrawal by employees was reported.



Privacy Notice

Community and Social Stewardship



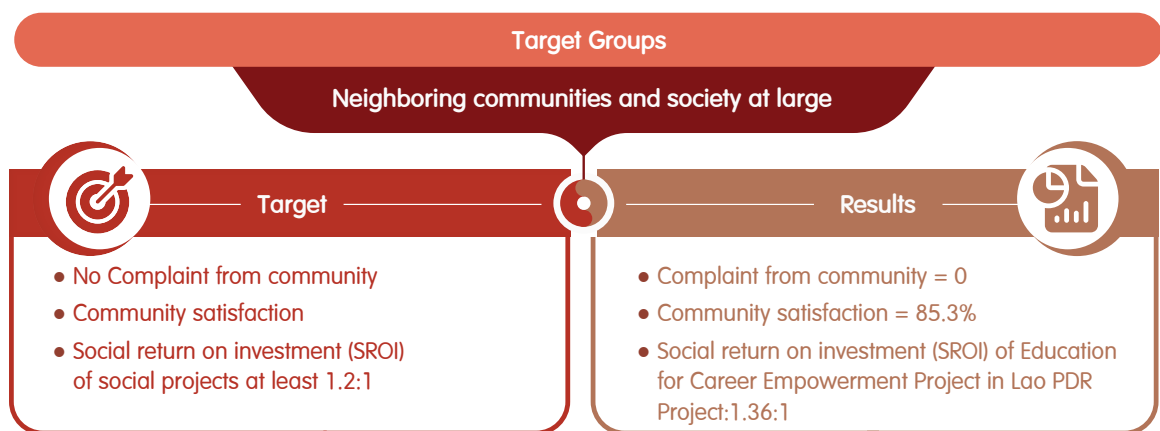
RATCH is aware that community and social acceptance is pivotal to business success and sustainability. It is a key mission that the Company has pursued earnestly and consistently since the establishment. All projects RATCH invests in are obligated to respect community rights and operate responsibly under the goal to become “a good neighbor” to all communities. In 2022 when the sustainability strategy was announced, collaborative efforts were highlighted in improving the local economy and community quality of life.

Structure of community and social management supervision

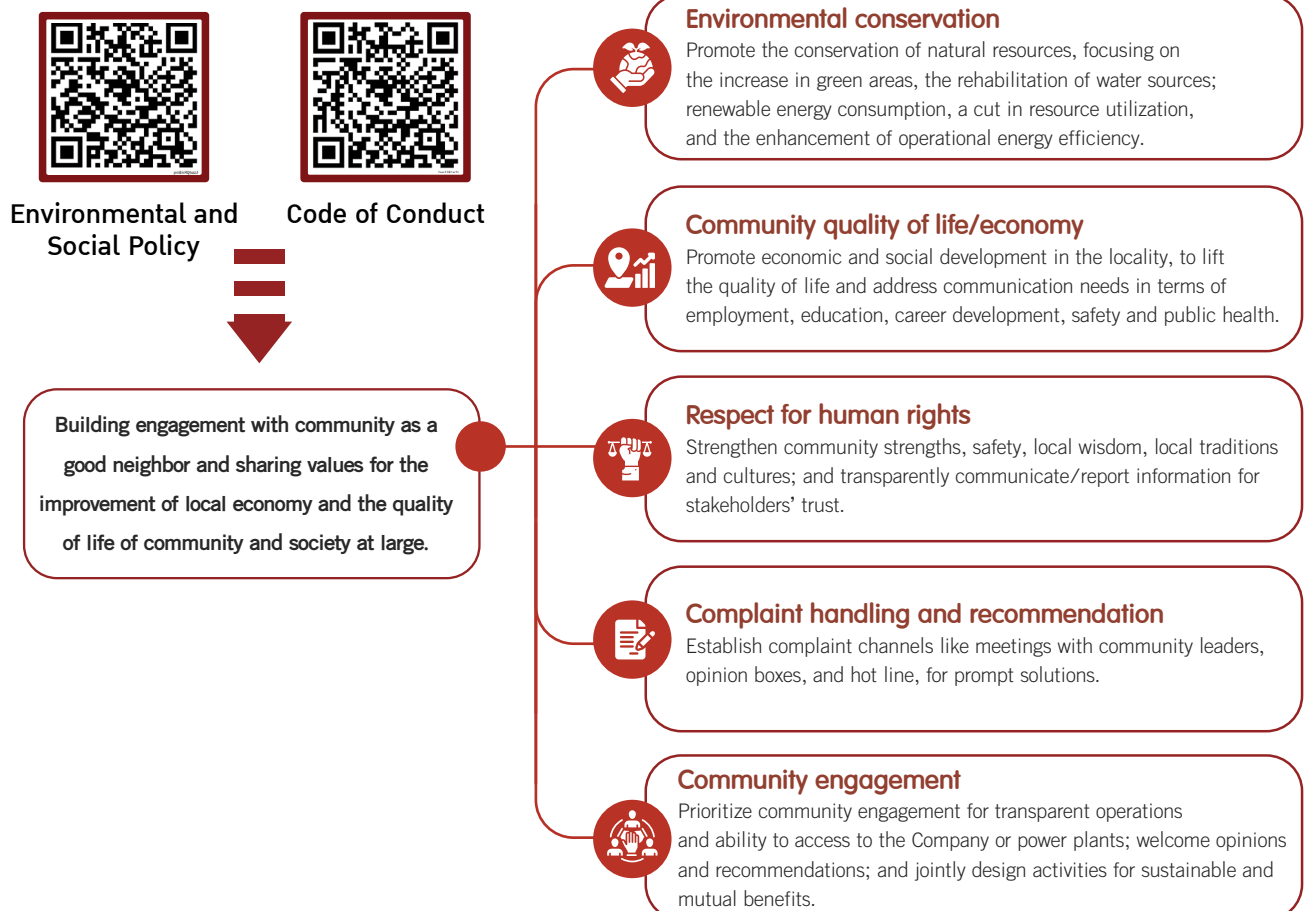
Unit	Responsibilities
Board of Directors	Establish the sustainability vision and strategy entailing economic, social and environmental aspects; and via the Corporate Governance and Sustainability Committee supervise and ensure effective implementation of the strategy in line with targets.
Corporate Governance and Sustainability Committee	<ul style="list-style-type: none"> Consider and approve the sustainability strategy and primary goal, taking into account community-related aspects as well as the action plan/targets for building relationship with neighboring communities. Monitor the implementation of community programs, efficiency and achievements; and report to the Board of Directors. Promote the engagement of directors, executives and employees with the Company’s social and environmental activities. Review and recommend proposals to improve the guidelines on a regular basis, as deemed appropriate, in alignment with stakeholder expectations.
The Management	<ul style="list-style-type: none"> Consider and outline the action plan and target relating to community and social activities and steer for concrete implementation in response to stakeholder expectations. Delegate power to responsible units and monitor the progress and achievements.
Corporate Affairs Department	<ul style="list-style-type: none"> Prepare the community and social action plan and implement it. Monitor and evaluate community and social activities against the Company’s targets, and report to the Management and the Board of Directors. Monitor the community and social issues material to the business or industry, for a review of the alignment and completeness of the Company’s policy; the assessment of risks and impacts on the Company; and the formulation of sufficient management and control guidelines. Disclose the performance of community and social operations in Sustainability Report and the corporate website on an annual basis.
Community Relations Division	<ul style="list-style-type: none"> Devise the community-relations action plan in line with community expectations concerning the power plants’ ability to manage operational impacts and to improve community quality of life in public health, career, education and safety aspects. Communicate the Company or the power plants’ policy and data to communities accurately, timely and thoroughly, covering all target and affected areas.

Unit	Responsibilities
	<ul style="list-style-type: none"> Coordinate and carry out projects with community engagement as planned by each power plant/project. Seek cooperation from public organizations, government offices, and non-profit organizations operating in the localities where power plants/projects are located. Hold meetings for discussions or gathering community opinions and recommendations and quickly and effectively coordinate in the management of community complaints and concerns. Report the results, risk issues and management initiatives to the Management on a regular and timely basis.

Operational targets in 2024



Operational framework



Significant community and social actions in 2024

Environmental conservation

Environmental conservation is one of 5 community and social operational guidelines, which prioritizes a balance of natural resource utilization and sustainable ecosystems. In the past years, RATCH and all power plants have coordinated with the government sector and community in the conservation of natural resources – forests, watersheds and native plants. The endeavors include terrestrial and mangrove reforestation, supports to community forest preservation, supports to the Plant Genetic Conservation Project Under the Royal Initiative of HRH Princess Maha Chakri Sirindhorn. The initiatives not only remove greenhouse gases but also preserve the water and food sources for community and society.

Love the Forests and the Community Project

Objectives

- Promote community engagement in the management, development and rehabilitation of forest resources for sustainable community benefits.
- Accelerate the number of community forests, to increase national forest areas and carbon sinks.
- Develop, care for and restore community forests with prize money.



Target group



Nationwide community forests

The project is carried out in cooperation with the Department of Royal Forest and communities to promote and support community engagement in the management of community forest resources for community benefits. It is an efficient and effective approach to preserve and increase forest land and also supports the SDG13 (Take urgent action to combat climate change and its impacts) and the corporate and national goal to achieve carbon neutrality by 2050.

Performance in 2024

2024 marked the 17th consecutive year of the Love the Forests and the Community Project which won widespread recognition due mainly to the community forest contest that honors and inspires those communities devoted for forest preservation.

In the year, the contest received 801 entries and 16 were awarded. Eleven of them from the Forest Resource Management Offices as a project promoter received the honorary awards.



Baan Nongbua Community Forest, Roi Et Province

receives the National Community Forest Award and the trophy of HRH Princess Maha Chakri Sirindhorn.

Results of Love the Forests and the Community Contest 2024

16 awards with THB 1,450,000 in prize money

Awards	Winners
National Community Forest Award (Prize money: THB 200,000)	<ul style="list-style-type: none"> Baan Nongbua Community Forest, Roi Et Province
Runners-up of the National Community Forest Award (Prize money: THB 150,000 each or a total of THB 450,000)	<ul style="list-style-type: none"> Baan Pao Pom Dom Yang Community Forest, Phrae Province Baan Phu Bong Community Forest, Suphan Buri Province Baan Wang Sai (Tham Phra Hor) Community Forest, Nakhon Si Thammarat Province
Regional Community Forest Award (Prize money: THB 100,000 each or a total of THB 400,000)	<ul style="list-style-type: none"> Northern Region: Baan Ta Hua Fai Community Forest, Chiang Rai Province Central and Eastern Region: Baan Phra Phutthabat Community Forest, Nakhon Sawan Province Northeastern Region: Baan Pak Man Community Forest, Loei Province Southern Region: Baan Hin Pherng Community Forest, Krabi Province
Runners-up of the Regional Community Forest Award (Prize money: THB 50,000 each or a total of THB 200,000)	<ul style="list-style-type: none"> Northern Region: Baan Huay Pong Samakki Community Forest, Lamphun Province Central and Eastern Region: Khao Rao Thian Community Forest, Chai Nat Province Northeastern Region: Phu Taphao Community Forest, Chaiyaphum Province Southern Region: Baan Bala Community Forest, Narathiwat Province
Community Forest for Outstanding Development Award (Prize money: THB 50,000 each or a total of THB 200,000)	<ul style="list-style-type: none"> Baan Huay Ang Community Forest, Chiang Mai Province Baan Lao Fu, Pong Kha Kaem, Pong Khom Community Forest, Chiang Rai Province Wang Kok-Khao Sa Luad Community Forest, Chaiyaphum Province Baan Thang Ngor Community Forest, Satun Province

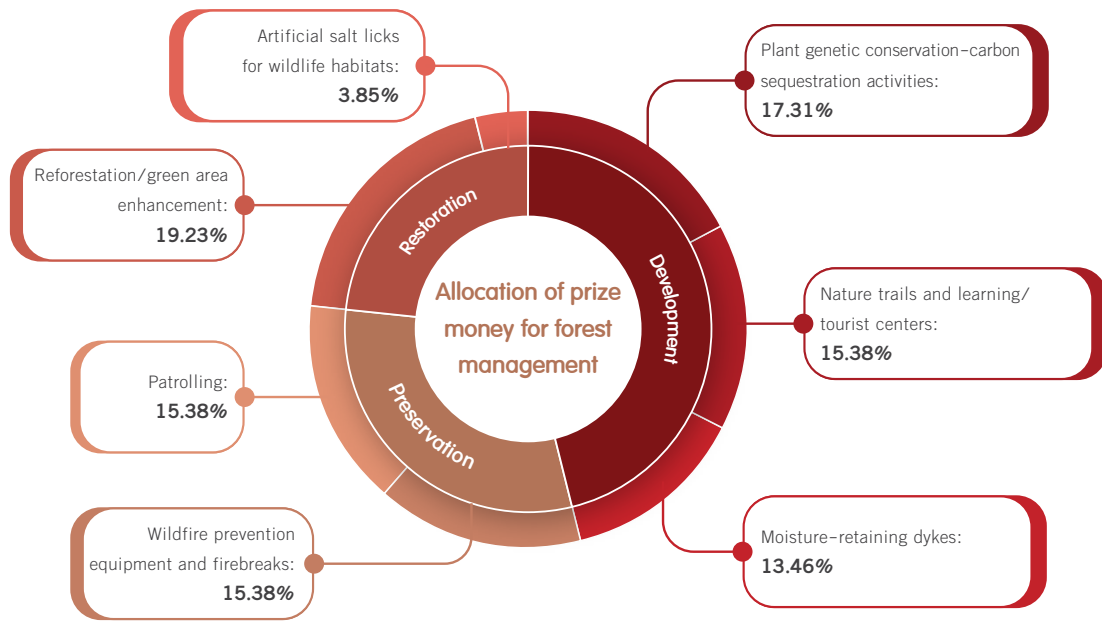
Positive impacts on community

A total of 6,794 households, or approximately 21,333 people, from community forests have benefits from the awards and forests. These households rely on and utilize community forest resources in various ways, which can be summarized as follows:

Economic Dimension	Social Dimension	Environmental Dimension
<ul style="list-style-type: none"> Awarded forests support daily life, helping reduce household expenses and increase income by approximately THB 30.2 million. Communities are supplied with water for household and agricultural use all year round. 	<ul style="list-style-type: none"> Community members are united to preserve community forests. Since 2008, the project has attracted 1,789 participating community forests. 348 community leaders received training on forest management. Forest officers of 11 Forest Resources Management Offices were given a morale boost. Community forests serve as multi-dimensional learning centers for 66 schools, educational institutions, academia and neighboring communities, benefiting 3,159 students. 	<ul style="list-style-type: none"> Forests preserved under the program's supports encompass 37,062.61 rai. The preserved forests are able to sequester about 233,494.44 tons carbon (average 6.3 tons carbon/rai). Communities are safe from natural disasters like wildfire, drought, and land slide.

Since the project inception in 2008, 1,789 community forests have been awarded the combined prize money of THB 47.37 million. RATCH has supported the development of 7 community forests, spanning 5,695 rai, into carbon credit projects in collaboration with the Department of Royal Forest. The financial supports during 2022 and 2024 totaled THB 1,897,830.

Survey: awarded forests' allocation of prize money



Environmental preservation initiatives

RATCH has collaborated with the government sector and civil society in carrying out forest preservation and rehabilitation initiatives, to nurture biodiversity and ecosystems as well as remove greenhouse gases. The operations in 2024 are summarized below:

Plant Genetic Conservation Project Under the Royal Initiative of HRH Princess Maha Chakri Sirindhorn

Activity	Local resource base workshop <ul style="list-style-type: none"> Course 1 Classroom training and out of class activities focusing on the royal project's local resource base approach. Course 2 Comprehension class on the operational guidelines under the projects' policy, direction and objectives and train-the-trainers class for the organizations acting in support of the project.
Venue	<ul style="list-style-type: none"> Udon Thani Rajabhat University's coordination center Suranaree University of Technology's plant genetic conservation center
Performance	A number of 150 executives and staff of the royal project's network coordination centers and coordination centers across Thailand participated in the workshop.
Results	Local administrative officers, the main target group, gained knowledge in exploring local resources and preparing the resource bases as the basis for conservation activities for each locality; and extended the knowledge to local organizations' staff.
Activity	School botanical garden workshop <ul style="list-style-type: none"> Course 1 Equip training center speakers with significant knowledge about school botanical gardens, which serve as a conservation tool and are applicable along with the Sufficiency Economy Philosophy. Course 2 Equip assistant training center speakers with significant knowledge about school botanical gardens, focusing on: 1) nature and interconnectedness, 2) analysis of the power of imagination and innovation, and 3) implementation at school botanical gardens.
Venue	<ul style="list-style-type: none"> Surat Thani Rajabhat University Mae Fah Luang University
Performance	A number of 191 executives and staff of the royal project's network coordination centers and coordination centers across Thailand participated in the workshop.

Results	University lecturers and teachers, the main target group, gained knowledge in operating school botanical gardens and building school botanical garden networks.
Mangrove reforestation with Department of Marine and Coastal Resources	
Project	Mangrove reforestation for carbon credits
Area	Pak Nam Weru forest reserve in Laem Sing and Khlung districts and government-declared mangrove reserve in Tha Mai District, Chanthaburi Province, covering a total of 113.47 rai.
Performance/Results	<ul style="list-style-type: none"> Created local jobs for tree growing and patrolling with net expenses of THB 728,131 for 50 persons in 2023–2024. Registered the project with the TGO's Thailand Voluntary Emission Reduction (T-VER) program on 11 March 2024, expecting to acquire 3,120 tCO₂e of carbon credits: 2,808 tCO₂e (90%) for RATCH and 312 tCO₂e (10%) for the Department throughout the 10-year period (2023–2033).
Supports to Mah Fah Luang Foundation's community forest preservation	
Project title	Forest Carbon Credits Management for Sustainable Development
Area	10,000-rai community forests in the northern and northeastern regions
Performance/Results	<ul style="list-style-type: none"> Registered the project with the TGO's Thailand Voluntary Emission Reduction (T-VER) program on 24 September 2024. Expecting to acquire 16,404.21 tCO₂e of carbon credits throughout the 5-year period (2023–2029).
Area	1,000-rai Baan Na Charoen Community Forest, Chiang Rai Province
Performance/Results	<ul style="list-style-type: none"> Registered the project with the TGO's Thailand Voluntary Emission Reduction (T-VER) program on 24 September 2024. Expecting to acquire 1,653.54 tCO₂e of carbon credits throughout the 5-year period (2022–2027). Trained 14 community members to track the growth of trees for the calculation of carbon sequestration.
Forest preservation together with the Department of Royal Forest	
Project	Preservation, rehabilitation and management of 5 community forests in Sa Kaeo, Khon Kaen and Nakhon Ratchasima provinces to combat greenhouse gases.
Area	Baan Na Ngam Community Forest in Sa Kaeo Province; Baan Huay Jode Community Forest, Baan Pa Phrao Community Forest, and Baan Soke Yai Community Forest, in Khon Kaen Province, and Tambon Non Jarn Community Forest in Nakhon Ratchasima, covering a total of 3,195 rai.
Performance/Results	<ul style="list-style-type: none"> Prepared the document to register with TGO's Thailand Voluntary Emission Reduction (T-VER) program. Expecting to acquire 12,939.75 tCO₂e of carbon credits throughout the 15-year period (2024–2038). (Based on the Department of Royal Forest's carbon sequestration forecast of 0.54 tCO₂e per rai per year.)
Project title	Preservation, rehabilitation and management of 2 community forests in Phrae Province, to reduce greenhouse gases
Area	Baan Huay Kuem Community Forest and Baan Pao Pom Dong Yang Community Forest in Phrae Province, covering a total of 2,500 rai.
Performance/Results	<ul style="list-style-type: none"> Prepared the document to register with TGO's Thailand Voluntary Emission Reduction (T-VER) program. Expecting to acquire 10,125 tCO₂e of carbon credits throughout the 15-year period (2024–2038). (Based on the Department of Royal Forest's carbon sequestration forecast of 0.54 tCO₂e per rai per year)
Project	Reforestation to reduce greenhouse gases and enhance biodiversity
Area	Khlung Ta Kian Forest in Kaset Suwan Subdistrict, Bo Thong District, Chonburi Province, covering 339.02 rai.
Performance/Results	<ul style="list-style-type: none"> Planting 67,800 seedlings of 12 plants – black rosewood, Burmeserosewood, iron wood, yang, mahogany, Burmablack wood, Queen's flower, white meranti, Siamese rosewood, teak tree, Papilionaceae, and eagle wood. Prepared the document to register with TGO's Thailand Voluntary Emission Reduction (T-VER) program. The estimated amount of carbon credits received throughout the project duration is 4,347.93 tCO₂e over a 15-year period (2024–2039).

Improvement of community quality of life and economy and society

Education for Career Empowerment Project in Lao PDR

The project is a goal in the Sustainability Strategy in social dimension, initiated to support human resource development in the localities the Company's operating sites are located, especially Lao PDR which is a significant business base. RATCH and Lao PDR's Ministry of Education and Sports jointly designed the project to support vocational education development in the country, focusing on essential technical skills for the electricity industry and entrepreneurial skills for the improvement of local community. The project also addresses the labor demand of RATCH's businesses in Lao PDR. It not only promotes technical skills and career

development, but also lays the foundation for vocational study in renewable energy. In 2024, students received laboratory training on power generation from solar power and, to demonstrate responsibility for community, installed solar power generation systems for communities in need. The project thus benefited both students and communities.



The letter of intent was signed by RATCH and Lao PDR's

Ministry of Education and Sports to launch the third phase of "the Education for Career Empowerment Project" (2024–2030).

Objectives

- Support education development for the electricity industry's labor market and entrepreneurial skills for Lao PDR's economic development.
- Equip the youth in Lao PDR with professional knowledge and skills the electricity industry demands, in support of SDG4: Target 4.4.



Main target groups

- Vocational teachers and students in Lao PDR
- Schools and communities receiving solar power generation systems

Performance in 2024

Training and practical work experience for senior vocational students.

Activity	College/School	No. of people (persons)
General maintenance training	Senior vocational students, Vientiane Province Technical College's Vocational Certificate Program	20
Solar panel installation workshop for solar power generation	Senior vocational students, Integrated Technical-Vocational School of Nambak (Luang Prabang Province)'s Vocational Certificate Program	20
Total		40

After the workshop, the senior vocational students of Integrated Technical-Vocational School of Nambak (Luang Prabang Province)'s Vocational Certificate Program used their knowledge into practice, by installing 150-watt solar panels at 33 households in Baan Dan Community, Phoukhoun City, Luang Prabang Province. Able to generate 4,950 watts, the solar panels offered the community an additional access to electricity and lifted the quality of living by giving power to small electrical devices like mobile phones, televisions and radios.

With expertise in harnessing renewable energy for power generation, RATCH also transferred the knowledge to 120 Lao teachers and students at a training session at Vientiane Province Technical College.



SROI-based impact assessment

The Education for Career Empowerment Project in Lao PDR has been carried out since 2009 in collaboration with the Lao PDR's Ministry of Education and Sports. The project is now in its third phase (2024–2030). The emphasis is on the development of skills in metal welding, general maintenance, electrical control and renewable energy for vocational certificate-level teachers and students in eight schools which are; Khammouane Technical Vocational College, Vientiane Province Technical College, Luang Prabang Technical Vocational College, Integrated Technical – Vocational College in Xayabouly Province, Bolikhamxay Technical College, Champasak Technical Vocational College, Sekong Integrated Technical – Vocational School, and Attapeu Integrated Vocational Technical School. The project also provides knowledge and career training for students, under the goal to improve the quality of life of communities around the Company's operating premises in Lao PDR.

RATCH applied the Social Return On Investment (SROI) tool to evaluate the project's impacts, following the completion of the first phase (2011–2015) and the second phase (2018–2023). The evaluation results are as follows:



Relevant Stakeholders

- Department of Technical and Vocational Education and Training (DTVET), Lao PDR's Ministry of Education and Sports
- 21 participating technical colleges
- 83 teachers from 20 technical colleges
- 1,646 students from 13 colleges
- 5 elementary schools receiving solar power generation systems
- 33 households in 1 community receiving solar power generation systems

Supports



Results

Vocational supports:
e.g., training courses for teachers and students, training equipment, and training course development



Enhanced efficiency: Students were better equipped with knowledge and skills through the education improvement that promotes a specific career development.

Development of curriculum at involved educational institutions



Enhanced expertise of teachers: Students were given an opportunity to improve their potential with secure jobs that provides more income and a better quality of life.

Installation of solar cells for water pumps at schools



Favorable condition for students: Clean water led to better hygiene, more effective learning and reduced sickness.

Social Return On Investment = 1.36:1 For every unit of money invested, the project generates 1.36 of value in return in economic, social and environmental dimensions, indicating the worthiness and value above the investment.

Economic value

71.616%

- DTVET gained additional budgets for learning improvement.
- Teachers enjoyed career development opportunities.
- Students enjoyed job and stable income opportunities.
- Community saved expenses on candles and lamps due to solar power.
- Students at solar power-installed schools enjoyed sufficient lighting, saving medical expenses on eye care in the long run.
- The absence rate and medical expenses on digestive diseases dropped as students had sufficient solar-powered electricity and clean water for consumption and cleaning purposes.
- Solar cells reduced schools' utility expenses.

Social value

28.383%

- DTVET had higher capability in formulating new curricula in response to current market demands, like solar power and control of building elevators.
- The project is a model for Lao PDR's Ministry of Education and Sports in harnessing private sector assistance for educational development.
- Students enjoyed professional skills practical for their future career.
- Students enjoyed supports to start own businesses.
- Migration of student dropped.
- Community quality of life improved due to solar power.
- Students had pride in doing a good deed, installing solar cells for the community.

Environmental value

0.001%

- Community reduced independence on external energy sources due to solar power.
- Community reduced oil consumption for motorcycles and carbon emissions due to solar power.
- Schools enjoyed a favorable environment and supports on renewable energy.



In 2024, Lao PDR's Ministry of Education and Sports bestowed the Cross of Development to RATCH, honoring the foreign business enterprise for its contribution to Lao PDR's development via the Education for Career Empowerment Project, which has yielded tangible results and widespread social benefits since its start in 2011. RATCH is also considered a model for social responsibility.

Capacity building and quality of life promotion

RATCH and business entities under its operational control launched the following activities to help community and social development in 2024:

RATCH Group PCL.

Recyclable calendars

Objectives	To promote creative recycling of resources, reduce waste, and provide learning materials made from old calendars to the visually-impaired people.
Actions	Publicized the project and set up donation boxes inside RATCH Group Building.
Outcomes	115 donors donated 243 old calendars to the Educational Technology Center for the Blind.

RATCH Self-Learning Promotion Project's

Objectives	<ul style="list-style-type: none"> To promote self-learning and creativity among kindergarten and elementary-level students via favorable learning environment as well as proper learning and reading materials. To deliver solar power-harnessing device, to promote clean energy and reduce carbon emissions.
Actions	<ul style="list-style-type: none"> Improved libraries and provided general-knowledge reading materials to kindergarten and elementary-level students. Installed solar power generation equipment which can generate up to 4.56 kilowatt-hours.
Outcomes	<ul style="list-style-type: none"> Students had an appropriate place and appropriate materials for their learning. A number of 450 students used library services. Electricity consumption during August and December 2024 decreased by 1,104.55 kilowatt-hour, indicating the reduction of greenhouse gas emissions by 552.16 kgCO₂e.

Blood donation

Objectives	To encourage employee and supplier engagement in doing a good deed by increasing blood supply for the Thai Red Cross Society.
Actions	Coordinated with the Thai Red Cross Society for the arrangement of a mobile donation vehicle for the donation by employees of RATCH and suppliers and relevant government offices.
Outcomes	45 donors donated 19,350 cc of blood.

RATCH's Mangrove Reforestation Volunteering

Objectives	To promote environmental preservation and rehabilitation via mangrove reforestation and green area enhancement, to sequester carbon dioxide and mitigate climate impacts.
Actions	Organized a reforestation and crab-releasing activity at Bang Pu Nature Education Center.
Outcomes	20 volunteers planted 200 mangrove trees on a 1-rai area which should sequester approximately 2.75 tCO ₂ e/year and released 10 kg of sea crabs, to help rehabilitate the mangrove ecosystem and ensure more abundance.

Ratchaburi Power Plant

CSR IN SCHOOL

Objectives	<ul style="list-style-type: none"> To build knowledge on the preparation of fire-fighting and evacuation plans for schools and exercise drills. To ensure school personnel's ability to follow "Safe School" Manual. To build a safe school network for the personnel of schools around the power plant.
Actions	Organized a workshop for 27 networked schools for the preparation of Safe School Manual that contains fire-fighting and evacuation plans in line with the policy by the Ministry of Education's Office of the Basic Education Commission and exercise the drills.
Outcomes	<ul style="list-style-type: none"> 4 pilot schools – Wat Nhong Aiean, Wat Pikul Thong, Wat Chaw Nhuea, and Ta Makham have fire-fighting and evacuation plans and completed the drills with supports from all relevant parties. Participating schools enrolled into the school safety contest by the Ministry of Labor's Department of Labor Protection and Welfare, and 20 won outstanding awards in the national level and 3 receive complimentary awards.

Mobile medical service

Objectives	<ul style="list-style-type: none"> To offer medical treatment and healthcare advice. To promote public healthcare for a better community quality of life.
Actions	Provide health check-up with Thai traditional and alternative medicine from the Institute of Traditional Thai Medicine and Alternative Medicine, Muban Chombueng Rajabhat University, and traditional Thai massage services from the OTOP Thai Massage Group in Ratchaburi Province.
Outcomes	<ul style="list-style-type: none"> The activity served 2,727 people. Satisfaction score was at 96.14%.

For Our Home (Education Group)

Objectives	<ul style="list-style-type: none"> To build knowledge and comprehension about AI & digital platforms and application with classroom learning. To enhance educational institutions' administration and teaching/learning efficiency with AI & digital platforms.
Actions	Organized a workshop entitled "Digital Technology-Enabled Evaluation for New Gen Teachers", for the executives, teachers and staff of the power plant's school network.
Outcomes	<ul style="list-style-type: none"> 27 schools participated in the workshop. (100% of the power plant's school network) 54 executives, teachers and staff of the power plant's school network attended the workshop and received certificates from the Ministry of Education's National Institute for Development of Teachers, Faculty Staff and Educational Personnel.

For Our Home (Public Health Group)

Objectives	To enhance the skills on first-aid, resuscitation and Automated External Defibrillator (AED); and coordination with emergency units for the safe transfer of patients.
Actions	A workshop on Cardiopulmonary Resuscitation (CPR) and the activation of Automated External Defibrillator (AED)
Outcomes	<ul style="list-style-type: none"> 96 officers from 16 Tambon (6 persons/Tambon) Health Promotion Hospitals attended the workshop. Satisfaction score was 94.58%.

For Our Home (Government Office Group)

Objectives	To enhance administrative government officers' skills in controlling persons with drug-induced psychological symptoms, for more efficiency and safety.
Actions	Provided the appropriate equipment to assist officers' detention of persons with drug-induced psychological symptoms; organized a workshop featuring specialists on detention and crisis management; and provided a briefing on drug impacts and appropriate methods to handle persons with psychological symptoms.
Outcomes	161 officers gained more skills and knowledge about the equipment to control people with drug-induced psychological symptoms and performed their duties efficiently which reduced risks for the officers and patients.

For Our Home (The Vulnerable Group)

Objectives	To improve the housing condition of poor community members, for better hygiene and convenience.
Actions	Repaired and maintained the accommodations of the poor, the underprivileged, persons with disabilities and the vulnerable in Don Sai and Baan Sing subdistricts, Photharam District.
Outcomes	4 houses were improved, ensuring better quality of life for 4 family members.

For Our Home (Community Enterprise Group)

Objectives	To promote the management and recovery of aromatic coconut waste.
Actions	Supported Ban Aromatic Farm Community Enterprise's study of the management technique for aromatic coconut waste and waste processing; and promoted community engagement in waste management.
Outcomes	<ul style="list-style-type: none"> The community obtained valuable products (In-kind Value and In-cash Value) from aromatic coconut waste such as biochar, fertilizer, soil improvement materials, and flooring materials. Aromatic coconut waste is properly and systematically managed. A coconut waste management model was created and supported a collaboration network.

RATCH Cogeneration Power Plant**Herbal foot soak and hand/foot exercise**

Objectives	To offer traditional Thai medicine-based healthcare, including herbal foot soak, to reduce potential medical expenses.
Actions	Organized a health activity, offering the herbal foot soak and building knowledge about hand/foot exercise for better blood circulation.
Outcomes	49 members of Siripap Health Group attended the activity.

Community waste sorting (Youth Group)

Objectives	To instill and raise awareness on the management of community environment and reduce community waste to landfills.
Actions	Organized a talk, in collaboration with Thammasat University Rangsit Campus students (taking TU100: Civic Engagement course), on correct waste dumping and sorting for the youth.
Outcomes	20 students attended the activity were aware of the importance of community environmental management and extended the gained knowledge to other people in the community.

Baan Phor Phiang for the Poor (The Vulnerable)

Objectives	To improve community quality of life and develop accommodations with proper hygiene and convenience for the target group.
Actions	Repaired the accommodation for the poor and the elderly in collaboration with Tha Khlong Municipality, Pathum Thani Province.
Outcomes	36 households were repaired, allowing 146 family members to enjoy a better quality of life.

Nava Nakorn Power Plant**Khlong Chiang Rak Noi's rehabilitation 2024**

Objectives	To sustainably preserve water resource and rehabilitate the ecosystem for continuous abundance and balance.
Actions	A garbage collection activity along the canal in collaboration with the community.
Outcomes	Community actively participated in the activity with awareness in the need to take care of the surroundings, resulting in the good water quality and beautiful scenery.

Career development for community

Objectives	To enhance community members' income-generating capability and sustainable self-sufficiency.
Actions	A workshop on tie-dyed shirt making and tips to make it the source of supplementary income.
Outcomes	40 village health volunteers, community leaders and members of the communities within 5-km radius joined the activity.

Returning life to the water

Objectives	To preserve the nature and native fish species in Khlong Chiang Rak Noi, for the abundance in the canal.
Actions	The 9 th year activity to release 5,000 tilapia fish, 5,000 striped catfish and 4,000 climbing perch to Khlong Chiang Rak Noi.
Outcomes	The activity was participated by 130 community members and students, who showed their care for local resources and received an opportunity to generate more income.

Berkprai Cogeneration Power Plant**Self-sufficiency gardening**

Objectives	To encourage the consumption of organic vegetables which are good for health and save household expenses.
Actions	Training on organic vegetable cultivation farmers in Tha Pha Subdistrict, Ban Pong District, Ratchaburi Province and established a community learning center.
Outcomes	<ul style="list-style-type: none"> 40 farmers in Tha Pha Subdistrict, Ban Pong District, Ratchaburi Province joined the training. Participants applied the knowledge with their daily life and a community learning center was established to share the knowledge.

Agriculture demonstration plot in collaboration between household, temple, school and power plant

Objectives	To promote integrated agriculture at the power plant's school network, integrating cultivation knowledge with environmental conservation. As a learning center, it is aimed to inspire sustainable agriculture for the youth and community members in the area and generate income for students.
Actions	Collaboration with 5 schools and community in developing and tendering the integrated agricultural plots.
Outcomes	<ul style="list-style-type: none"> No. of participating schools: 5 No. of participating community members: 120 There is one agricultural demonstration plot used for fish farming and growing kitchen garden vegetables such as limes, acacia (cha-om), and pea eggplants, among others.

Community enterprise capability development

Objectives	To help community members earn more income from the making of unfried rice crust.
Actions	Workshop on the making of unfried rice crust and value-added packaging.
Outcomes	<ul style="list-style-type: none"> 80 community members at village Moo 1, Lad Bua Khao Subdistrict, Ban Pong District, Ratchaburi Province. The project has been extended to cover 6 community groups.

Medical checkup for community

Objectives	To raise health awareness among community members and give them an access to preliminary screening for disease prevention.
Actions	Collaboration with Ban Bang Pang Health Promotion Hospital and Berkprai Health Promotion Hospital for the provision of medical checkup and basic health knowledge.
Outcomes	Community members, 100 persons a month or a total of 1,200 in 2024, received the checkup.

Fish release as a royal tribute and water resource preservation

Objectives	To preserve local resources and fish species in Mae Klong River.
Actions	An activity to release fish like climbing perch, carp, catfish, eel, rohu, clown knifefish, striped catfish, and black ear catfish into Mae Klong River.
Outcomes	<ul style="list-style-type: none"> 100 representatives of government offices and community joined the activity. The 10,000 released fish would enhance the abundance and generate income for the community.

Ratch Pathana Energy Power Plant

Village health volunteers (Mobile volunteers)

Objectives	To enhance the capability of village health volunteers and make them new and strong community leaders; and to set a stage for knowledge exchange and public health improvement.
Actions	2 meetings where volunteers from different communities exchanged their knowledge and practices.
Outcomes	180 health volunteers from 7 communities were present at the meetings.

Young health volunteers (Young Volunteers)

Objectives	To promote public health knowledge among youth volunteers.
Actions	Training focusing on health issues and the duties of young community volunteers.
Outcomes	60 health volunteers and youth volunteers from 4 target communities joined the activity.

Energy Art Contest

Objectives	To support students with artistic skills and create a stage for an exchange of experiences and the presentation of the power plant's environmental management.
Actions	Energy Art Contest that integrated sustainable energy conservation ideas.
Outcomes	80 students from 18 schools participated in the contest.

Career development

Objectives	To promote knowledge and skills necessary for sustainable income generation and improvement in quality of life, taking into account the resources and context of each locality.
Actions	Biannual cooking workshops on different menus like soy milk and gyoza.
Outcomes	150 members of 4 communities joined the workshop.

Songkhla Biomass Power Plant

Development of school learning center's environment

Objectives	To ensure the proper conditions and serviceability of learning centers in terms of learning tools that meet students' needs, for the local youth's access to proper learning centers.
Actions	Improved the environment and provided learning tools to Muang Kuan Krod School in Tha Mor Sai Subdistrict, Chana District, Songkhla Province.
Outcomes	Students had proper learning tools for their ages.

Hin Kong Power Plant

First aid training

Objectives	To enhance first-aid and basic life support skills.
Actions	Training for the village health volunteers of neighboring communities.
Outcomes	120 volunteers from Hinkong subdistricts joined the activity.

Career development for women and housewives

Objectives	To offer them with various skills for additional income and to develop new careers.
Actions	Providing 2 trainings for enhancing basket weaving skills.
Outcomes	The number of participants totaled 100.

Green Market

Objectives	To promote organic farming and the processing of organic products for small farmers and village health volunteers.
Actions	Setting up a market for the exchange of organic agricultural products and built knowledge to add the value.
Outcomes	1 green market in Don Tako Subdistrict are organized every month on 14th day or on the day of the village health volunteers' meeting or the elderly meeting at the Health Promoting Hospital, with 120 participants.

Fish release to Mae Klong River

Objectives	To preserve fish species in the Mae Klong River and maintain the balance of the aquatic ecosystem
Actions	Release of fish species like white carp, red carp, rohu, etc. to the river, in collaboration with government offices and community members.
Outcomes	<ul style="list-style-type: none"> • 176 government officers and community members joined the activity. • A number of 50,000 fishes was released.

Community closed-circuit camera

Objectives	To guard against burglaries and other crimes in neighboring communities and to quickly solve the incidents.
Actions	Installation of 21 closed-circuit cameras in Chedi Hak Subdistrict.
Outcomes	The number of burglary cases in the community dropped.

RATCH-Lao Service Co., Ltd.**RATCH Ruam Pathana School Building 4**

Objectives	To construct a school building and provide learning materials for the improved learning opportunities of rural students in Lao PDR.
Actions	Developed a kindergarten facility, and solar-powered water pumping and electricity systems for Ban Kaeng Kian School in Sekong Province's Kaleum District.
Outcomes	Kindergarten students had a proper facility that supported their learning and development.

Youth development

Objectives	To equip the youth in remote areas with career skills.
Actions	Organized career development training at Don Bosco Vocational Training Center and vocational training center of Lao People's Revolutionary Youth Union and the youth in the provinces of Phongsaly, Houaphanh, Xiangkhouang, Khammouane, Sekong, and Attapeu.
Outcomes	The youth received skill training.

Communications for understanding and confidence in the operations

Transparent and continuous communications with communities is a key factor to ensure their understanding, trust and confidence in the Company Group's operations. Accurate understanding is significant particularly among neighboring communities and this requires communications via continuous activities, direct and indirect, that ease community concerns and clearly address their doubts for a good relationship in the long run.

In this regard, 9 power plants under the Company's operational control (contributing 63.42% of total revenue) implemented the following actions in 2024:

Project/Objectives	Actions/Results
RATCH Group PCL.	
Information disclosure via news media <ul style="list-style-type: none"> To disclose social responsibility actions to the general public. 	Actions : Publicizing social operations like CSR activity/project via news media and activity with Thailand Business Council for Sustainable Development (TBCSD). Results : 5 press releases to news media and 13 releases to TBCSD.
Notification of actions that may cause impacts on community <ul style="list-style-type: none"> To notify community of the Company's activities that may cause impacts. 	Actions : Sending notifications containing details of activities, possible impacts, and the communication channel to stakeholders nearby RATCH's buildings. Results : 15 letters to two companies ties, 1 letter to 12 households.
Ratchaburi Power Plant	
Communications for better relationships <ul style="list-style-type: none"> To build understanding in the production process and environmental management. To communicate about the power plant's decommissioning upon the end of power purchase agreements in 2025 and 2027. 	Targets : Coconut growers and other farmers in 9 subdistricts around the power plant. Actions : Conducted 8 activities to inform the results of the community relations efforts throughout the year and direction of the plant after the expiration of the electricity purchase agreement. Results <ul style="list-style-type: none"> 444 target audiences joined the activities. (98.6% of target) Satisfaction score was 90.25%.
Communication via online media channels <ul style="list-style-type: none"> To promptly disclose operational actions. To conduct 2-way communication channels. 	Targets : Neighboring communities and the general public in Ratchaburi Province. Actions : Dissemination of the power plant's information and activities, general knowledge and other activities happening around the power plant and in the province. Results <ul style="list-style-type: none"> Publicizing information 157 times via Facebook Fan Page: "Our home by Ratchaburi Power Plant" which had 33,510 followers. Publicizing activity news and knowledge 95 times via Line Open Chat which had 1,850 chat members.

Project/Objectives	Actions/Results
Information disclosure via community leaders and local government offices <ul style="list-style-type: none"> To inform them of the operations and activities that may cause impacts on community. 	<p>Targets : Provincial government offices, local administrative bodies and schools in 9 subdistricts around the power plant, as well as local media channels.</p> <p>Actions : Publicizing information via the annual reports on environmental and social activities, newsletters and press releases.</p> <p>Results</p> <ul style="list-style-type: none"> Annual reports on environmental and social activities were sent to 632 relevant offices. Sent community notification letters on 4 topics, including informing about testing the operation with backup fuel and requesting access to the area for surveying the raw water pipeline system and the fuel oil pipeline system, among others. 16 press releases were sent to local media channels.
Friend's Visit <ul style="list-style-type: none"> To build understanding in the production process and environmental management. 	<p>Targets : Women's groups in Muang, Photharam, Bang Phae and Damnoen Saduak districts.</p> <p>Actions : A tour to the power plant where visitors were given the information about power generation and environmental management.</p> <p>Results</p> <ul style="list-style-type: none"> 200 women from target areas joined the activity. The score of satisfaction and understanding was 90.88%.
RATCH Cogeneration Power Plant	
Information for local government offices, community leaders and community <ul style="list-style-type: none"> To inform them of the power plant's information and operational results. 	<p>Targets : Local government offices and community leaders in Tha Khlong municipal area.</p> <p>Actions : A meeting to inform the targets of the power plant's operational results and hear their opinions on issues of concern.</p> <p>Results : Leaders of 43 communities joined the meeting.</p>
Information for government offices and community <ul style="list-style-type: none"> To inform them of the power plant's information, operational results, and environmental management. 	<p>Targets : Government offices and the youth in the area.</p> <p>Actions : Organizing 2 exhibitions.</p> <p>Results : The targets understood the power plant's operations and environmental management through the exhibitions that attracted more than 350 visitors.</p>
Student Tour <ul style="list-style-type: none"> To build understanding in the power generation process and knowledge about global energy. 	<p>Targets : Executives, teachers and students of Wat Thamnawa School in Chiang Rak Noi Subdistrict, Bang Pa-in District, Ayutthaya Province.</p> <p>Actions : A tour to EGAT Learning Center and the power plant.</p> <p>Results : Grade-9 students, school executives and teachers joined the activity, totaling more than 50 people.</p>
RATCH Energy Rayong Power Plant	
Community's bulletin boards <ul style="list-style-type: none"> To publicize the information on environmental monitoring. 	<p>Actions : Publicizing 2 environmental monitoring results to communities in Nong Lalok Subdistrict, Ban Khai District.</p> <p>Results : The general public, community leaders and local government officers received accurate information on the power plant's environmental operations.</p>
Berkprai Cogeneration Power Plant	
Publicization of environmental quality measurement <ul style="list-style-type: none"> To publicize the information on environmental quality monitoring reports. 	<p>Actions : Preparation of easy-to-understand summaries of environmental quality reports for community and government offices.</p> <p>Results : 2 summaries were posted on the community's bulletin board.</p>
Opinion boxes <ul style="list-style-type: none"> To communicate with community and receive complaints. 	<p>Actions : Installation of 3 opinion boxes to receive opinions/recommendations from community members. The boxes are opened once a month and complaints are processed under the handling procedure.</p> <p>Results : No complaint from community in 2024.</p>

Project/Objectives	Actions/Results
Nava Nakorn Power Plant	
Open House <ul style="list-style-type: none"> To ensure community's understanding in the power plant's operations and establish a communication channel. 	Targets : Representatives of communities and local government offices within 5-km radius. Actions : Observation of the power plant's production process and environmental quality management. Results : 40 representatives of the communities and Tambon Phayom Administrative Organization joined the activity.
Student Tour <ul style="list-style-type: none"> To educate the local youth about power generation and environmental management. 	Targets : Executives, teachers and students of Thamnawa School, one of schools within 5-km radius. Actions : A tour to observe the power plant's production process and environmental management. Results : Students, school executives and teachers joined the activity, totaling 40 persons.
Education on air and noise quality monitoring <ul style="list-style-type: none"> To educate community about the environmental quality monitoring process and devices. 	Targets : Communities around the power plant Actions : Inviting community representatives to observe the air and noise quality monitoring at 3 stations and a lecture on monitoring process and comparison of the results with legal requirements. Results : Communities better understood the power plant's compliance with environmental quality management requirements.
Information disclosure via online media <ul style="list-style-type: none"> To publicize the power plant's information and activities. 	Targets : Government offices, community leaders and the general public living around the power plant. Actions : Publicizing the power plant's information and activities and welcoming of opinions and input for mutual solutions. Results : Communities received accurate information in a speedy manner.
Groups of Ratch Pathana Energy PCL's power plants	
Information disclosure <ul style="list-style-type: none"> To publicize and build understanding in the operations which may cause impacts on neighboring communities. 	Actions : Publicizing the activities that may cause impacts on neighboring communities, so as not to cause misunderstanding. Results : Communities were notified of activities which may cause loud noise 7 times, concerning the maintenance, broadcasting/alarm test, emergency response drill (firefighting and evacuation), and steam pipeline cleaning.
Songkhla Biomass Power Plant	
Meeting to follow up environmental operations <ul style="list-style-type: none"> To publicize information and build understanding in the power plant's operations; and hear community complaints. 	Actions : A meeting for the leaders of neighboring communities, to explain the power plant's operations and environmental management as well as hear their recommendations and concerns. Results : The participants representing the communities and government offices attended the meeting. They filed no complaint or voiced any concerns.
Hin Kong Power Plant	
Our Neighbors <ul style="list-style-type: none"> To build understanding in the power generation process 	Actions : Organized a field trip to Uthai Power Plant in Uthai District, Ayutthaya Province for the community leaders and members of 7 sub-districts near Hin Kong Power Plant, to educate them about a gas-fired power plant and its environmental management. Outcome : 92% of 676 participants stated they gained better knowledge and understanding in power plants' operations.
Community Visit <ul style="list-style-type: none"> To build a good relationship and reduce conflicts relating to the power plant's operations. 	Actions : A visit of the power plant's officers to areas within 5-km radius, to explain the power plant's operations and environmental management. Results : Community leaders and members gained better understanding in the power plant's operations.

Respect for community rights and community engagement

Giving community rights a priority, RATCH has placed an emphasis on community engagement. Every business venture has the tri-partite committee, consisting of the representatives of the government sector, the civil society and the power plant. The committee is allowed to inspect and observe the power plant's operations in whatever aspect that concerns the community, particularly in environmental and social aspects.

The tri-partite committee or the Environmental Inspectors Committee is considered a key mechanism to create transparency and trust between the power plant, the government sector and community. They hold the power in inspecting, monitoring and giving recommendations to the power plant; follow up on compliance with the laws and requirements specified in the environmental impact assessment reports (EIA); and straightforwardly communicate accurate information to the community. They also act as the intermediary that reflects community views and concerns and follow up on problem solving for long-term collaboration and trust.

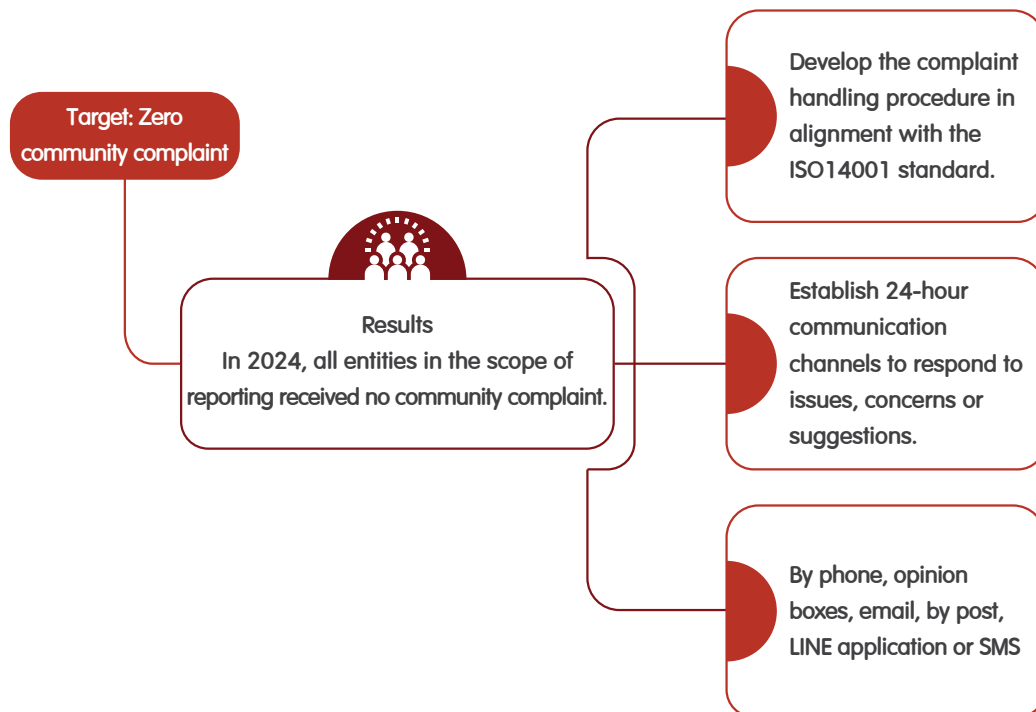
The actions of the tri-partite committees of the power plants under RATCH's operational control (contributing 62.13% of 2024 revenue) in 2024 are summarized below:

Power Plant/ Committee Name	Composition (persons)					Actions (times)		
	Local people	Government offices	Civil society	Power plant's representatives	Total	Meeting	Field trip	Training/ Measurement monitoring
Ratchaburi Power Plant : Environmental Inspectors Committee	9	8	6	2	25	3	1	1
RATCH Cogeneration Power Plant : Community Engagement Committee	22	12	-	-	34	2	1	2
RATCH Energy Rayong Power Plant : Environmental Monitoring and Community Relations Committee	19	16	-	2	37	4	-	-
Nava Nakorn Power Plant : Joint Monitoring Committee on Environmental Operations and Community Development	17	12	-	-	29	4	1	-
Berkprai Cogeneration Power Plant : Monitoring Committee on Compliance to Environmental Action Plan	14	8	-	2	24	2	1	1
Ratch Pathana Energy Power Plant : Environmental Impact Monitoring Committee	19	5	-	3	27	2	-	-
Songkhla Biomass Power Plant : Power Plant Supervision and Monitoring Committee	19	20	-	1	40	1	1	-
Hin Kong Power Plant : Environmental Inspectors Committee	37	12	-	1	50	2	1	1

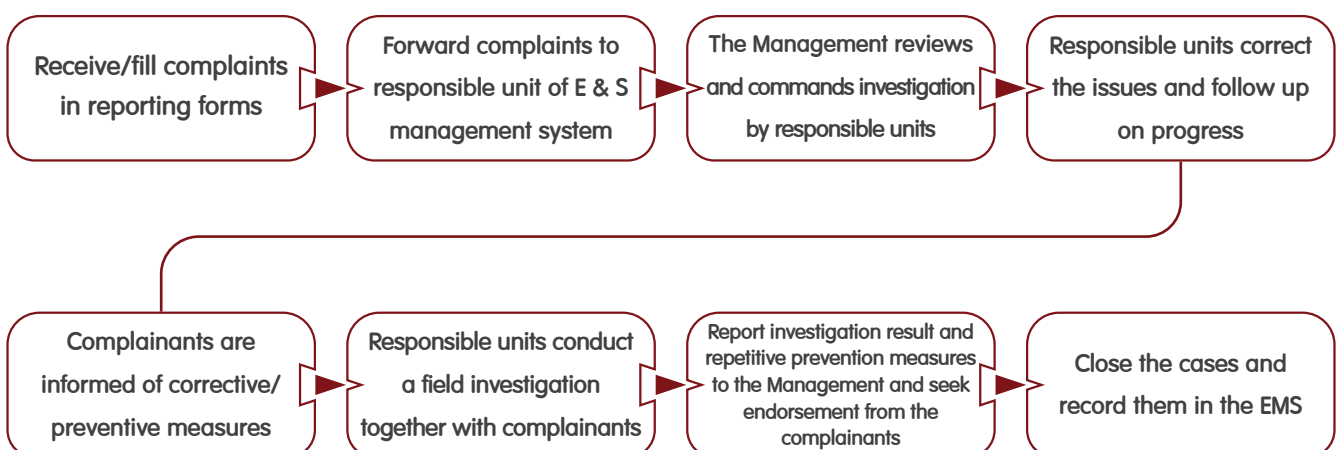
The tri-partite committees together with the power plants jointly monitor the environmental quality management concerning e.g. the collection of wastewater, air and soil samples, to ensure that all projects of RATCH have complied with legal and EIA requirements. They have also observed the power plants' operations and environmental quality management procedures.

Complaint channel and remediation mechanism

Communities and society at large, whenever having questions or concerns or witnessing impacts from RATCH Group's operations, are welcomed to contact the group via provided complaint channels. Their complaints will fall under the investigation process for effective correction and improvement, in line with the Environmental and Social Management System. Communities can ask their questions and raise concerns or suggestions quickly via various and convenient channels, including the Community Relations Divisions, community leaders or the tri-partite committees. In addition, they can reach the group by phone, opinion boxes, email, postal letters, LINE application or short messages (SMS). All are to ensure that their complaints are responded to, properly handled, and improved to prevent the repetition.



Complaint handling procedure



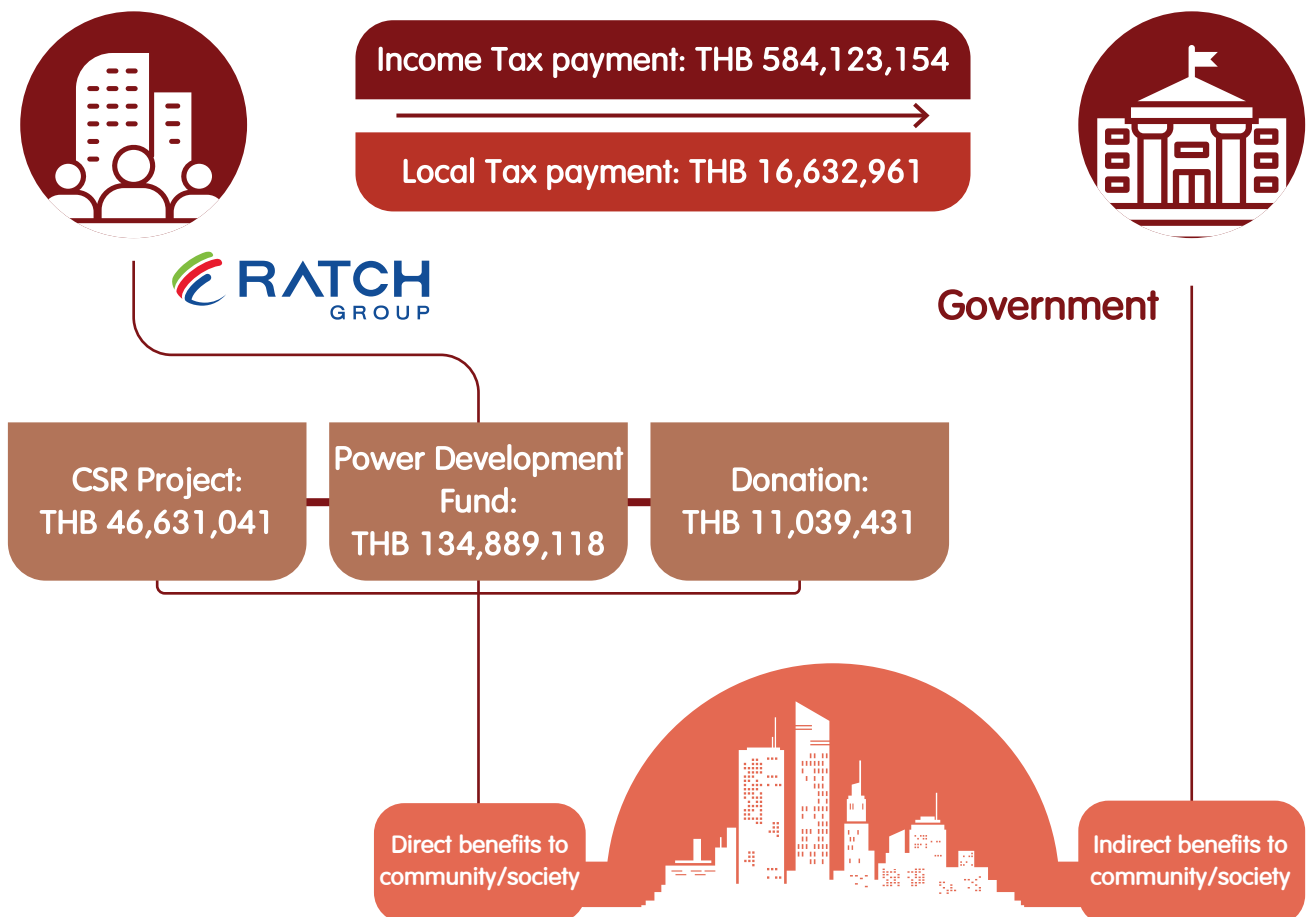
Community satisfaction survey

All power plants conducted the opinion survey concerning their operations and community activities in social, education, production process and environmental management, and other aspects. The results are the basis for the formulation of community action plans that consistently address community needs and the power plants' targets and contribute maximum benefits. In 2024, the survey results are summarized as follows:

Entity	Actions	Satisfaction score: High-Very High
RATCH Cogeneration Power Plant	Responding to questionnaires were the general public, community leaders, local leaders and relevant government offices within 5-km radius.	81.88
Nava Nakorn Power Plant		76.85
Berkprai Cogeneration Power Plant		93.83
Ratch Pathana Energy Power Plant		88.75

Creating shared value for community and society

RATCH has been dedicated to growing business in a sustainable manner and creating shared value for community and society. The shared value is directly observed via social and community development programs, the Power Development Fund and charitable donations. Meanwhile, indirect benefits are in the form of tax payments, under the goal to sustainably elevate the quality of life of community and society at large.



Economic Performance



RATCH's operations in 2024 continued to generate economic value that contributed stable business growth and consistent supports to stakeholders in the value chain, hence giving a push to the country's overall economic, social and environmental development.

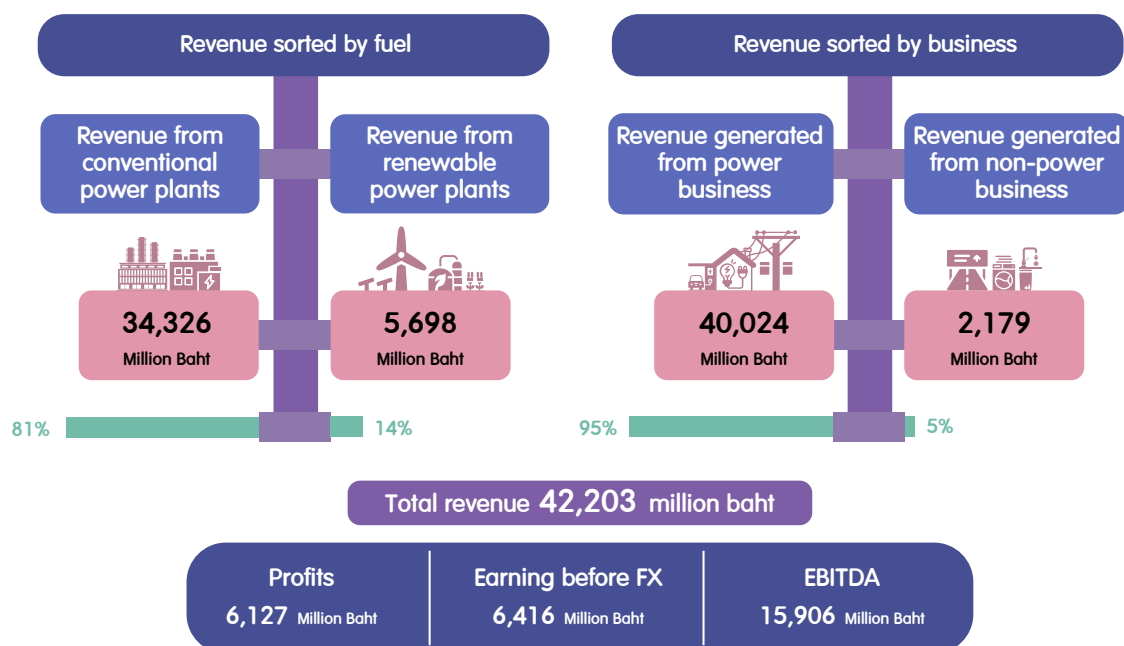
Distribution of economic values

Item		Value (Million Baht)
1. Economic value generated		
• Revenue from sales/service and financial leases		33,132.61
• Profit sharing from associates and joint ventures		6,797.99
• Dividend income		1.48
• Other revenues		2,271.13
2. Economic value received by RATCH		
• RATCH's profits		6,126.78
3. Economic value distributed to stakeholders		
Item	Stakeholders in Value Chain	Value (Million Baht)
• Fuel expenses	Supplier	17,720.53
• Operation and maintenance service expenses	Supplier	2,036.32
• Cost of maintenance and parts	Supplier	1,135.23
• Power plant insurance premium	Supplier	633.58
• Administrative expenses and payments	Employee	1,127.64
• Financial cost/interest expenses	Lender	4,446.90
• Fees for specialized services	Supplier	3.45
• Tax payments*	Government	584.12
• Local tax payments**	Local Government	16.63
• Business partner investment	Partner	25,758.96
• Dividend payments	Shareholder	3,480.00
• Community and social investment	Community	46.63

* Inclusive of corporate tax, withholding tax, and special business tax of RATCH and subsidiaries in Thailand.

** Local taxes are the taxes collected by local administrative offices to finance local development projects. Local taxes are subjected to local administrative offices' consideration and are not remitted to the government. They are land and building tax, local development tax, and signboard tax.


Operating results and key financial figures in 2024



Item	2024	2023	2022
Income statement			
Total revenue (Million Baht)	42,203.21	50,648.13	81,788.08
Earnings before interest, tax, depreciation, and amortization (EBITDA) (Million Baht)	15,906.18	14,123.55	12,811.71
RATCH's profits (Million Baht)	6,126.78	5,167.25	5,782.07
Financial statement			
Assets (Million Baht)	214,336.91	213,478.95	229,578.28
Liabilities (Million Baht)	107,962.57	106,345.50	122,175.01
Shareholders' equity (Million Baht)	106,374.34	107,133.45	107,403.27
Shares or common share information			
No. of issued and paid-up shares (shares)	2,174,999,985.00	2,174,999,985.00	2,174,999,985.00
Paid-up capital (Million Baht)	21,750.00	21,750.00	21,750.00
Book value per share (Baht)	44.77	45.06	45.07
Earnings per share (Baht)	2.82	2.38	3.15
Dividend per share (Baht)	1.60	1.60	1.60
Dividend payout ratio (%)	56.80	67.35	60.19
Financial ratios			
Current ratio (times)	1.13	1.26	1.90
Return on asset (%)	5.45	4.45	5.03
Return on equity ratio (%)	10.91	5.14	6.90
Profit margin (%)	20.80	16.64	20.91

Group's Tax management

Regarding tax management, RATCH Group strictly adheres to and comply with laws. The Tax Policy has been enforced as the operational framework and the entire Company Group is obligated to follow. The key principles of the policy and tax management in 2024 are summarized as follows.

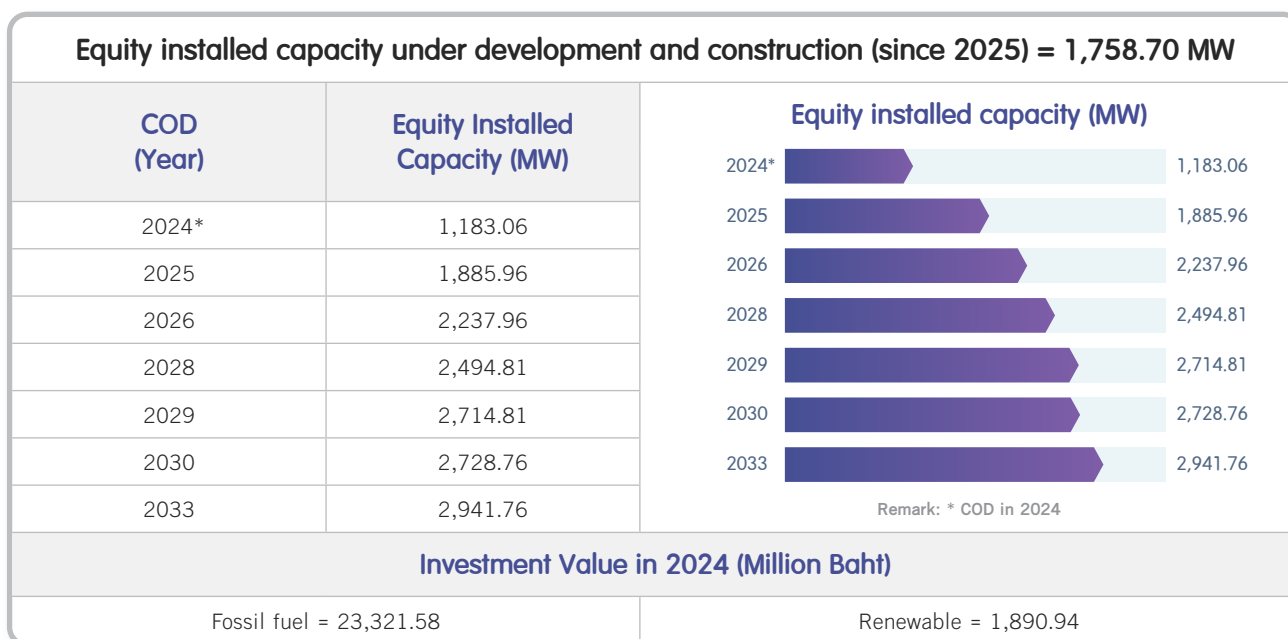
Group's Tax Policy		
Principles	Guidelines	Performance in 2024
Tax management	<ul style="list-style-type: none"> Manage, plan and pay taxes as required by law. Pay taxes or file for a rebate accurately and timely. Arrange tax planning, study and analysis prior to making an investment, to align with the investment structure and policy as well as applicable tax benefits. Apply the Arm's Length principle with related-party transactions. 	<ul style="list-style-type: none"> No violation of tax laws. Paid taxes and filed for rebates within official timeframe; and analyzed tax implications, alignment, legal compliance, and available tax privileges for the investment decision-making process. Group's income tax, value added tax and special business tax amounted to Baht 584.12 million.
Promotion	<ul style="list-style-type: none"> Educate and provide tax advice to Group's departments and employees for compliance with tax laws Disclose the tax policy to stakeholders. 	<ul style="list-style-type: none"> Publicizing interesting financial and tax information or any changes through the sending of AP newsletters to all employees via email: The issue publicized in 2024 concerned Tax Point, or the point when VAT shall be levied on customers. Disclosed Group's Tax Policy on the corporate website:  <p>Tax Policy</p>
Support	<ul style="list-style-type: none"> Appoint a person with knowledge and skill who can provide accurate tax information related to business operations. Appoint an experienced tax consultant to ensure transparency and accuracy as required by law. 	<ul style="list-style-type: none"> Tasked Tax Management Division, Tax management and General Ledger Department, Legal Department and the power plant's accounting and finance departments to handle tax operations. Appoint an external consultant for advice on tax operations and legal compliance.

*Note: Group refers to business entities owned 50% or more by RATCH.



Sustainable business growth

RATCH's principal investment deals with power generation, mostly conducted jointly with business partners for both greenfield and brownfield projects and acquisitions of power plants in Thailand and abroad. As of 2024, RATCH's equity installed capacity in fossil fuel and renewable power plants totalled 10,814.83 MW: 9,056.13 MW from commercially-operational projects and 1,758.70 MW from projects under development and construction phase. The power plants are located in Thailand, Lao PDR, Vietnam, Indonesia, the Philippines, Australia and Japan.



Commercially-operational power plants as of 2024

Project	Location	Fuel	Share holding (%)	Equity installed capacity (MW)	Investment format
Fossil fuel power plants					
Hin Kong Power Plant Unit 1	Thailand	Natural gas	51.00	392.70	Joint venture with GULF
REN Korat Power Plant	Thailand	Natural gas	40.00	12.48	Joint venture with NNCL, PEA Encom
Paiton Energy Power Plant	Indonesia	Bituminous coal	36.26	741.52	via RHIS, a subsidiary
Renewable power plants					
Calabanca Solar Farm	Philippines	Solar power	49.00	36.36	via NREI, a joint venture

Power plants under development and construction

Project	Location	Fuel	Share holding (%)	Equity installed capacity (MW)	Investment format
Scheduled for commercial operations in 2025					
Hin Kong Power Plant Unit 2	Thailand	Natural gas	51.00	392.70	Joint venture with GULF
Nava Nakorn Power Plant's extension phase 3	Thailand	Natural gas	40.00	12.00	Joint venture with NNCL and GPSC
Song Giang Hydroelectric Power Plant 1	Vietnam	Hydropower	46.23	5.55	via NREI, a joint venture
Ben Tre Wind Farm	Vietnam	Wind power	74.50	59.60	50% via RHIS, a subsidiary; and 24.5% via NREI, a joint venture
Marulan Solar Farm	Australia	Solar power	100.00	152.00	via RAC, a subsidiary
NPSI Solar Farm	Philippines	Solar power	49.00	71.05	via NREI, a joint venture
Battery Energy Storage System for Lincoln Gap 2	Australia	Wind power	100.00	10.00	via RHIS, a subsidiary
Scheduled for commercial operations in 2026					
Lincoln Gap 3 Wind Farm	Australia	Wind power	100.00	252.00	via RHIS, a subsidiary
Battery Energy Storage System for Lincoln Gap 3	Australia	Wind power	100.00	100.00	via RHIS, a subsidiary
Scheduled for commercial operations in 2028					
San Miguel nearshore wind farm	Philippines	Wind power	49.00	220.00	via NREI, a joint venture
Sibundong Hydroelectric Power Plant	Indonesia	Hydropower	50.00	36.85	via FRD, a subsidiary
Scheduled for commercial operations in 2029					
Lucena Wind Farm	Philippines	Wind power	49.00	220.00	via NREI, a joint venture
Scheduled for commercial operations in 2030					
Solarist Solar Farm	Thailand	Solar power	51.67	13.95	via RPE, a subsidiary
Scheduled for commercial operations in 2033					
Xekong 4A & 4B hydroelectric power project	Lao PDR	Hydropower	60.00	213.00	Joint venture with BGRIM, LHSE and local partner

Note:

NNCL: Nava Nakorn Electricity Generating Co., Ltd.

GPSC: Global Power Synergy PCL.

NREI: Nexif Ratch Energy Investments Pte. Ltd.

RHIS: RH International (Singapore) Corporation Pte. Ltd.

GULF: Gulf Energy Development PCL.

PEA ENCOM: PEA ENCOM International Co., Ltd.

RAC: RATCH-Australia Corporation Pty. Ltd.

FRD: Fareast Renewable Development Pte. Ltd.

RPE: Ratch Pathana Energy PCL.

BGRIM: B Grimm Power PCL.

LHSE: Lao Holding State Enterprise.

Study and development of hydrogen energy and future energy

In 2024, RATCH proceeded with the study on green hydrogen technology and business models with business partners, expecting to create new investment projects and build a new business foundation. Progress is as follows:

Progress in 2024	Study and development budget
In Thailand 1. Feasibility study on green hydrogen production from renewable energy sources to address the clean energy demand of the industrial, transport and power generation industries, in collaboration with BIG Co., Ltd., a leader in climate technology innovation and a pioneer in driving energy transition in the Thai industrial sector: Pre-feasibility study was launched for a pilot solar power-based green hydrogen production project, to make use of Ratchaburi Power Plant's floating solar project.	Baht 30 million
In Lao PDR and Thailand 2. Study and exploration of opportunities in the production of green hydrogen or green ammonia from renewable energy sources in Lao PDR and Thailand, in collaboration with AIF Co., Ltd., a partner in Lao PDR and Ronitron Co., Ltd., a partner in Thailand: Pre-feasibility study is underway along with the consideration of key tasks and investment details.	
In Australia 3. Feasibility study in collaboration with Australian partners on the investment in green hydrogen production in Australia, a major renewable energy business base of RATCH: The study was launched along with the exploration of marketing potential and partnership with experienced partners to start joint investment projects in the future.	

Investment on innovations

RATCH gives importance to energy innovations, having the Related and New Business Department as the key unit in business development and investment. RATCH currently holds a 30% stake in Innopower Co., Ltd, the core driver of RATCH's 4 investment formats for energy innovations. Progress of Innopower in 2024 is summarized as follows:

1. Venture Capital: investment in leading funds to drive global energy innovations

Progress in 2024

Established a green tech fund in Singapore namely Energy Ignition Ventures (EIV), to invest in CleanTech/EmissionTech startups which are seeking additional funding in Series A+ round for decarbonization-related projects related to new energy, mobility, carbon economy, energy efficiency and agriculture and other industries. Explored feasibility of businesses concerning hydrogen, carbon market, SAF, battery recycling and battery 2nd life, to diversify to related businesses.

2. Venture Builder: investments in future energy

Progress in 2024

1. Signing a contract to become a distributor of Exicom, a major EV charger producer in India, which boosted the company's DC charger portfolio and competitiveness.
2. Proof of Concept (POC) for projects winning the supports of EGAT's R&D Fund and conducted together with partners as follows:
 - AUV for Floating PV, with supports from EGAT's R&D Fund, concerns the trial inspection under solar floating panels in Sirindhorn Dam with wireless underwater drones.
 - Robot Confined Space Inspection, in collaboration with partners, concerns the use of Helios drone in inspecting power plants' confined space for speedy data collection and analysis ahead of maintenance planning, and reduced risks in the inspection process.

3. Strategic Partnership: collaboration in energy innovations to support Net Zero Emissions target

Progress in 2024

1. Renewable energy certificate (REC) trading business generated more revenue and contributed 30% of total revenue. Green Pass Platform was subsequently developed to aggregate RECs from small solar rooftop projects, paving way for business opportunities relating to energy and financing. An employee group of Kasikornthai Bank provided the registration service for REC traders via the platform and received warm response with 157 applicants.
2. GHG Reporting Service Platform was launched, with help from Japan-based startup Zeroboard Inc., to facilitate business enterprises' preparation of Carbon Footprint for Organization and disclosure of emissions reporting ahead of compulsory GHG emission reduction measures. At present, 79 small and medium-sized enterprises (SMEs) in Thailand are using the platform to calculate emissions and prepare emissions reports.

Internal innovation supports

RATCH has launched the following capability enhancement programs to promote employees' creativity and innovative ideas:

1. RATCH AI Innovator Project which supports the Company's policy in enhancing operational efficiency and creativity with artificial intelligence (AI) for subsequent invention of innovations beneficial for internal operations and business expansion. RATCH invested THB 1.3 Million in this project in 2024. Activities under this project are summarized as follows:

- 1) Training course entitled "Empowering Organizations with Generative AI", to promote learning, knowledge and skills relating to AI to the employees of RATCH and subsidiaries, for application in their daily routines. A number of 294 employees (98.32% of total) attended five training classes and all passed the test.
- 2) RATCH AI Innovator Project, the contest for all employees' AI-enabled innovations invented to enhance operational efficiency, improve work processes, and present new business ideas. The contest welcomed both teams formed by members in a single department and cross-functional teams and offered total prize money worth THB 230,000. There were 2 types of contests:
 - Type 1: Changemaker with AI in Current Process, for the application of AI in developing/improving work processes. 15 entries were received.
 - Type 2: Frontier Builder with AI in New Business, for the application of AI in designing the projects which could be developed into new businesses. 9 entries were received.
 - RATCH has resolved to materialize the winning ideas: to improve work processes and employee efficiency with Type 1 winner's innovation and to conduct a feasibility study on the possibility of creating new business based on Type 2 winner's innovation.

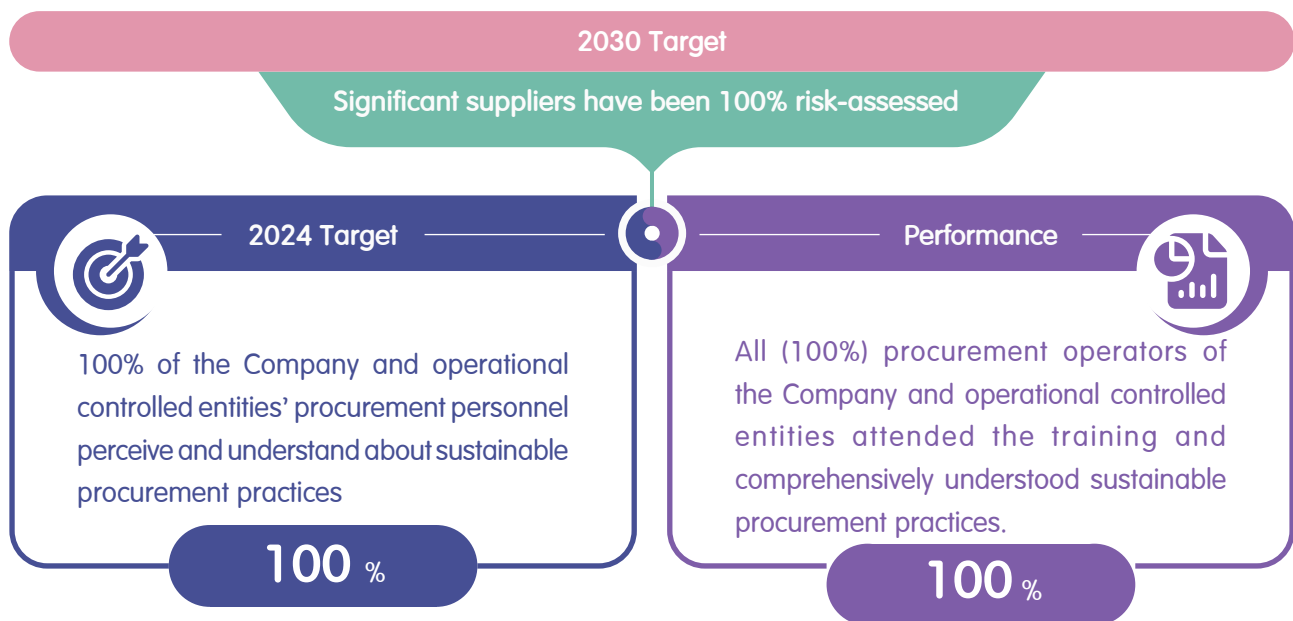
2. Study of the conversion of aromatic coconut waste to bio-charcoal by Ratchaburi Power Plant (RATCH's core asset) and King Mongkut's University of Technology Thonburi. The project was aimed at producing bioenergy as alternative energy for power generation, by processing and optimize waste generated by other industries. Being studied concerns the choice of technology; the conversion process; the measurement and assessment of bio-charcoal combustion efficiency compared to sub-bituminous coal's; combustion-related pollutant measurement; and the initial investment cost. A sum of THB 100,000 has been allocated for the study process.

Supply Chain Management



RATCH recognizes that supply chain is vital for business success and sustainability and Supply Chain Sustainability practices have been integrated into the operations to ensure all suppliers' compliance with governance and responsibility for society and the environment. Supply chain management is identified as a material topic of the Company's sustainability strategy and targets are clearly defined for concrete implementation.

Supply chain management targets



Management approach

RATCH has enforced the Supplier Code of Conduct B.E. 2566 (1st revision) that embraces the UN Global Compact (UNGC)'s Supply Chain Sustainability practices, to ensure suppliers have operated in line with the Company's intention in honoring business ethics, environmental stewardship and social responsibility. The intention supports the Company's goal to take part in creating equitable and resilient society with a better care for the environment. RATCH schedules to review the Supplier Code of Conduct on an annual basis and in 2024, the review showed its contents remain consistent with universal practices and fully cover the issues material to the power generation business' stakeholders. The key takeaways are as follows:

Significant topics identified in Supplier Code of Conduct

1. Human rights and labor practices

1.1 Respect for Human Rights : Respect human rights principles and shall not engage in any form of discrimination based on others' differences.

Significant topics identified in Supplier Code of Conduct

- 1.2 Forced Labor :** Do not engage with forced, bonded, or any form of involuntary labor, and human trafficking.
- 1.3 Child Labor :** Comply with local and international legislation regarding the minimum age for employment.
- 1.4 Pay and Benefits:** Comply with labor legislation concerning pay, welfare, and benefits which shall be comparable to industry standards.
- 1.5 Working Period :** Uphold the labor law governing employees' working hours, overtime, holidays, and applicable leave.
- 1.6 Discrimination and Harassment :** Treat all individuals equally and non-discriminatorily and prohibit harassment.
- 1.7 Treatment of Female Workers :** Protect female workers from harmful or unsafe work.
- 1.8 Freedom of Association and Collective Bargaining :** Respect workers' freedom to form, associate with, and join a trade union and the rights to take part in collective bargaining.
- 1.9 Prevention of Impacts on Community and Society :** Prevent possible impacts on community and society and promote and support the employment of local workers.
- 1.10 Management of Partners in Suppliers' Supply Chain:** Give importance to their suppliers', sub-contractors', or business partners' operations and legal compliance; and assess possible risks.
- 1.11 Occupational Health Safety and Work Environment**
 - 1.11.1 Safe Work Environment :** Ensure a safe, hygienic and standard work environment with preventive measures to minimize work-related accidents or illnesses.
 - 1.11.2 Security Management :** Comply with laws and recognized industrial standards relating to safety and occupational health and not neglect any actions that may compromise workers' safety and hygiene.
 - 1.11.3 Preparation for Emergencies :** Conduct risk assessments, identify potential emergency situations, and establish preventive/mitigating/corrective measures.

2. Environment

- 2.1 Greenhouse Gas Emission and Energy Consumption :** Be proactive in reducing greenhouse gas (GHG) emissions in accordance with applicable legislation.
- 2.2 Pollution Prevention and Waste Management :** Implement measures that reduce pollution and hazardous substances released to the environment.
- 2.3 Management of Hazardous Materials and Product Safety :** Create measures to control the use of hazardous materials and chemicals; and safely store, handle, dispose of, or destroy these materials in accordance with legal requirements.
- 2.4 Efficient resource utilization :** Optimize natural resources and adopt best practices in improving the utilization efficiency and reducing waste generation.
- 2.5 Biodiversity :** Protect and preserve the ecosystems and avoid any activities that may harm or destroy wetlands, forests, or other vital ecosystems.
- 2.6 Zero deforestation :** Commit to zero deforestation and avoid any activities that contribute to the destruction of wildlife habitats and deforestation across the suppliers' supply chain.

3. Business Ethics

- 3.1 Fight against Corruption and Conflict of Interest :** Comply with all applicable anti-corruption laws and international agreements.
- 3.2 Giving of Gift, Souvenir, and Reception :** Strictly comply with the Company's policy on the giving and receiving of gifts, souvenirs, and commemorative items.
- 3.3 Anti-Competition :** Strictly comply with applicable antitrust and competition laws, rules, and regulations.
- 3.4 Business Transparency :** Provide the Company with accurate and clear information about their operations and supply chain.
- 3.5 Protection of Confidential Information and Personal Data :** Protect and safeguard all types of Company's information in accordance with contractual obligations and relevant laws.
- 3.6 Product Responsibility and Quality Management :** Give an assurance that their products and services meet all applicable safety and quality standards.
- 3.7 Protection of Intellectual Property :** Respect and refrain from infringing the intellectual property rights of others and the Company.

All suppliers are obligated to acknowledge and comply with the code of conduct, deemed a condition of the procurement process. In 2024, 271 suppliers have acknowledged the Supplier Code of Conduct and no violation was found.



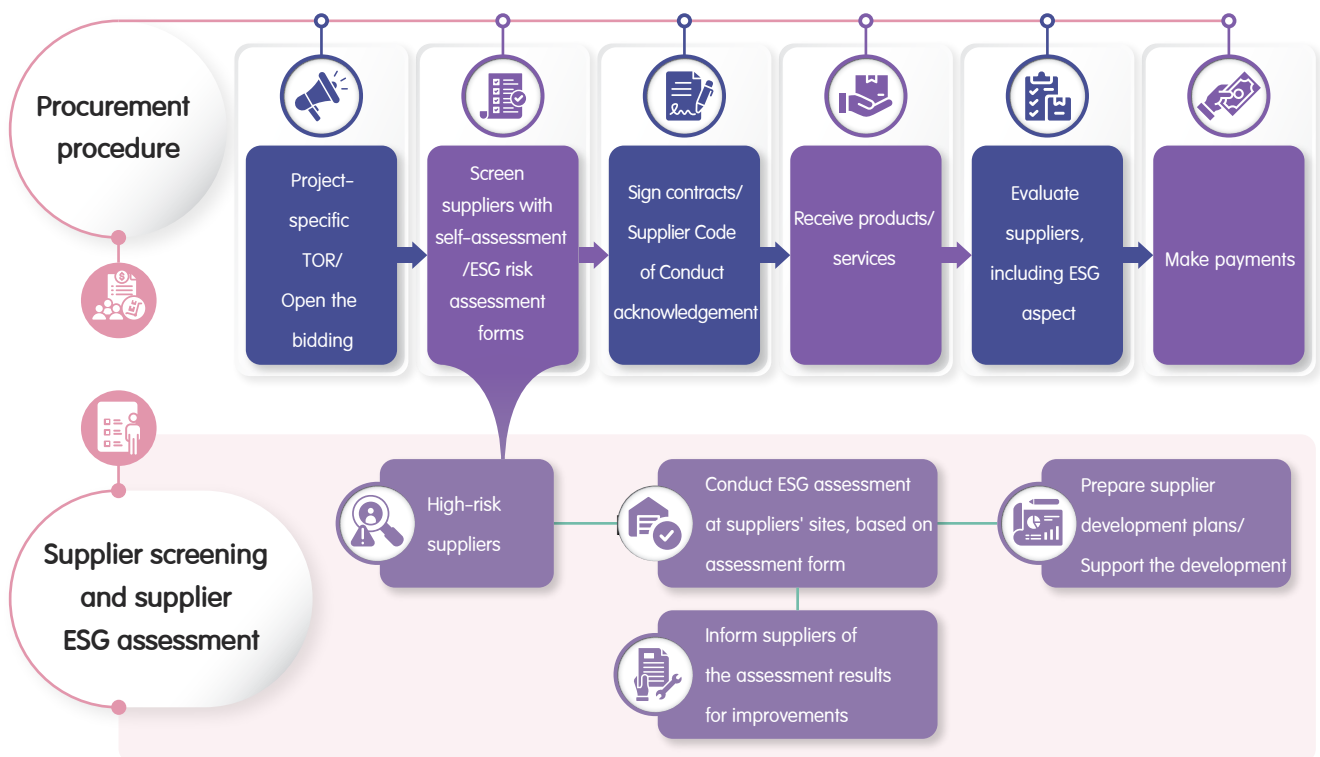
Supplier Code
of Conduct

Development of sustainable procurement protocol

RATCH has developed the Sustainable Procurement Protocol that integrates environmental, social and governance issues. The protocol serves as the framework for the screening, qualifying, assessing and evaluating the performance of suppliers, to ensure they operate with environmental and social concerns, business ethics and respect for human rights.

To have the Sustainable Procurement Protocol implemented effectively and systematically, the Company added the protocol into the Environmental and Social Management System (ESMS), identifying it as the procedure that relevant units shall follow. The oversight and performance assessment structure were clearly outlined.

Sustainable procurement procedure



Performance in 2024

Supplier screening

The supplier screening involves 2 steps: supplier pre-qualification and supplier risk assessment.

Supplier pre-qualification

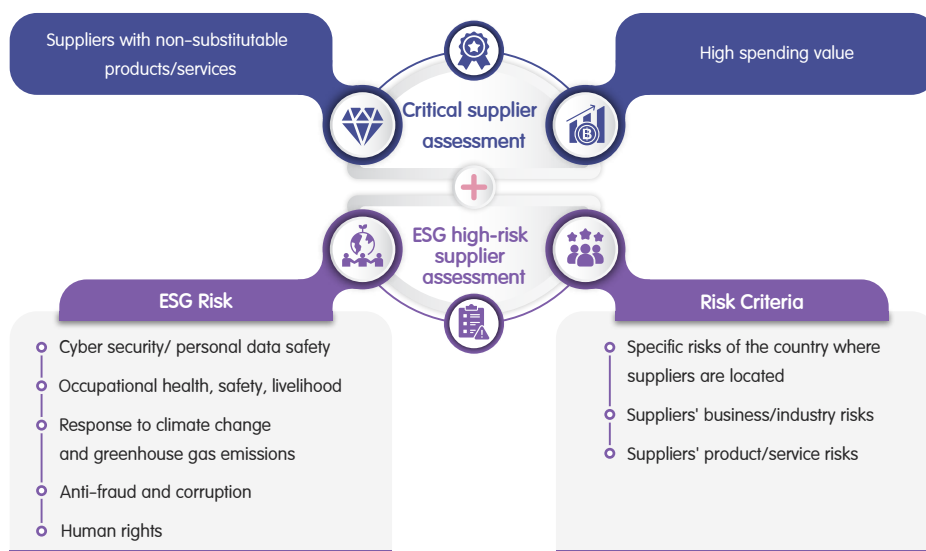
As the initial step of supplier screening, RATCH uses the supplier qualification form that covers environmental, social and governance aspects. It is the tool to identify if the suppliers have the desirable qualifications. All suppliers are required to fill up and return the forms to the Company.

Supplier pre-qualification criteria

1. Location and income	2. Anti-corruption and anti-bribery certification
3. Certification relating to climate change management	4. Legal compliance
5. Certification relating to safety and occupational health	6. Gift taking or giving policy
7. Workplace safety and hygiene management	8. Anti-corruption policy
9. Certification relating to human rights	10. Fair competition
11. Human rights violation and discrimination	12. Mutual benefit with other bidders
13. Child labor	14. Similar work experience
15. Management of impacts on the environment and community	16. Blacklisting by government offices/private companies for job abandonment
17. Responsibility to community and society	18. Political involvement or political support
19. Certification relating to cyber security and information technology security	20. Close personal relationship with the Company's executives and employees

Supplier risk assessment

Regarding supplier risk assessment, RATCH takes into account the risks related to business relevance and ESG, to identify whether the suppliers are critical suppliers, ESG high-risk suppliers or significant suppliers.



Type of suppliers	Assessment criteria	No. of suppliers	%
1) Critical supplier	Business relevance such as spending value and non-substitutability of the product/service	216	16.81
2) ESG high-risk supplier	<ul style="list-style-type: none"> Supplier's location (Country-specific risks) Supplier's nature of business or industry (Sector-specific risks) Supplier's product or service (Commodity-specific risks) Management of key ESG issues: <ul style="list-style-type: none"> Responses to climate change/greenhouse gas emissions Occupational health, safety and labor well-being Human rights Anti-fraud and corruption Cybersecurity 	941	73.23
Significant supplier summary			
Significant suppliers	Selected suppliers from the lists of critical suppliers and high ESG-risk suppliers, which show significant risks concerning the spending value and ESG risks that may cause impacts on the Company	991	77.12

Note: Supplier screening depends on the assessment scores. The 15-points scale is divided into 3 levels, with 1 representing the lowest score and 15 the highest.

Supplier group	No. of suppliers										
	RATCH	RGCO	RCO	RER	NNEG	BPC	SKB	HKP	SLT	Total	%
Critical Suppliers	11	29	19	37	29	32	13	43	3	216	16.81
High ESG-Risk Suppliers	96	53	127	138	198	125	106	88	10	941	73.23
Significant Suppliers	98	71	132	142	200	131	112	95	10	991	77.12

Remark : RATCH = RATCH Group PCL.

RER = RATCH Energy Rayong Co., Ltd.

SKB = Songkhla Biomass Co., Ltd.

RGCO = Ratchaburi Electricity Generating Co., Ltd.

NNEG = Nava Nakorn Electricity Generating Co., Ltd.

HKP = Hinkong Power Co., Ltd.

RCO = RATCH Cogeneration Co., Ltd.

BPC = Berkprai Cogeneration Co., Ltd.

SLT = Solarta Co., Ltd.

Supplier risk management

RATCH has set guidelines on supplier risk management in accordance with the characteristics of a possible ESG risk, while ensuring suppliers' compliance with the Supplier Code of Conduct to prevent and lessen the probability and impacts.

Supplier risks	Risk management	Performance in 2024
Response to climate change and greenhouse gas emissions		
Management of greenhouse gas emissions and waste	<ul style="list-style-type: none"> • Check the environmental law violation records • Consider suppliers with environmental management system or greenhouse gas inventory. • Consider suppliers with publicly-announced targets on greenhouse gas management. • Monitor suppliers' compliance with Supplier Code of Conduct and evaluate their performance. 	<ul style="list-style-type: none"> • Set environmental criteria for supplier screening • Cover environmental management aspect in Terms of Reference (TOR) and a clause of the supplier contract • Establish criteria of supplier's performance evaluation and 1,285 suppliers qualified • No supplier violated environment regulations
Occupational health and safety		
Occupational health and safety	<ul style="list-style-type: none"> • Check suppliers' compliance with labor laws. • Check suppliers' safety records. • Always arrange orientation and job risk assessment. • Require the preparation of appropriate safety equipment in contracts. • Require suppliers to provide insurance to workers with high-risk jobs. • Monitor suppliers' compliance with Supplier Code of Conduct and evaluate their performance. 	<ul style="list-style-type: none"> • Set safety and occupational criteria of supplier screening and assessment • Provide job training for all suppliers involved with high-risk job before working • Conduct job risk assessment and determine work safety measures • No contractor/ subcontractors faced fatal accident (more details on Safety and Occupational Health)
Human rights		
Human rights violations (use of child labor/illegal migrant workers/ discrimination/treatment of the vulnerable)	<ul style="list-style-type: none"> • Check the records of labor complaint/dispute/ employment of illegal workers, child labor, and forced labor. • Consider suppliers with publicly-announced human rights policy or rules. • Require suppliers to provide information of workers assigned for the job • Require suppliers to show migrant workers' registration document or work permit. • Monitor suppliers' compliance with the Company's Supplier Code of Conduct and evaluate their work conditions. 	<ul style="list-style-type: none"> • Set of human rights criteria for supplier screening and risk assessment • Include human rights aspect in Term of reference (TOR) and a clause of the supplier contract • Set criteria for evaluating suppliers' human rights performance and 1,285 suppliers reached the criteria. • All suppliers conformed with relevant labor laws. • No compliant related to human rights abuse
Employment/ compensation/ working conditions		

Supplier risks	Risk management	Performance in 2024
Anti-corruption practices and governance		
Price collusion and conflict of interest	<ul style="list-style-type: none"> Identify it as a prohibited clause in Supplier Code of Conduct, that suppliers shall acknowledge and comply with. Check suppliers' information and background from various sources. Check suppliers' Business Registration Certificate, and the lists of directors and executives. Refuse to hire suppliers on a blacklist. Monitor suppliers' compliance with Supplier Code of Conduct and evaluate their performance. Invite suppliers to join Thai Private Sector Collective Action Against Corruption. 	<ul style="list-style-type: none"> None involved price collusion No transaction with suppliers related conflict of interest 41 suppliers were invited to join in CAC's anti-corruption declaration under CAC Change Agent scheme, of which 14 responded their acknowledgement.
Job abandonment/ delivery failure/ sub-standard products and services	<ul style="list-style-type: none"> Set penalties and blacklist the suppliers failing to honor contracts. Set a clear termination clause in contracts and clearly explain it to suppliers. Set condition/criteria on advance payment and installment payment according to progress. Demand a guarantee for high-value jobs Monitor suppliers' compliance with Supplier Code of Conduct and evaluate their performance. 	<ul style="list-style-type: none"> 27 suppliers underperformed and the Company informed them the evaluation result and recommendations for improvement
Cybersecurity		
Protection of consumer data and consumer privacy	<ul style="list-style-type: none"> Consider suppliers with cyber security system for high-risk jobs. Check suppliers' compliance with Personal Data Protection Act and their cyber security system. Apply the One-Trust platform to assess suppliers' risks relating to personal data management. Check the records of cyberattacks and complaints concerning personal data/customer data. Set it a condition in contracts and monitor compliance. Monitor suppliers' compliance with Supplier Code of Conduct and evaluate their performance. 	<ul style="list-style-type: none"> Set of cybersecurity criteria for supplier screening and risk assessment Cover cybersecurity issue in Term of Reference (TOR) and a clause of the supplier contract No supplier caused of confidential information and personal data leakage No compliant concerning leakage of confidential information /personal data



Supplier Code
of Conduct

Transparent procurement

After the screening on qualifications and risks, qualified suppliers are enlisted for the procurement process. Under the Company's regulation of supplies management and the Company's order on supplies management guidelines, 4 procurement methods are identified and linked with the value and authorization required.

Procurement methods	Procurement value
1. Price negotiation	Worth no more than Baht 100,000
2. Price inquiry	Worth no more than Baht 5 million
3. Competitive bidding	Worth more than Baht 5 million
4. Special procurement	Allowed in the following cases: <ul style="list-style-type: none"> • Urgent cases or other cases approved by the Chief Executive Officer • Specific product and service/task or services requiring special expertise • Value more than Baht 100,000

Note: Partial procurement with the objective to change the value and authorization required or the procurement method is prohibited.

Authorization required	Value (Baht)
Department Head	≤ Baht 100,000
Executive Vice President	≤ Baht 500,000
C-Level (Function Head)	≤ Baht 1 million
Chief Executive Officer	≤ Baht 30 million
Board of Directors	> Baht 30 million

The next step for selected suppliers is contract signing. The payment terms and conditions are clearly specified in the purchase agreement and suppliers know when to receive payments from the start. Generally, RATCH make payments within 30 days upon receiving invoices.

Supplier assessment

In assessing suppliers, RATCH has applied the Together for Sustainability (TfS) initiative and the requirements specified in the Supplier Code of Conduct. The assessment covers 5 aspects: business administration, environmental management, health and safety, labor and human rights and governance.

The assessment started with significant suppliers, conducted by desk review or on-site audit. In 2024, RATCH evaluated 148 suppliers. The assessment showed 148 suppliers comply with the Company's requirements but need to improve their performance in the areas of GHG management, safety performance and compliance with the Company's code of conduct.

Assessment aspects and topics

Business administration	<ul style="list-style-type: none"> • Management control • Management system, policy and continuous improvement 	<ul style="list-style-type: none"> • Employee training/capacity building • Management of partners, suppliers and contractors
Environmental management	<ul style="list-style-type: none"> • Compliance with environmental laws • Sewage • Water and wastewater • Soil and groundwater • Air pollution and climate change • Energy 	<ul style="list-style-type: none"> • Land use and biodiversity • Noise and foul smell • Hazardous substances • Resources and other materials
Health and safety	<ul style="list-style-type: none"> • Product safety • Safety of transportation • Safety of process and collection • Occupational health and safety 	<ul style="list-style-type: none"> • Preparation for emergency incidents • Medical treatment • Security
Labor and human rights	<ul style="list-style-type: none"> • Child labor • Forced labor • Working hours • Minimum wage 	<ul style="list-style-type: none"> • Freedom of association • Harassment • Community and society
Governance	<ul style="list-style-type: none"> • Integrity • Protection of confidential information and intellectual property 	<ul style="list-style-type: none"> • Fair competition • Complaint handling and disciplinary action procedure

Supplier performance assessment

In 2024, RATCH improved the supplier assessment form by adding the environmental and social aspect, aside from work quality and delivery. The unit requesting the procurement is in charge of assessing the work quality after delivery and then the procurement unit will assess the suppliers' compliance with the contracts and the Supplier Code of Conduct. Suppliers will be informed of the assessment results for further improvement.

Assessment aspects and topics in 2024	
1. Quality and prices of product/service	<ul style="list-style-type: none"> • Products/services meeting quality requirements • Undamaged packaging • Appropriate prices for the specified quality
2. Delivery of products and services	<ul style="list-style-type: none"> • Products/services delivered according to the agreed list and quantity • Products/services delivered within specified timeframe • Product/service handling in delivery process
3. Service	<ul style="list-style-type: none"> • Coordination during working • Quality of after-sales service

Assessment aspects and topics in 2024

4. Human rights and treatment of labor	<ul style="list-style-type: none"> • Respect for each other and treat employees with care • Zero employment of illegal or child labor • Employees entitled to at least legal minimum wage and benefits • Working hours not exceeding legal limit • Zero records on harassment/discrimination incident or disputes/ unfair labor treatment • Appropriate and fair treatment of female workers • Demonstration of community and social responsibility • Maintaining safe working environment • Ability to deal with emergency incidents
5. Environment	<ul style="list-style-type: none"> • Ability to manage energy efficiency and greenhouse gas emissions • Ability to prevent pollution and manage waste • Ability to manage hazardous materials • Ability to utilize resources efficiently • Ability and emphasis concerning biodiversity management • Ability and emphasis concerning deforestation
6. Business ethics	<ul style="list-style-type: none"> • Anti-corruption practices and zero conflict of interest • Giving gifts, souvenirs and receptions accordingly to the Supplier Code of Conduct • Fair and honest competition • Business transparency • Ability to protect confidential information, personal data and intellectual property • Responsibility for products and quality management
7. Documentation	<ul style="list-style-type: none"> • Complete documentation and on-time submission

In 2024, RATCH engaged with 117 suppliers while RATCH operational-controlled entities had 1,637 suppliers (or 93.33%). The assessment showed that 27 suppliers (1.59%) failed the assessment criteria mainly involving payment conditions and transportation. RATCH notified these suppliers of the assessment results and recommendations for their improvements. Any supplier rejecting the recommendations will be recorded in the blacklist.

Post-delivery assessment	No. of Suppliers										
	RATCH	RGCO	RCO	RER	NNEG	BPC	RPE	SKB	HKP	RAC	SLT
Passing suppliers	117	146	158	146	236	144	237	145	98	232	10
Suppliers with improvement recommendations	0	0	0	20	0	0	0	7	0	0	0
Blacklisted suppliers	0	0	0	0	0	0	0	0	0	0	0

Remark: Evaluation of supplier performance is limited to supplier who have engaged in procurement and delivery of goods or services within the year 2024

RAC = Ratch-Australia Pyt Ltd RPE = Ratch Pathana Energy PCL.

Summary of Procurement in 2024

Suppliers of RATCH and controlled entities

The number of major suppliers of RATCH and the entities under its operational control totaled 10 in 2024, mostly catering services for the power generation, infrastructure and generation-related businesses. They can be classified as follows:

Supplier Group classified by types of product/service	Project development phase	Construction phase	Operational phase	Dissolution/ decommissioning phase
• Technical and investment advisory service providers	✓	-	-	-
• Environmental, social and health impact assessment service providers	✓	-	-	-
• Legal and technical advisory service providers	✓	✓	✓	✓
• Insurance companies	✓	✓	✓	✓
• EPC contractors/ engineering service providers	-	✓	-	✓
• Operation and maintenance service providers	-	-	✓	-
• Producers and suppliers of technology, machinery, equipment, medical supplies and chemicals	✓	✓	✓	-
• Fuel and resource suppliers	-	-	✓	-
• Waste processors	-	✓	✓	✓
• On-site service providers (security/ cleaning/other services)	-	✓	✓	✓

Of all suppliers, 634 won procurement deals for the first time in 2024 while the rest have been on the qualified supplier list.

Company	No. of suppliers in 2024		
	Existing Suppliers	New Suppliers	Total
RATCH	78	39	117
RGCO	94	60	154
RCO	107	51	158
RER	67	114	181
NNEG	170	66	236
BPC	105	39	144
RPE	140	97	237
SKB	120	32	152
HKP	0	98	98
RAC	204	28	232
SLT	35	10	45
Total	1,120	634	1,754

Procurement of goods and services in 2024

Suppliers	Company											Total
	RATCH	RGCO	RCO	RER	NNEG	BPC	RPE	SKB	HKP	RAC	SLT	
No. of suppliers classified by spending value	117	154	158	181	236	144	237	152	98	232	45	1,754
• Not exceeding 1 million baht	100	135	145	176	203	127	204	142	79	138	39	1,388
• 1,000,001–5,000,000 Baht	10	16	10	5	27	11	25	8	14	50	3	179
• 5,000,001–10,000,000 Baht	2	2	1	0	1	4	6	2	4	20	1	43
• > 10,000,000 Baht	5	1	2	0	5	2	2	0	1	24	2	44
No. of suppliers classified by business size	117	154	158	181	236	144	237	N/A	98	N/A	45	1,253
• Small (with no more than 50 employees, investment at no more than 20 million Baht)	27	118	102	104	164	112	209	N/A	62	N/A	40	911
• Medium (with 50–200 employees, investment at 20–200 million Baht)	68	20	34	42	46	14	26	N/A	21	N/A	3	206
• Large (with more than 200 employees, investment more than 200 million Baht)	15	16	22	35	26	18	2	N/A	15	N/A	2	136
• Individual	7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	N/A	N/A	7
No. of suppliers by transaction	198	463	368	412	675	331	1,331	N/A	149	N/A	89	3,818
• Price negotiation method	106	434	328	382	462	89	0	N/A	0	N/A	59	1,860
• Price Inquiry method	22	3	11	21	104	15	1,331	N/A	85	N/A	17	1,609
• Competitive bidding method	1	0	1	0	4	4	0	N/A	9	N/A	0	19
• Special procurement method	69	26	28	9	105	223	0	N/A	55	N/A	13	528
Spending value (million Baht)	150.65	98.81	121.20	26.33	290.78	138.50	136.67	N/A	592.84	N/A	19.21	1,574.99
• Price negotiation method	4.39	58.09	29.92	11.21	14.55	3.73	0	N/A	0	N/A	4.41	126.30
• Price Inquiry method	32.81	6.65	17.35	11.43	39.23	5.09	136.67	N/A	24.27	N/A	9.86	283.36
• Competitive bidding method	17.10	0	11.00	0	85.30	6.50	0	N/A	525.53	N/A	0	645.43
• Special procurement method	96.35	34.07	62.93	3.69	151.70	123.18	0	N/A	43.04	N/A	4.94	519.90
No. of suppliers procured environmental-friendly products and services												
• No. of transactions	16	54	0	N/A	0	0	0	N/A	0	2	N/A	72
• Value (Million Baht)	9.55	11.13	0	N/A	0	0	0	N/A	0	110.36	N/A	131.04
No. of suppliers classified by contract period	117	9	158	30	8	144	237	N/A	4	N/A	45	752
• Short term (less than 1 year)	108	4	155	0	8	134	214	N/A	0	N/A	37	552
• Medium term (1–3 years)	3	4	2	21	0	10	11	N/A	2	N/A	5	55
• Long term (more than 3 years)	6	1	1	9	0	0	12	N/A	2	N/A	3	28
No. of suppliers by procurement type	N/A	N/A	0	30	228	144	237	N/A	18	N/A	45	702
• Without contract	N/A	N/A	0	3	226	0	0	N/A	18	N/A	6	253
• By Project	N/A	N/A	0	20	2	0	0	N/A	0	N/A	0	22
• By Activity	N/A	N/A	85	7	0	144	237	N/A	0	N/A	39	512
No. of suppliers classified by location	117	154	158	181	236	144	237	N/A	98	N/A	45	1,370
• Thailand	117	154	157	181	233	143	232	N/A	98	N/A	45	1,360
• Abroad	0	0	1	0	3	1	5	N/A	0	N/A	0	10

Collaboration in environment, social and governance with suppliers

Promotion of ESG awareness

To promote good governance among the suppliers, in 2024 the Company led by the Procurement Division and Internal Audit Department shortlisted and invited 41 SME suppliers with unclear anti-corruption practice to participate in the network of Thai Private Sector Collective Action Against Corruption (CAC). The suppliers accepted the invitation will be guided by the Company in formulating anti-corruption policy and practices in line with CAC principles which is a basis for further application of CAC membership.

Promotion of innovation and knowledge

In 2024, Songkhla Biomass Co., Ltd., the Company's joint venture, in collaboration with its supplier, CHM Engineering Supply Co., Ltd., has furthered the 2023 initiative on reduction of rubber tree root waste by separating rubber tree root from soil during the raw material preparation stage before entering the production process. It targets to decrease loss of rubber tree root from 20% to 5-10%. Since operating the sieve shaker to separate rubber tree root from soil for 2 months, the power plant gained additional rubber tree root as raw material of 134,780 kilograms, representing 2.5% of reusable rubber tree root waste (or equivalent to 15% per year). Additionally, it helps reducing cost of waste disposal and greenhouse gas emission from waste transportation and disposal process. For moving forward to achieve the initiative's target, the power plant and its supplier is ongoing to enhance efficiency of the sieve shake.

2024 Work Plan

RATCH, through all relevant units and the entities under operational control, will extend the sustainable procurement practices in the Environmental and Social Management System (ESMS) to the suppliers of all business activities in the value chain. RATCH is also prepared for the extension of such practices, ESG risk assessment in particularly, to indirect suppliers (non-Tier-1 suppliers) or those that supply products/services to RATCH's critical suppliers (Tier-1).

In addition, RATCH will create the supplier satisfaction questionnaire, as a new communication and feedback channel, to facilitate the improvements on the Company's work processes and allow both sides to better meet each other's expectations.

Customer Relationship Management and Product Responsibility



Customers are critical stakeholders in the value chain, contributing revenue that expands the enterprise economic value for the distribution to other stakeholder groups. RATCH therefore gives a priority to product and service responsibility, chiefly in responding to customer demand as best as possible.

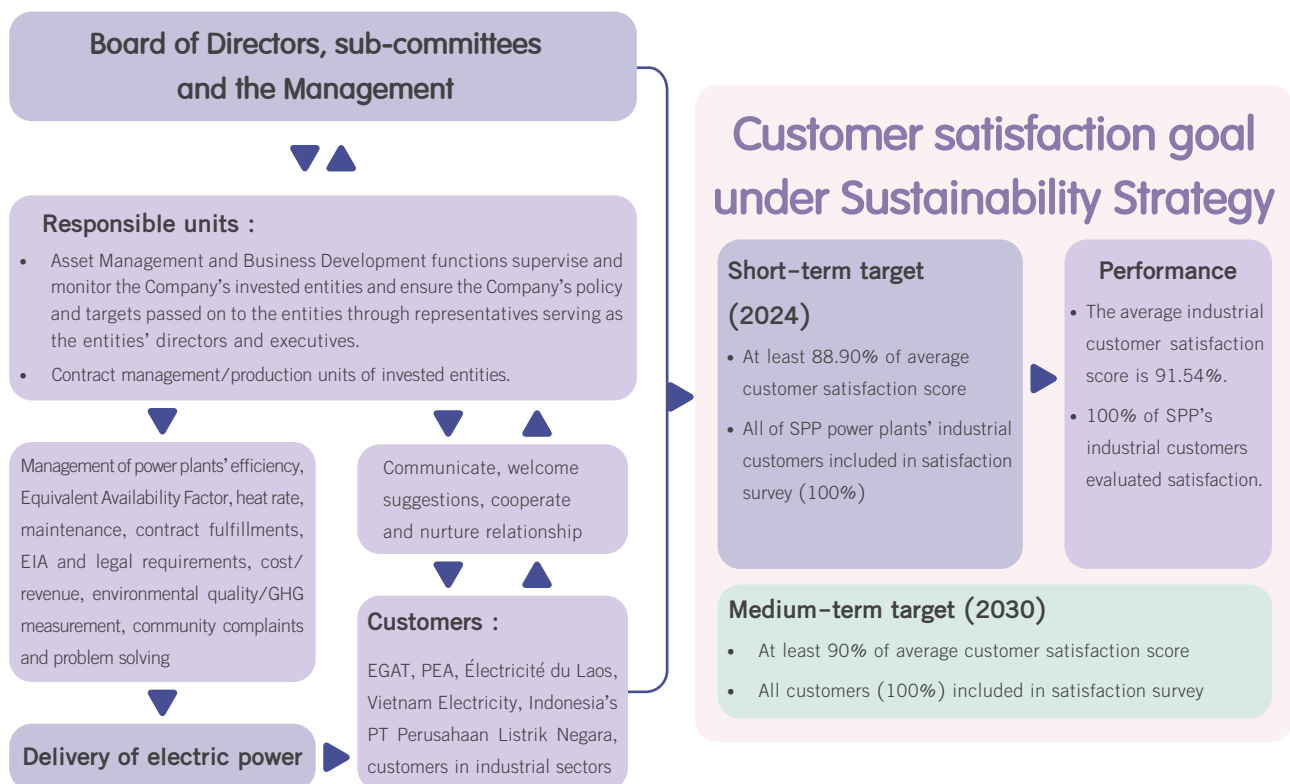
As electricity generation is the primary business, RATCH is held responsible for generating and delivering electric power to customers based on their requirements and agreed terms and conditions. RATCH also needs to ensure the production and operations are conducted in line with relevant laws, concerning the well-being of community and labor as well as safety, environmental protection as well as the enterprise action plan on greenhouse gas management and carbon footprint. The treatments of customers as inscribed in the Code of Conduct encompass the safeguarding of customers' confidential information and personal data, full disclosure of products and services, compliance with contractual and warranty terms, relationship management, communications and complaint handling.



Code of Conduct

As customers are one of the Company's material topics, they are a part of the Sustainability Strategy and a goal is set to achieve the best satisfaction from all customer groups.

Guidelines and goal on customer satisfaction



Performance in 2024

All 14 power plants, in Thailand and abroad, included in this report (contributing 83.16% of total revenue) generated and distributed 12,848,216 megawatt-hours of electric power 9,907,870 megawatt-hours from fossil fuels and 2,940,346 megawatt-hours from renewable energy. Details are as follows:

Electric power output

List	Electricity generation by fuel (MWh)						Volume of steam distribution (ton)
	Natural gas	Diesel	Hydro power	Wind power	Solar power	Biomass	
Gross generation							
Generation in Thailand	13,633,852	324			62,733	225,874	719,453
Generation Aboard	464,775		1,077,569	2,534,098	79,789		
Equity-based volume of gross generation							
Generation in Thailand	9,705,268	324			30,739	106,538	362,982
Generation Aboard	464,775		516,048	2,283,466	79,789		
Electricity distribution							
Distribution in Thailand	13,270,434	317			62,515	76,551	576,536
Distribution aboard	456,891		1,074,744	2,467,946	79,363		
Equity-based volume of distribution							
Distribution in Thailand	9,450,662	317			30,632	94,112	289,852
Distribution aboard	456,891		514,695	2,221,554	79,363		
% contribution of power plants included in this report to the total revenue for the year	<ul style="list-style-type: none">Fossil Fuel = 81.34%Renewable = 13.50%						

Electricity and steam buyers in Thailand

Customer	Power Plant	Equity-based volume of distribution (MWh)			Equity-based volume of steam distribution (ton)
		Natural gas	Solar power	Biomass	
Electricity Generating Authority of Thailand (EGAT)	Ratchaburi	Natural gas: 4,555,405 Diesel: 317			
	Hinkong Unit 1	2,477,805			
	RATCH Cogeneration	628,829			
	RATCH Energy Rayong	607,089			

Customer	Power Plant	Equity-based volume of distribution (MWh)			Equity-based volume of steam distribution (ton)
		Natural gas	Solar power	Biomass	
	Nava Nakorn	255,319			
	Berkprai Cogeneration	209,185			
	RATCH Pathana Energy	172,271			
Provincial Electricity Authority (PEA)	Solarta (8 Projects)		30,632		
	Songkhla Biomass			30,620	
	Sahacogen Green			34,423	
	Sahagreen Forest			29,069	
Industrial Customers	RATCH Cogeneration	135,476			20,244
	Nava Nakorn	193,679			52,030
	Berkprai Cogeneration	4,870			5,561
	REN Korat Energy	17,463			
	RATCH Pathana Energy	193,271			155,073
	Sahacogen Green				56,451
	Sahagreen Forest				494
Total		9,450,979	30,632	94,112	289,852

In 2024, 12 power plants under the Company's operational control generated and distributed 8,906,220 megawatt-hours of electricity to the primary customer, the Electricity Generating Authority of Thailand. The volume represented 69.32% of the output from all power plants included in this report and it contributed 62.13% of total revenue in the year.

Electricity buyers abroad

The volume of electric power generated and distributed by 2 overseas power plants included in this report reached 3,272,492 megawatt-hours in 2024 or 25.47% of total volume of all power plants included in this report. The output from overseas power plants contributed 21.03% of total revenue in the year.

Customer/Location	Power plant	Equity-based volume of distribution (MWh)			
		Natural gas	Hydro power	Wind power	Solar power
Australia					
Customers with offtake agreements (Off-takers) • Distribution via off-take agreements with National Electricity Market participants	Kemerton	142,098			
	Townsville	261,115			
	Collinsville				79,363
	Mt. Emerald			468,666	
	Collector			482,783	
	Yandin			574,939	
	Starfish Hill			74,347	

Customer/Location	Power plant	Equity-based volume of distribution (MWh)			
		Natural gas	Hydro power	Wind power	Solar power
National Electricity Market <ul style="list-style-type: none"> Sell-buying activities based on the pool price at time of sale and hedging agreements with electricity retailers. 	Snapper Point	53,678			
	Windy Hill			19,624	
	Toora			42,374	
	Lincoln Gap 1,2			558,810	
Indonesia					
PT Perusahaan Listrik Negara (PLN)	Asahan-1		514,695		
Total		456,891	514,695	2,221,543	79,363

Response to customer needs and positive customer experiences

Electric power is the product distributed on demand. As such, all power plants shall make a plan to ensure availability at all times. The following are the management approaches:

Management of Power Purchase Agreements

Power Purchase Agreements (PPAs) reflect customer needs, which are the volume of electric power needed at a particular period of time. It is necessary that power plants are operated in the way that the demands are fulfilled. The 3 key metrics in this regard are:



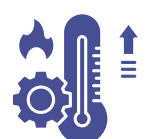
Availability

- Power plants set target availability in line with Contracted Availability Hour (CAH) and at the level customers can accept and will not levy penalties.



Reliability

- Power plants set the number of operating hours against unplanned outage hours within the framework of PPAs.
- Power plants run the outage plan as scheduled, to maintain the efficiency and ensure no unplanned outage.



Heat Rate

- Power plants maintain efficiency by achieving the heat rate or fuels required for each output unit as specified in PPAs.
- Power plants set annual targets for heat rate in line with the age of generators, as part of the efficiency management plan.

Performance in 2024

Availability and Reliability

Power plants in Thailand	Equivalent Availability Factor (EAF)		Reliability Factor (RF)	
	Target	Result	Target	Result
Ratchaburi Thermal Unit 1	100.00	100.00	100.00	100.00
Ratchaburi Thermal Unit 2	100.00	100.00	100.00	100.00
Ratchaburi Combined Cycle Block 1	80.17	84.17	93.44	98.11
Ratchaburi Combined Cycle Block 2	91.14	95.87	93.44	98.28
Ratchaburi Combined Cycle Block 3	89.15	95.53	92.96	99.61
Hin Kong Unit 1	99.22	96.84	99.22	96.84
Berkprai Cogeneration	96.20	92.03	unspecified	
RATCH Cogeneration	97.09	97.50	98.83	99.26
Nava Nakorn Electricity	98.12	98.44	unspecified	
RATCH Energy Rayong	93.66	93.94	unspecified	93.74
Ratch Pathana Energy	99.88	99.70	99.80	99.53

Heat Rate (unit: BTU/kWh)

Power plants in Thailand	Natural gas		Bunker oil		Diesel	
	Target	Result	Target	Result	Target	Result
Ratchaburi Thermal Unit 1	No dispatch order		secondary fuel to be used on EGAT's order when needed		Not relevant	
Ratchaburi Thermal Unit 2						
Ratchaburi Combined Cycle Block 1	7,191.35	7,182.93	Not relevant		secondary fuel to be used on EGAT's order when needed	
Ratchaburi Combined Cycle Block 2	7,331.66	7,323.93				
Ratchaburi Combined Cycle Block 3	12,911.90	13,705.29				
Hin Kong Unit 1	6,132.60	6,128.77				
Berkprai Cogeneration	7,285.86	7,347.23			Not relevant	
Nava Nakorn	7,810.24	7,841.53				
RATCH Cogeneration	7,864.54	7,911.04				
RATCH Energy Rayong	7,200.00	7,142.86				
RATCH Pathana Energy	8,258.96	8,946.17				

In 2024, Ratchaburi Combined Cycle Power Plant Block 3 was instructed to operate in mode OC1 (Open Cycle) during 7:00 PM to 8:00 PM to respond power demand due to solar farm stop generating at night. It hence resulted of high heat rate of the power plant.

Management of penalty

A penalty reflects power plants' ability to address customer needs and customer satisfaction. Customer needs are specified in the power purchase agreements (PPAs) as well as the penalties in the case that power plants cannot fulfil their obligations. Penalties depend on the severity of impacts on customers.

Impact severity levels and specified penalties for Ratchaburi Power Plant

1. Low impact level: In the event of lower availability and customers being informed in advance

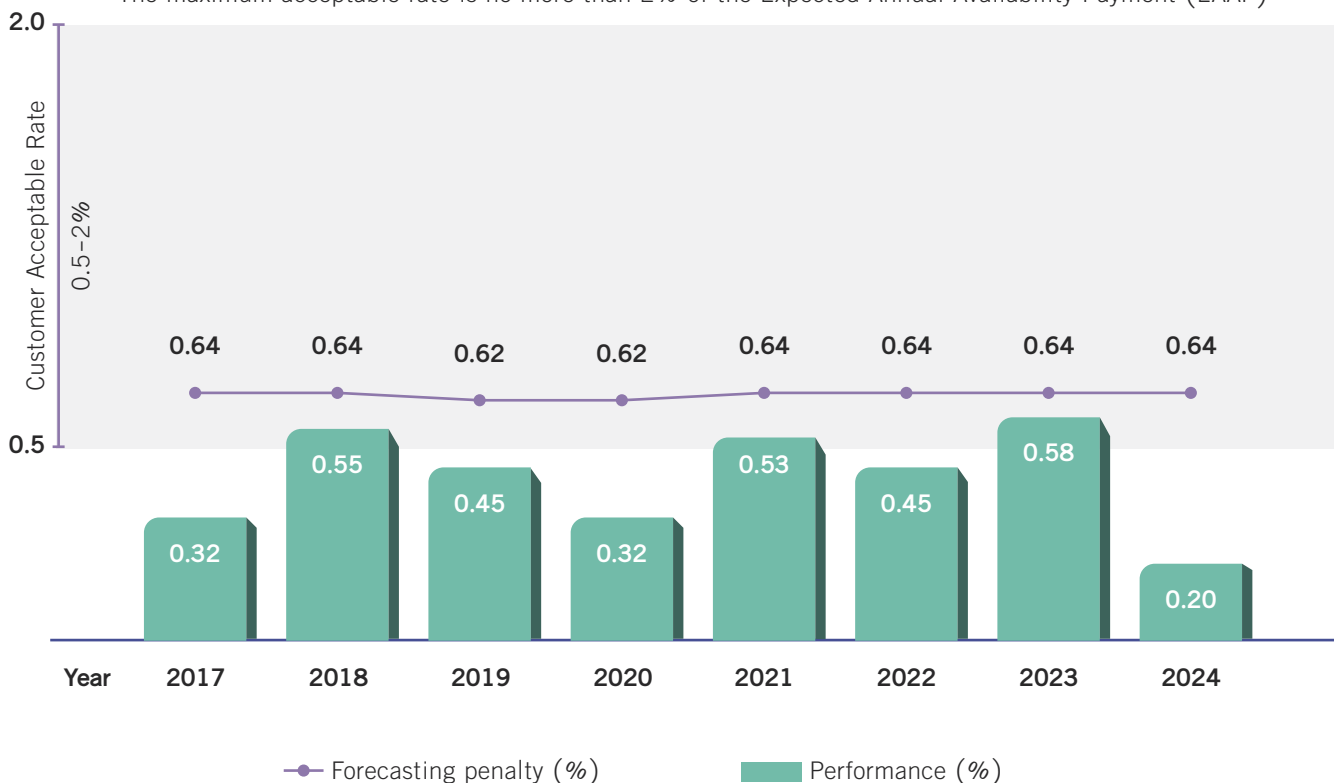
2. Medium impact level: In the event of lower availability and customers not informed in advance or informed later than required

3. High impact level: Delivery failure

Penalties range from 0.5% to 2% of the Expected Annual Availability Payment (EAAP), depending on the severity of impacts on the customer (Electricity Generating Authority of Thailand's National Control Center) and the country's overall electricity security. In the latter case, the impact level is high and the maximum penalty rate can be applicable.

In 2024, Ratchaburi Power Plant, based on the assessment of the machinery and equipment efficiency after more than 20 years of use, targeted the penalty ceiling at 2% of Expected Annual Availability Payment, which was acceptable to the customer and not harmful to the overall power system security.

The maximum acceptable rate is no more than 2% of the Expected Annual Availability Payment (EAAP)



Penalties on small power plants supplying electricity to EGAT

Penalty clauses	Prevention measures
<p>Small power plants operate with firm power purchase agreements, to supply no more than 90 MW. They operate on EGAT's orders and receive the monthly production plan in advance for complete order fulfillment.</p> <p><u>2 penalty clauses:</u></p> <ol style="list-style-type: none"> 1) Failure to fulfil the orders for 18 months in the past 24 months. 2) Failure to fulfil the orders because of distribution to a third party or internal use. <p>EGAT sets 2 conditions tantamount to penalties:</p> <ul style="list-style-type: none"> • Lower the orders to match the latest month's actual delivery and specify as such in new contracts. • Recall the energy payment matching the reduced supply. 	<ul style="list-style-type: none"> • All SPPs are consistently maintained production efficiency and continuously improved to maintain maximum availability and reliability, while unplanned maintenance is reduced as much as possible. • SPPs plan and manage production in line with industrial customers' power demand, so as not to affect the contractual supply to EGAT.

In 2024, all power plants ably conformed with the customers' terms and conditions.

Penalties on small power plants supplying electricity to industrial customers

Penalty clauses	Prevention measures
<p>Industrial customers specify in power and steam purchase agreements the fixed supply volume of electric power and power plants shall deliver electricity based upon reliability standards in the power system which are:</p> <ul style="list-style-type: none"> • Specified System Average Interruption Frequency Index (SAIFI) • Specified System Average Interruption Duration Index (SAIDI) 	<ul style="list-style-type: none"> • Enter into agreements with the Provincial Electricity Authority (PEA) for supplementary power supply to industrial customers during scheduled maintenance or necessary unplanned outage, to ensure sufficient supply. • Follow the maintenance plan to optimize production efficiency and consistently inspect the transmission system stability. • Communicate with customers and welcome opinions and suggestions, to effectively address their needs.

Communication and customer relationship management

RATCH's power plants place an emphasis on consistent discussions with customers, via regular meetings at operating and executive levels. The process not only ensures power plants' understanding in customer expectations but also strengthens collaboration and long-term relationship.

Power Plant	EGAT/PEA (times/year)			Industrial customer (times/year)	
	Executive-level meetings	Practitioner-level meetings	Other activities	Executive-level meetings	Practitioner-level meetings
Ratchaburi	12	12	2 seminars	Not relevant	
	<u>Key issues</u> <ul style="list-style-type: none">• Mutual understanding regarding the operation orders and the terms in the Power Purchase Agreement (PPA).• Maintenance and efficiency improvement data for machinery, and planning for efficient production.				
RATCH Cogeneration	-	-	-	1	2
	<u>Key issues</u> <ul style="list-style-type: none">• Learn about customer expectations and share the power plant performance to customers.• Management of the power plant efficiency, environmental, and greenhouse gas management.				

Power Plant	EGAT/PEA (times/year)			Industrial customer (times/year)	
	Executive-level meetings	Practitioner-level meetings	Other activities	Executive-level meetings	Practitioner-level meetings
Nava Nakorn Electricity	1	At least 12	–	4	4
	<u>Key issues</u> <ul style="list-style-type: none">• 2024 Power plant generation plan.• Delivery issues and proposed joint solutions/improvements.				
Berkprai Cogeneration	4	4	1 Seminar	–	–
	<u>Key issues</u> <ul style="list-style-type: none">• 2024 Power plant generation plan.• Adjusting the time periods with high electricity demand and calculating electricity costs according to the government’s natural gas pricing policy.				
RATCH Energy Rayong	–	–	1 Seminar	Not relevant	
	<u>Key issues</u> <ul style="list-style-type: none">• Dialogue between the power plant team and EGAT– to enhance better understanding and relationship.				
RATCH Pathana Energy	1	4	–	2	4
	<u>Key issues</u> <ul style="list-style-type: none">• 2024 Power plant generation plan.				
Sahagreen Forest	–	4	–	–	2
	<u>Key issues</u> <ul style="list-style-type: none">• Problem–solving and overcoming obstacles in coordination between parties.				
Sahacogen Green	–	3	–	3	3
	<u>Key issues</u> <ul style="list-style-type: none">• Reviewing the purchase agreement and planning joint work to reduce and prevent mistakes				
Hinkong Unit 1	1	2	–	Not relevant	
	<u>Key issues</u> <ul style="list-style-type: none">• Planning the management of the electricity distribution system and jointly managing necessary events, such as major overhaul, etc.				
Songkhla Biomass	–	At least 4	–	–	–
	<u>Key issues</u> <ul style="list-style-type: none">• Collectively find solution to prevent external fault affecting the plant’s production.• Acknowledge PEA’s transmission system improvement and plan the power plant operation.				

Customer satisfaction survey

In 2024, 4 power plants included in this report, contributing 16.05% of total revenue, conducted customer satisfaction surveys which are summarized below:

Power Plant	No. of customers			Target satisfaction score (%)	Average satisfaction score (%)
	Total number	No. of survey respondents	No. of customers with targeted satisfaction score		
RATCH Cogeneration	30	30	18	90.00	94.72
Nava Nakorn	33	33	19	90.58	92.04
Berkprai Cogeneration	1	1	1	85.00	86.25
RATCH Pathana Energy	50	50	50	90.00	93.13
Total average				88.90	91.54

Actions to manage and satisfy customer needs

Customers' issues of concern and management guidelines
Ratchaburi Power Plant EGAT's need: Reserved Shutdown and preparation for Open Cycle operation Action: The Ratchaburi Combined Cycle Power Plant (Unit 3) has been ordered in mode of reserved shutdown. Meanwhile, it should be prepared for Open Cycle operation responding power demand during peak hours (19:00–20:00) when solar farms stop generating. In 2024, the order was placed to the plant for 17 days in March, April, November, and December.
RATCH Cogeneration Power Plant Industrial customers' need: Product quality and stability Action: Consistently inspected the electricity and steam distribution systems to ensure stability and product delivery on demand.
Nava Nakorn Power Plant Industrial customers' need: Electric meter reading Action :Improved the online data transmission system to fix complications regarding the automatic meter reading (AMR), as customers required the information for the evaluation of daily production.
Berkprai Cogeneration Power Plant Industrial customers' need: Dispatch of power plant's monthly generation plan Action :Scheduled the time for the dispatch, to facilitate customers' production planning when the power plant's steam distribution exceeded 5 tons per hour during off-peak periods.
RATCH Pathana Energy Power Plant Industrial customers' need: Improvement on power plant's reliability Action: Prepared and sent customers the operational plan and followed the plan for enhanced stability in the electricity and steam distribution system.
Sahacogen Green Power Plant PEA and industrial customers' need: Improvement on power plant's reliability Action: Delivered customers the plans on production, maintenance and equipment testing for enhanced stability in the electricity and steam distribution system.

Product responsibility

All power plants strive to responsibly generate and deliver electric power, the primary product, as per the volume and quality specified in PPAs. Meanwhile, all ensure safe production process; control on environmental impacts; compliance with technical, legal and contractual requirements; and service continuity for quality and reliable products.

In 2024, the power plants under RATCH's operational control generated and delivered a total of 12,848,216 megawatts-hour of electric power and received no complaints regarding impacts on the environment and community. (More information is available in Sections: Management and Reduction of Greenhouse Gases, Environmental Management and Biodiversity, Safety and Occupational Health, Community and Social Stewardship on pages 99, 112, 145 and 189 respectively.)

Construction management

In 2024, 6 power plants under RATCH operational control were under construction. Their combined equity-based installed capacity is 830.05 MW. The construction of all has proceeded as planned and the power plants are expected to commence operations and deliver electric power to customers within the specified timeframe.

Project/ Power Plant	Shareholding (%)	Equity Installed Capacity (MW)	Fuels	Commercial Operation Date	Customer
Thailand					
Hinkong Unit 2	51.00	392.70	Natural gas	2025	EGAT
Nava Nakorn Extension Part 2	40.00	12.00	Natural gas	2025	Industrial customers
Solarist Thung-Fai	51.67	13.95	Solar	2030	EGAT
Indonesia					
Sibundong	50.00	36.85	Hydro	2027	PT Perusahaan Listrik Negara
Lao PDR					
Sekong 4A-4B	60.00	213.00	Hydro	2033	Électricité DU Laos
Australia					
Battery Energy Storage System for Lincoln Gap 2	100.00	10.00	Wind	2026	under private purchase agreements and National Electricity Market
Marulan	100.00	152.00	Solar		

Protection of customer privacy and personal data

Protection of customer privacy and personal data RATCH places an extreme emphasis on the protection of customer privacy and personal data, by strictly complying with safety standards stipulated under the Personal Data Protection Act B.E.2562 (PDPA). Operational guidelines have been set forth in the Code of Conduct and corporate policies, to ensure that all power plants or all investment projects safeguard customers' confidential information and personal data and do not use such information for wrongful personal gains or others' benefits.

In 2024, RATCH promoted employee awareness on the safekeeping of confidential information/personal data, with continuous training sessions and PR information on confidential information and personal data protection. In addition, all employees have to strictly abide by the Company's regulations on the usage and safekeeping of the Company's confidential information as well as the terms and conditions agreed upon with customers. RATCH has also established the channel on the corporate website, where customers can file their reports or complaints relating to products, services or operational activities.

In 2024, the Company Group received no complaint relating to customer personal data/privacy.

Relevant Policy



Personal Data
Protection Policy



Privacy Notice



Prevention of
Misuse of Inside
Information Policy

Performance data

Abbreviation

RATCH	= RATCH Group PCL.	HKP	= Hin Kong Power Plant
RGCO	= Ratchaburi Power Plant	SKB	= Songkhla Biomass Power Plant
NNEG	= Nava Nakorn Electricity Power Plant	SLT	= Solarta Company Limited
BPC	= Berkprai Cogeneration Power Plant	RAC	= RATCH-Australia Corporation Pty Ltd
RCO	= RATCH Cogeneration Power Plant	RL	= RATCH-Lao Services Company Limited
RER	= RATCH Energy Rayong Power Plant	AWC	= Asia Water Company Limited
RPE	= Ratch Pathana Energy PCL.	FRD	= Fareast Renewable Development Pte. Ltd. (Asahan-1, Indonesia)

Economic

Data	Unit	2024	2023	2022
Revenues	Million THB	42,203.21	50,648.13	81,788.08
Operating costs	Million THB	27,298.11	37,754.85	69,286.60
Employee wages and benefits	Million THB	1,127.64	1,015.88	941.28
Dividend to all shareholders	Million THB	3,480.00	3,480.00	3,697.50
Payments to government	Million THB	600.76	735.02	800.95
Community investments	Million THB	209.19	171.98	239.32
Spent on local suppliers				
Company in Thailand ^[1]	Million THB	18,876.89 (97.60%)	33,361.26 (93.70%)	66,250.66 (96.74 %)
Company in Australia (RAC)	Million AUD	97.11 (89.17%)	81.37 (96.28%)	66.75 (97.53%)
Company in Indonesia (FRD : Asahan-1)	Million US\$	1.30 (100%)	-	-
Spent on foreign suppliers				
Company in Thailand ^[1]	Million THB	463.47 (2.40%)	2,242.75 (6.30%)	2,229.05 (3.26 %)
Company in Australia (RAC)	Million AUD	11.8 (10.38%)	3.14 (3.72%)	1.69 (2.47%)
Company in Indonesia (FRD : Asahan-1)	Million US\$	0	-	-

Remark : ^[1] Operations in Thailand include RATCH, RGCO, NNEG, BPC, RCO, RER, RPE Group, HKP and SLT ,
Asahan-1 began reporting data in 2024.

Health and Safety^[2]

Data	Unit	2024	2023	2022
Total number of organization				
RATCH	Employees	person (Male : Female)	104 : 117	106 : 115
	Workers	person (Male : Female)	1,927 : 347	35 : 26
RGCO	Employees	person (Male : Female)	23 : 22	21 : 25
	Workers	person (Male : Female)	411 : 167	310 : 86
NNEG	Employees	person (Male : Female)	19 : 16	19 : 14
	Workers	person (Male : Female)	N/A	351 : 10

Data		Unit	2024	2023	2022
BPC	Employees	person (Male : Female)	9 : 11	8 : 10	8 : 11
	Workers	person (Male : Female)	38 : 12	43 : 11	39 : 11
RCO	Employees	person (Male : Female)	12 : 9	8 : 8	7 : 6
	Workers	person (Male : Female)	40 : 7	183 : 24	391 : 46
RER	Employees	person (Male : Female)	27 : 8	27 : 8	26 : 5
	Workers	person (Male : Female)	513 : 55	221 : 30	22 : 1
RPE Group	Employees	person (Male : Female)	107 : 102	135 : 63	125 : 56
	Workers	person (Male : Female)	1,634 : 330	1,343 : 113	663 : 92
HKP	Employees	person (Male : Female)	12 : 11	-	-
	Workers	person (Male : Female)	57 : 6	-	-
SKB	Employees	person (Male : Female)	54 : 22	53 : 19	-
	Workers	person (Male : Female)	11 : 5	10 : 4	-
SLT	Employees	person (Male : Female)	1 : 2	-	-
	Workers	person (Male : Female)	53 : 10	-	-
RAC	Employees	person (Male : Female)	23 : 13	19 : 6	19 : 5
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0
RL	Employees	person (Male : Female)	200 : 22	198 : 21	194 : 20
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0
AWC	Employees	person (Male : Female)	7 : 0	5 : 2	-
	Workers	person (Male : Female)	5 : 2	11 : 0	-
FRD (Asahan-1)	Employees	person (Male : Female)	17 : 3	17 : 3	17 : 3
	Workers	person (Male : Female)	87 : 8	88 : 7	88 : 7
Number of Hours Worked					
RATCH	Employees	Hours worked	440,033.0	402,052.0	405,096.0
	Workers	Hours worked	279,449.0	154,472.0	171,560.0
RGCO	Employees	Hours worked	162,044.0	84,060.0	85,630.0
	Workers	Hours worked	1,295,537.5	1,695,042.5	1,285,343.0
NNEG	Employees	Hours worked	163,359.5	153,919.0	57,264.0
	Workers	Hours worked	1,091,999.0	135,193.0	245,563.5
BPC	Employees	Hours worked	34,208.0	34,048.0	25,544.0
	Workers	Hours worked	167,008.0	161,022.0	129,846.0
RCO	Employees	Hours worked	38,234.0	28,626.0	17,944.0
	Workers	Hours worked	164,090.5	145,198.0	608,356.0
RER	Employees	Hours worked	70,541.0	69,088.0	58,188.3
	Workers	Hours worked	40,613.0	61,825.0	754,410.0
RPE Group	Employees	Hours worked	416,027.2	386,777.5	394,482.5
	Workers	Hours worked	629,235.3	2,633,120.0	889,056.5
HKP	Employees	Hours worked	29,968.0	-	-
	Workers	Hours worked	313,800.0	-	-

Data		Unit	2024	2023	2022
SKB	Employees	Hours worked	137,371.9	139,791.3	-
	Workers	Hours worked	60,328.0	40,880.0	-
SLT	Employees	Hours worked	5,621.5	-	-
	Workers	Hours worked	210,352.0	-	-
RAC	Employees	Hours worked	49,638.8	40,917.0	36,863.9
	Workers	Hours worked	0.0	0.0	0.0
RL	Employees	Hours worked	536,859.0	538,776.0	524,018.7
	Workers	Hours worked	0.0	0.0	0.0
AWC	Employees	Hours worked	2,226.0	2,138.0	-
	Workers	Hours worked	2,226.0	2,100.0	-
FRD (Asahan-1)	Employees	Hours worked	36,960.0	39,360.0	39,984.0
	Workers	Hours worked	518,825.0	186,960.0	215,961.0
Total workforce represented in formal joint management-worker health and safety committees					
RATCH		persons (%)	9 (0.36%)	9 (3.19%)	9 (3.24%)
RGCO		persons (%)	15 (2.41%)	15 (3.39%)	15 (3.50%)
NNEG		persons (%)	13 (1.13%)	13 (3.30%)	11 (1.10%)
BPC		persons (%)	11 (15.71%)	11 (15.28%)	11 (15.94%)
RCO		persons (%)	5 (7.35%)	5 (2.24%)	5 (1.11%)
RER		persons (%)	7 (1.16%)	6 (2.10%)	6 (11.11%)
RPE Group		persons (%)	29 (1.33%)	33 (2.00%)	33 (3.53%)
HKP		persons (%)	5 (5.81%)	-	-
SKB		persons (%)	10 (10.87%)	5 (5.81%)	-
SLT		persons (%)	0	-	-
RAC		persons (%)	7 (19.44%)	5 (20.00%)	5 (20.83%)
RL		persons (%)	0	0	0
AWC		persons (%)	0	0	-
FRD (Asahan-1)		persons (%)	19 (16.52%)	3 (2.61%)	3 (2.61%)
Number of Fatalities (result of work-related injuries) by Gender					
RATCH	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0
RGCO	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0
NNEG	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0
BPC	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0
RCO	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	1 : 0
RER	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0

Data		Unit	2024	2023	2022
RPE Group	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0
HKP	Employees	person (Male : Female)	0 : 0	-	-
	Workers	person (Male : Female)	0 : 0	-	-
SKB	Employees	person (Male : Female)	0 : 0	0 : 0	-
	Workers	person (Male : Female)	0 : 0	0 : 0	-
SLT	Employees	person (Male : Female)	0 : 0	-	-
	Workers	person (Male : Female)	0 : 0	-	-
RAC	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0
RL	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0
AWC	Employees	person (Male : Female)	0 : 0	0 : 0	-
	Workers	person (Male : Female)	0 : 0	0 : 0	-
FRD (Asahan-1)	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0
Fatalities Rate (FR) by Gender					
RATCH	Employees	No/200,000 Hours worked (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
RGCO	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
NNEG	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
BPC	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
RCO	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0.33 : 0
RER	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
RPE Group	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
HKP	Employees		0 : 0	-	-
	Workers		0 : 0	-	-
SKB	Employees		0 : 0	0 : 0	-
	Workers		0 : 0	0 : 0	-
SLT	Employees		0 : 0	-	-
	Workers		0 : 0	-	-
RAC	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0

Data		Unit	2024	2023	2022
RL	Employees	No/200,000 Hours worked (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
AWC	Employees		0 : 0	0 : 0	-
	Workers		0 : 0	0 : 0	-
FRD (Asahan-1)	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
Number of high-consequence work-related injuries					
Employees		person (Male : Female)	0 : 0	0 : 0	0 : 0
Workers			0 : 0	0 : 0	0 : 0
Rate of high-consequence work-related injuries					
Employees		No/200,000 Hours worked	0 : 0	0 : 0	0 : 0
Workers			0 : 0	0 : 0	0 : 0
Number of recordable work-related injuries					
RATCH	Employees	person (Male : Female)	0 : 1	0 : 1	0 : 0
	Workers	person (Male : Female)	0 : 0	1 : 0	0 : 0
RGCO	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 1	2 : 0	0 : 0
NNEG	Employees	person (Male : Female)	0 : 1	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	1 : 0
BPC	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0
RCO	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0
RER	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0
RPE Group	Employees	person (Male : Female)	1 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	1 : 0	2 : 0	0 : 0
HKP	Employees	person (Male : Female)	0 : 0	-	-
	Workers	person (Male : Female)	0 : 0	-	-
SKB	Employees	person (Male : Female)	0 : 0	1 : 0	-
	Workers	person (Male : Female)	0 : 0	0 : 0	-
SLT	Employees	person (Male : Female)	0 : 0	-	-
	Workers	person (Male : Female)	0 : 0	-	-
RAC	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0
RL	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0
AWC	Employees	person (Male : Female)	0 : 0	0 : 0	-
	Workers	person (Male : Female)	0 : 0	0 : 0	-

Data		Unit	2024	2023	2022
FRD (Asahan-1)	Employees	person (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers	person (Male : Female)	0 : 0	0 : 0	0 : 0
Rate of recordable work-related injuries					
RATCH	Employees	No/200,000 Hours worked (Male : Female)	0 : 0.44	0 : 0.50	0 : 0
	Workers		0 : 0	1.29 : 0	0 : 0
RGC0	Employees		0 : 0	0 : 0	0 :
	Workers		0 : 0.15	0.24 : 0	0 : 0
NNEG	Employees		0 : 1.22	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	1.32 : 0
BPC	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
RCO	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
RER	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
RPE Group	Employees		0.48 : 0	0 : 0	0 : 0
	Workers		0.32 : 0	0.15 : 0	0 : 0
HKP	Employees		0 : 0	-	-
	Workers		0 : 0	-	-
SKB	Employees		0 : 0	1.43 : 0	-
	Workers		0 : 0	0 : 0	-
SLT	Employees		0 : 0	-	-
	Workers		0 : 0	-	-
RAC	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
RL	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
AWC	Employees		0 : 0	0 : 0	-
	Workers		0 : 0	0 : 0	-
FRD (Asahan-1)	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
Number of Fatalities (result of work-related ill health)					
Employees		person (Male : Female)	0 : 0	0 : 0	0 : 0
Workers			0 : 0	0 : 0	0 : 0
Fatalities rate (result of work-related ill health)					
Employees		No/200,000 Hours worked	0 : 0	0 : 0	0 : 0
Workers			0 : 0	0 : 0	0 : 0
Number of cases of recordable work-related ill health)					
Employees		person (Male : Female)	0 : 0	0 : 0	0 : 0
Workers			0 : 0	0 : 0	0 : 0

Data		Unit	2024	2023	2022
Rate of recordable work-related ill health					
Employees		No/200,000 Hours worked	0 : 0	0 : 0	0 : 0
Workers			0 : 0	0 : 0	0 : 0
Lost-Time Injury Frequency Rate (LTIFR)					
RATCH	Employees	No/1,000,000 Hours worked (Male : Female)	0 : 0	0 : 2.49	0 : 0
	Workers		0 : 0	6.47 : 0	0 : 0
RGCO	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	1.18 : 0	0 : 0
NNEG	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
BPC	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
RCO	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
RER	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
RPE Group	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
HKP	Employees		0 : 0	-	-
	Workers		0 : 0	-	-
SKB	Employees		0 : 0	0 : 0	-
	Workers		0 : 0	0 : 0	-
SLT	Employees		0 : 0	-	-
	Workers		0 : 0	-	-
RAC	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
RL	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
AWC	Employees		0 : 0	0 : 0	-
	Workers		0 : 0	0 : 0	-
FRD (Asahan-1)	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
Total Injury Frequency Rate (TIFR)					
RATCH	Employees	No/1,000,000 Hours worked (Male : Female)	0 : 2.19	0 : 2.49	0 : 0
	Workers		0 : 0	6.47 : 0	0 : 0
RGCO	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0.77	2.36 : 0	0 : 0
NNEG	Employees		0 : 1.22	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	6.61 : 0
BPC	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0

Data		Unit	2024	2023	2022
RCO	Employees	No/1,000,000 Hours worked (Male : Female)	0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
RER	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
RPE Group	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0.76 : 0	0 : 0
HKP	Employees		0 : 0	-	-
	Workers		0 : 0	-	-
SKB	Employees		0 : 0	7.15 : 0	-
	Workers		0 : 0	0 : 0	-
SLT	Employees		0 : 0	-	-
	Workers		0 : 0	-	-
RAC	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
RL	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0
AWC	Employees		0 : 0	0 : 0	-
	Workers		0 : 0	0 : 0	-
FRD (Asahan-1)	Employees		0 : 0	0 : 0	0 : 0
	Workers		0 : 0	0 : 0	0 : 0

Remark : ^[2] Presented information covers safety data of RATCH, RGCO, NNEG, BPC, RCO, RER, RPE Group, HKP, SKB, SLT, RAC, RL, AWC and FRD (Asahan-1)

SKB and AWC started reporting data in 2023, while HKP and SLT began reporting data in 2024.

All Employees of RATCH, RGCO, NNEG, BPC, RCO, RER, RPE Group, HKP, SKB, SLT are Thai, RAC's employees are Australian and Thai, RL's employees are Laos and Thai, AWC's employees are Laos and FRD's (Asahan-1) employees are Thai and Indonesian.

People^[3]

Data	Unit	2024		2023		2022	
		Male	Female	Male	Female	Male	Female
Total Employee	Persons	586		565		520	
	Persons	395	191	382	183	354	166
Employee by employment contract							
Permanent	Persons	389	187	382	180	324	164
Temporary	Persons	6	4	0	3	30	2
Employee by age group							
<30 years	Persons	88	32	101	32	117	29
30-50 years	Persons	249	130	236	125	194	122
>50 years	Persons	58	29	46	25	41	17
Employee by category							
Top Management	Persons	18	3	14	4	16	4
	%	3.07	0.51	2.48	0.71	3.08	0.77

Data	Unit	2024		2023		2022	
		Male	Female	Male	Female	Male	Female
Middle Management	Persons	47	26	43	23	38	20
	%	8.02	4.44	7.61	4.07	7.31	3.85
Junior Management	Persons	48	52	49	45	44	37
	%	8.19	8.87	8.67	7.96	8.46	7.12
Officer	Persons	278	104	276	109	256	103
	%	47.44	17.75	48.85	19.29	49.23	19.81
Worker	Persons	4	6	0	2	0	2
	%	0.68	1.02	0.00	0.35	0.00	0.38
Employee by Nationality							
Thai	%	56.83		57.52		55.19	
Lao	%	37.71		38.59		40.96	
Australian	%	5.46		3.89		3.85	
Other	%	0.00		0.00		0.00	
New Hires by Age Group							
<30 years	Persons	13	7	48	11	42	8
	%	2.2	1.2	8.5	1.9	8.1	1.5
30–50 years	Persons	10	9	25	26	28	7
	%	1.7	1.5	4.4	4.6	5.4	1.3
>50 years	Persons	8	1	3	6	1	0
	%	1.4	0.2	0.5	1.1	0.2	0.0
Total	Persons	31	17	76	43	71	15
	%	5.3	2.9	13.5	7.6	13.7	2.9
Turnover by Age Group							
<30 years	Persons	2	1	5	4	4	6
	%	0.3	0.2	0.9	0.7	0.8	1.2
30–50 years	Persons	10	4	13	4	11	5
	%	1.7	0.7	2.3	0.7	2.1	1.0
>50 years	Persons	2	1	2	0	0	0
	%	0.3	0.2	0.4	0.0	0.0	0.0
Total	Persons	14	6	20	8	15	11
	%	2.4	1.0	3.5	1.4	2.9	2.1
Parental leave							
Parental leave	Persons	-	3	-	3	-	4
Returning to work after parental leave ended	Persons	-	2	-	3	-	8
Returning to work after parental leave ended (12 months after return to work)	Persons	-	2	-	2	-	8
Average number of paid leave in weeks for the primary caregiver	Weeks	-	11.2	-	9.9		

Data	Unit	2024		2023		2022	
		Male	Female	Male	Female	Male	Female
Training and Development							
Top Management	hour/person/year	33.39	13.37	21.50	93.15	25.97	23.25
Middle Management	hour/person/year	27.05	64.45	32.10	42.93	33.36	26.78
Junior Management	hour/person/year	52.03	51.57	43.51	48.51	48.86	53.49
Officer	hour/person/year	45.13	34.95	41.80	31.67	27.41	19.67
Worker	hour/person/year	11.50	32.33	0.00	19.50	0.00	0.00
Employee receiving career development review							
Top Management	%	100		100		100	
Middle Management	%	100		100		100	
Junior Management	%	100		100		100	
Officer	%	100		100		100	
Worker	%	100		100		100	
Employee receiving regular performance review							
Top Management	%	100		100		100	
Middle Management	%	100		100		100	
Junior Management	%	100		100		100	
Officer	%	100		100		100	
Worker	%	100		100		100	
Grievance							
Total number of grievance about labor practices through formal grievance process	Case	0	0	0	0	0	0
Total number of grievance addressed	Case	0	0	0	0	0	0
Total number of grievance resolved	Case	0	0	0	0	0	0
Total number of grievance about human rights through formal grievance process	Case	0	0	0	0	0	0
Total number of grievance addressed	Case	0	0	0	0	0	0
Total number of grievance resolved	Case	0	0	0	0	0	0

Remark : ^[3] Presented employee data are of RATCH, RGCO, RCO, RER, RAC, and RL

Environment ^[4]

Data	Unit	2024	2023	2022
Energy ^[5]				
Total energy consumption	TJ	44,136	52,274	95,989
Total direct energy consumption	TJ	108,632	104,354	175,793
• Natural Gas	TJ	105,845	96,529	160,794
• Bunker Oil	TJ	2	3,693	11,562
• Diesel Oil	TJ	100	232	797
• Biomass	TJ	2,684	3,901	2,641

Data	Unit	2024	2023	2022
Total Indirect Energy Consumption	TJ	362	244	255
• Electricity purchased	TJ	362	244	255
• Heating purchased	TJ	0	0	0
• Steam purchased	TJ	0	0	0
Total energy sold	TJ	64,858	52,325	80,060
• Electricity sold	TJ	63,249	50,766	78,460
• Heating sold	TJ	0	0	0
• Steam sold	TJ	1,609	1,559	1,600
Net Generation (Total)	MWh	17,569,157	14,101,637	21,794,359
Net Generation (Only Fossil Fuel)	MWh	13,685,159	11,487,482	19,280,476
Total energy intensity (within organization)	GJ/MWh	6.18	7.40	8.07
Total Energy Reduction	GJ	311,863	294,001	203,181
• Fuel saving	GJ	87,191	41,455	24,939
• Electricity saving	GJ	224,672	252,545	178,242
• Steam saving	GJ	0	0	0
GHG Emission^[6]				
Direct GHG emissions (Scope 1)	tCO ₂ e	5,296,098	4,984,325	8,515,787
Indirect GHG emissions (Scope 2)	tCO ₂ e	39,387	28,363	31,367
Total GHG emissions (Scope 1 + 2)	tCO ₂ e	5,335,485	5,012,688	8,547,154
GHG emission intensity (Scope 1 + 2) ^[7]	tCO ₂ e/MWh	0.3247	0.3874	0.4152
Other Indirect GHG emissions (Scope 3) ^[8]	tCO ₂ e	1,769,016	1,549,089	3,113,000
Total GHG emissions reductions	tCO ₂ e	42,973	39,728	28,089
Emission^[9]				
NO _x emissions	Tons	2,193	2,657	4,939
	kg/MWh	0.16	0.23	0.26
SO _x emissions	Tons	67.4	161.7	1,700.0
	kg/MWh	0.005	0.014	0.088
Opacity	%	2.38	5.80	5.27
TSP	Tons	156.1	234.4	406.3
Water^[10]				
Total water withdrawal	Million m ³	25.03	22.38	28.92
• Surface water (total)	Million m ³	19.34	16.83	23.53
Freshwater (≤1,000 mg/L Total Dissolved Solids)	Million m ³	19.34	16.83	23.53
Other water (>1,000 mg/L Total Dissolved Solids)	Million m ³	0	0	0
• Groundwater (total)	Million m ³	0.005	0.003	0.000
Freshwater (≤1,000 mg/L Total Dissolved Solids)	Million m ³	0.005	0.003	0.000
Other water (>1,000 mg/L Total Dissolved Solids)	Million m ³	0.000	0.000	0.000
• Seawater (total)	Million m ³	0	0	0
Freshwater (≤1,000 mg/L Total Dissolved Solids)	Million m ³	0	0	0
Other water (>1,000 mg/L Total Dissolved Solids)	Million m ³	0	0	0

Data	Unit	2024	2023	2022
● Produced water (total)	Million m ³	0.025	0.000	0.000
Freshwater (≤1,000 mg/L Total Dissolved Solids)	Million m ³	0.021	0	0
Other water (>1,000 mg/L Total Dissolved Solids)	Million m ³	0.003	0	0
● Third-party water (total)	Million m ³	0.49	0.27	0.43
Freshwater (≤1,000 mg/L Total Dissolved Solids)	Million m ³	0.481	0.261	0.400
Other water (>1,000 mg/L Total Dissolved Solids)	Million m ³	0.008	0.004	0.033
● Third-party water (total) in Water Stress Area	Million m ³	5.17	5.28	4.95
Freshwater (≤1,000 mg/L Total Dissolved Solids)	Million m ³	5.17	5.28	4.95
Other water (>1,000 mg/L Total Dissolved Solids)	Million m ³	0	0	0
Recycled and reused water	m ³	1,179,353	1,036,287	1,452,570
	% of total water withdrawal	4.71	4.63	5.02
Water Footprint	m ³ / MWh (net)	1.42	1.59	1.33
Total water discharge	Million m ³	12.36	10.57	10.32
● Surface water	Million m ³	3.33	1.78	2.57
● Ground Water	Million m ³	0	0	0
● Seawater	Million m ³	0	0	0
● Centralized wastewater treatment facility	Million m ³	0.42	0.83	0.66
● Third-party water	Million m ³	8.62	7.96	7.09
Water discharge by freshwater and other water	Million m ³	12.36	10.57	10.32
Freshwater (≤1,000 mg/L Total Dissolved Solids)	Million m ³	11.61	9.93	9.64
Other water (>1,000 mg/L Total Dissolved Solids)	Million m ³	0.76	0.64	0.68
Water discharge by by level of treatment	Million m ³	12.36	10.57	10.32
Treated water	Million m ³	12.06	10.26	10.01
Untreated water	Million m ³	0.30	0.30	0.32
COD loading	Tons	112	103	130
BOD loading	Tons	12	10	13
Total water consumption	Million m ³	12.67	11.82	18.59
Waste^[1]				
Total Waste	Tons	25,999.7	24,181.3	30,653.4
● Waste diverted from disposal by recovery operation	Tons	15,274.9	16,639.0	29,818.6
● Waste directed to disposal by disposal operation	Tons	10,724.8	7,542.3	834.8
Total hazardous waste	Tons	412.1	703.4	401.6
● Waste diverted from disposal by recovery operation	Tons	27.8	41.3	32.5
Preparation for reuse	Tons	0	0	0
Recycling	Tons	20.9	30.0	20.6
Other recovery operations	Tons	7.0	11.3	11.9

Data	Unit	2024	2023	2022
• Waste directed to disposal by disposal operation	Tons	384.2	662.1	369.1
Incineration (with energy recovery)	Tons	27.8	114.7	186.7
Incineration (without energy recovery)	Tons	27.4	24.0	10.7
Landfilling	Tons	40.8	488.1	33.7
Other disposal operations	Tons	287.1	35.2	137.0
Onsite Storage	Tons	1.1	0.04	1.0
Total non-hazardous waste	Tons	25,587.6	23,477.9	30,251.9
• Waste diverted from disposal by recovery operation	Tons	15,247.0	16,597.7	29,786.1
Preparation for reuse	Tons	12	0	15.3
Recycling	Tons	33.2	38.0	6,435.7
Other recovery operations	Tons	15,202.1	16,559.7	23,335.2
• Waste directed to disposal by disposal operation	Tons	10,340.6	6,880.2	465.7
Incineration (with energy recovery)	Tons	0.6	2.6	0
Incineration (without energy recovery)	Tons	0	0	1.3
Landfilling	Tons	2,262.1	569.3	456.8
Other disposal operations	Tons	17.9	28.6	0.9
Onsite Storage	Tons	8,060.0	6,279.7	6.6

Remark : ^[4] Presented environmental data are of RGCO, HKP, NNEG, BPC, RCO, RER, RPE Group, SKB, SLT, RAC, AWC, and FRD (Asahan-1).

SKB and AWC started reporting data in 2023, while HKP and SLT began reporting data in 2024.

^[5] Energy consumption are calculated based on conversion factors for stationary combustion in the energy industries from Thai Energy Statistics 2018.

^[6] GHG Emission of RGCO, HKP, NNEG, RCO, BPC, RER, RPE Group and SKB are calculated based on the assessment Methodology of Carbon Footprint for Organization developed by TGO (5 th edition, January 2021) that are calculated from CO₂ / CH₄ / N₂O / R-134a / R-407c / R-410a and SF₆. Base year of GHG calculation is 2015. GHG Emission of RAC follow National Greenhouse and Energy Reporting Act.

^[7] GHG (Scope 1 and 2) Intensity data refers to the calculation of GHG emissions from all power plants, including RGCO, HKP, NNEG, BPC, RCO, RER, RPE Group, SKB, and RAC. The calculation covers GHG emissions from Scope 1 and 2 per unit of net electricity generated.

^[8] Other Indirect GHG Scope 3 only included RGCO, HKP, NNEG, RCO, BPC, RER, RPE Group and RAC.

^[9] Emission of RGCO, HKP, NNEG, BPC, RCO, RER and RPE are calculated from the Continuous Emission Monitoring Sytems (CEMs) and RAC used calculation method of the Queensland Department of Environment and Science.

^[10] The data are measured from metering.

^[11] The data are measured from Manifest System and weight scale.

GRI content index 2024

Statement of use	RATCH Group 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 Standards/ 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	14-23	-	-	-	-
	2-2 Entities included in the organization’s sustainability reporting	10-11	-	-	-	-
	2-3 Reporting period, frequency and contact point	10-13	-	-	-	-
	2-4 Restatements of information	10-11	-	-	-	-
	2-5 External assurance	11, 264-265	-	-	-	-
	2-6 Activities, value chain and other business relationships	14-20, 49	-	-	-	-
	2-7 Employees	23, 153, 240-241, 247-248	-	-	-	-
	2-8 Workers who are not employees	153, 240-241	-	-	-	-
	2-9 Governance structure and composition	66-68	-	-	-	-
	2-10 Nomination and selection of the highest governance body	69-70	-	-	-	-
	2-11 Chair of the highest governance body	67	-	-	-	-
	2-12 Role of the highest governance body in overseeing the management of impacts	72-75	-	-	-	-
	2-13 Delegation of responsibility for managing impacts	4-5, 67-68, 72-75, 96-97	-	-	-	-
	2-14 Role of the highest governance body in sustainability reporting	4-5, 11, 66, 72-75	-	-	-	-
	2-15 Conflicts of interest	89-90	-	-	-	-
	2-16 Communication of critical concerns	72-75, 78-80, 92,144, 178, 204-209	-	-	-	-
	2-17 Collective knowledge of the highest governance body	70-72	-	-	-	-
	2-18 Evaluation of the performance of the highest governance body	75-76	-	-	-	-
	2-19 Remuneration policies	76-77, 173	-	-	-	-
	2-20 Process to determine remuneration	76-77, 173	-	-	-	-
	2-21 Annual total compensation ratio	173	-	-	-	-
	2-22 Statement on sustainable development strategy	4-5, 24-31	-	-	-	-
	2-23 Policy commitments	4-5, 24-25, 66	-	-	-	-

GRI Standards/ Other Source	Disclosure	Location	Omission			GRI Sector Standard Ref. No.
			Requirement (s) Omitted	Reason	Explanation	
	2-24 Embedding policy commitments	80-86, 88-89, 99, 101, 140,146, 164, 171-172, 190, 217-218	-	-	-	-
	2-25 Processes to remediate negative impacts	38-48, 117-124, 128, 130-132, 134-139, 141-144, 150 -153, 189-209	-	-	-	-
	2-26 Mechanisms for seeking advice and raising concerns	32-37, 90-92, 144, 176-178, 204-209	-	-	-	-
	2-27 Compliance with laws and regulations	80-87	-	-	-	-
	2-28 Membership associations	61-65	-	-	-	-
	2-29 Approach to stakeholder engagement	52-61	-	-	-	-
	2-30 Collective bargaining agreements	92, 144, 176-178, 217,218	-	-	-	-
Material topics						
GRI 3: Material Topics 2021	3-1 Process to determine material topics	32-33	-	-	-	-
	3-2 List of material topics	33-37	-	-	-	-
Economic performance						
GRI 3: Material Topics 2021	3-3 Management of material topics	38-48	-	-	-	-
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	6, 210-216, 240	-	-	-	-
	201-2 Financial implications and other risks and opportunities due to climate change	103, 261	-	-	-	-
	201-3 Defined benefit plan obligations and other retirement plans	181	-	-	-	-
	201-4 Financial assistance received from government	212	-	-	-	-
Market presence						
GRI 3: Material Topics 2021	3-3 Management of material topics	170-172	-	-	-	-
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	173	-	-	-	-
	202-2 Proportion of senior management hired from the local community	-	x	Not applicable	Hiring criteria for the senior management mostly bases on related field expertise and experiences, as well as required leadership skill or competency regardless local settlement	-
Indirect economic impacts						
GRI 3: Material Topics 2021	3-3 Management of material topics	210-216	-	-	-	-

GRI Standards/ Other Source	Disclosure	Location	Omission			GRI Sector Standard Ref. No.
			Requirement (s) Omitted	Reason	Explanation	
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	19-20, 215-216	-	-	-	-
	203-2 Significant indirect economic impacts	33-37, 38-48	-	-	-	-
Procurement practices						
GRI 3: Material Topics 2021	3-3 Management of material topics	24-26	-	-	-	-
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	228, 240	-	-	-	-
Anti-corruption						
GRI 3: Material Topics 2021	3-3 Management of material topics	88-90	-	-	-	-
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	90-91	-	-	-	-
	205-2 Communication and training about anti-corruption policies and procedures	90-91, 96-98	-	-	-	-
	205-3 Confirmed incidents of corruption and actions taken	90-92	-	-	-	-
Anti-competitive behavior						
GRI 3: Material Topics 2021	3-3 Management of material topics	78-86	-	-	-	-
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	86-87	-	-	-	-
Tax						
GRI 3: Material Topics 2021	3-3 Management of material topics	212	-	-	-	-
GRI 207: Tax 2019	207-1 Approach to tax	212	-	-	-	-
	207-2 Tax governance, control, and risk management	212	-	-	-	-
	207-3 Stakeholder engagement and management of concerns related to tax	212	-	-	-	-
	207-4 Country-by-country reporting	-	x	Information incomplete	Tax information publicly disclosed in the Company's audited consolidated financial statement.	-
Materials						
GRI 3: Material Topics 2021	3-3 Management of material topics	113-117, 121-124	-	-	-	-
GRI 301: Materials 2016	301-1 Materials used by weight or volume	116-121	-	-	-	-
	301-2 Recycled input materials used	117	-	-	-	-
	301-3 Reclaimed products and their packaging materials	-	x	Not Applicable	The company's product is electricity which is in form of energy.	-
Energy						
GRI 3: Material Topics 2021	3-3 Management of material topics	113-115, 120-121	-	-	-	-

GRI Standards/ Other Source	Disclosure	Location	Omission			GRI Sector Standard Ref. No.
			Requirement (s) Omitted	Reason	Explanation	
GRI 302: Energy 2016	302-1 Energy consumption within the organization	120-121, 249-250	-	-	-	-
	302-2 Energy consumption outside of the organization	120-121, 249-250	-	-	-	-
	302-3 Energy intensity	250	-	-	-	-
	302-4 Reduction of energy consumption	121, 250	-	-	-	-
	302-5 Reductions in energy requirements of products and services	104-105, 250	-	-	-	-
Water and effluents						
GRI 3: Material Topics 2021	3-3 Management of material topics	113-117	-	-	-	-
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	116-117, 119, 250-251	-	-	-	-
	303-2 Management of water discharge-related impacts	116-119, 127-130, 251	-	-	-	-
	303-3 Water withdrawal	116-119, 250-251	-	-	-	-
	303-4 Water discharge	116, 118-119, 127-130, 251	-	-	-	-
	303-5 Water consumption	118-119, 251	-	-	-	-
Biodiversity						
GRI 3: Material Topics 2021	3-3 Management of material topics	133-134	-	-	-	-
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	135-139	-	-	-	-
	304-2 Significant impacts of activities, products and services on biodiversity	135-139	-	-	-	-
	304-3 Habitats protected or restored	138-139	-	-	-	-
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	135-139	-	-	-	-
Emissions						
GRI 3: Material Topics 2021	3-3 Management of material topics	99-103, 122-124	-	-	-	-
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	108-109, 250	-	-	-	-
	305-2 Energy indirect (Scope 2) GHG emissions	108-109, 250	-	-	-	-
	305-3 Other indirect (Scope 3) GHG emissions	108-109, 250	-	-	-	-
	305-4 GHG emissions intensity	108-109, 250	-	-	-	-
	305-5 Reduction of GHG emissions	101-102, 250	-	-	-	-
	305-6 Emissions of ozone-depleting substances (ODS)	N/A	x	Not Applicable	The electricity production does not directly emit Ozone substances and it is not a monitoring parameter required by law or EIA's requirement.	-

GRI Standards/ Other Source	Disclosure	Location	Omission			GRI Sector Standard Ref. No.
			Requirement (s) Omitted	Reason	Explanation	
	305-7 Nitrogen oxides (NO _x), sulfur oxides (SO _x), and other significant air emissions	125-127, 250	-	-	-	-
Waste						
GRI 3: Material Topics 2021	3-3 Management of material topics	131-132	-	-	-	-
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	132-133	-	-	-	-
	306-2 Management of significant waste-related impacts	131-133	-	-	-	-
	306-3 Waste generated	132-133	-	-	-	-
	306-4 Waste diverted from disposal	132, 251-252	-	-	-	-
	306-5 Waste directed to disposal	132, 251-252	-	-	-	-
Supplier environmental assessment						
GRI 3: Material Topics 2021	3-3 Management of material topics	217-220, 222-226	-	-	-	-
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	220-222	-	-	-	-
	308-2 Negative environmental impacts in the supply chain and actions taken	222-223	-	-	-	-
Employment						
GRI 3: Material Topics 2021	3-3 Management of material topics	170-172	-	-	-	-
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	172, 248	-	-	-	-
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	173-175	-	-	-	-
	401-3 Parental leave	248	-	-	-	-
Labor/management relations						
GRI 3: Material Topics 2021	3-3 Management of material topics	170-172	-	-	-	-
GRI 402: Labor/Management Relations 2016	402-1 Minimum notice periods regarding operational changes	171	-	-	-	-
Occupational health and safety						
GRI 3: Material Topics 2021	3-3 Management of material topics	140-141, 145-146, 149	-	-	-	-
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	149-162	-	-	-	-
	403-2 Hazard identification, risk assessment, and incident investigation	149-151	-	-	-	-
	403-3 Occupational health services	157-161	-	-	-	-
	403-4 Worker participation, consultation, and communication on occupational health and safety	149-152	-	-	-	-
	403-5 Worker training on occupational health and safety	152-154, 162	-	-	-	-
	403-6 Promotion of worker health	155-162	-	-	-	-
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	154-161	-	-	-	-

GRI Standards/ Other Source	Disclosure	Location	Omission			GRI Sector Standard Ref. No.
			Requirement (s) Omitted	Reason	Explanation	
	403-8 Workers covered by an occupational health and safety management system	150-152, 174-175	-	-	-	-
	403-9 Work-related injuries	6, 146-148, 242-247	-	-	-	-
	403-10 Work-related ill health	6, 146-148, 242-247	-	-	-	-
Training and education						
GRI 3: Material Topics 2021	3-3 Management of material topics	170-172, 176-180	-	-	-	-
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	182, 249	-	-	-	-
	404-2 Programs for upgrading employee skills and transition assistance programs	178-185	-	-	-	-
	404-3 Percentage of employees receiving regular performance and career development reviews	175-176, 249	-	-	-	-
Diversity and equal opportunity						
GRI 3: Material Topics 2021	3-3 Management of material topics	172-173	-	-	-	-
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	23, 68, 172, 247-248	-	-	-	-
	405-2 Ratio of basic salary and remuneration of women to men	173	-	-	-	-
Non-discrimination						
GRI 3: Material Topics 2021	3-3 Management of material topics	140-141, 170-172, 217-218	-	-	-	-
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	6, 143-144, 178, 190	-	-	-	-
Freedom of association and collective bargaining						
GRI 3: Material Topics 2021	3-3 Management of material topics	140-141, 170-172, 217-218	-	-	-	-
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	143-144, 176-178, 220-226,	-	-	-	-
Child labor						
GRI 3: Material Topics 2021	3-3 Management of material topics	140-141, 172, 218	-	-	-	-
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	220-226	-	-	-	-
Forced or compulsory labor						
GRI 3: Material Topics 2021	3-3 Management of material topics	140-141, 170-172, 217-218	-	-	-	-
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	141-144, 160-161, 172-178, 220-222	-	-	-	-
Security practices						
GRI 3: Material Topics 2021	3-3 Management of material topics	140-141	-	-	-	-

GRI Standards/ Other Source	Disclosure	Location	Omission			GRI Sector Standard Ref. No.
			Requirement (s) Omitted	Reason	Explanation	
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures	141-144	-	-	-	-
Rights of indigenous peoples						
GRI 3: Material Topics 2021	3-3 Management of material topics	140-141	-	-	-	-
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples	6, 141	-	-	-	-
Local communities						
GRI 3: Material Topics 2021	3-3 Management of material topics	189-190	-	-	-	-
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	191-207	-	-	-	-
	413-2 Operations with significant actual and potential negative impacts on local communities	33-37,40-42, 44-45	-	-	-	-
Supplier social assessment						
GRI 3: Material Topics 2021	3-3 Management of material topics	217-219	-	-	-	-
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	221-226	-	-	-	-
	414-2 Negative social impacts in the supply chain and actions taken	220-226	-	-	-	-
Public policy						
GRI 3: Material Topics 2021	3-3 Management of material topics	86	-	-	-	-
GRI 415: Public Policy 2016	415-1 Political contributions	87	-	-	-	-
Customer health and safety						
GRI 3: Material Topics 2021	3-3 Management of material topics	N/A	x	Not applicable	Electricity is directly distributed via high voltage transmission to customers.	-
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	N/A	x			-
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	N/A	x			-
Marketing and labeling						
GRI 3: Material Topics 2021	3-3 Management of material topics	N/A	x	Not applicable	Electricity is directly distributed via high voltage transmission to customers.	-
GRI 417: Marketing and Labeling 2016	417-1 Requirements for product and service information and labeling	N/A	x			-
	417-2 Incidents of non-compliance concerning product and service information and labeling	N/A	x			-
	417-3 Incidents of non-compliance concerning marketing communications	N/A	x			-
Customer privacy						
GRI 3: Material Topics 2021	3-3 Management of material topics	230, 238-239	-	-	-	-

GRI Standards/ Other Source	Disclosure	Location	Omission			GRI Sector Standard Ref. No.
			Requirement (s) Omitted	Reason	Explanation	
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	6, 144, 239	-	-	-	-
GRI-G4 Electric Utilities Sector Disclosure						
EU 1	Installed capacity, broken down by primary energy source and by regulatory regime	15-18, 231-233	-	-	-	-
EU 2	Net energy output broken down by primary energy source and by regulatory regime	231-233	-	-	-	-
EU 3	Number of residential, industrial, institutional and commercial customer accounts	231-233	-	-	-	-
EU 5	Allocation of CO ₂ e emissions allowances or equivalent, broken down by carbon trading framework	103-111, 250	-	-	-	-
EU 10	Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime	16-18, 239	-	-	-	-
EU 11	Average generation efficiency of thermal plants by energy source and by regulatory regime	120-121, 234	-	-	-	-
EU 13	Biodiversity of offset habitats compared to the biodiversity of the affected areas	133-139	-	-	-	-
EU 15	Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category. and by region	181	-	-	-	-
EU 17	Days worked by contractor and subcontractor employees involved in construction, operation & maintenance activities	148, 241-242	-	-	-	-
EU 21	Disaster/ Emergency Planning and Response	96-97, 101-103, 149-153, 166-168	-	-	-	-
EU 30	Average plant availability factor by energy source and by regulatory regime	234	-	-	-	-

Disclosure in the Alignment with TCFD

Section	Items	Disclosure Source
Governance	<ul style="list-style-type: none"> The organization governance around climate-related risks and opportunities 	<ul style="list-style-type: none"> Structure of climate action supervision, Page 106 https://www.ratch.co.th/storage/download/social/climate-strategy/ratch-disclosure-tcf-d-en.pdf
Strategy	<ul style="list-style-type: none"> Climate analysis on physical risk in RCP 2.6 and RCP 8.5 scenarios, and transition risks in aspects of market, technology, regulations and reputation Climate -related impact and opportunity assessment on business strategy, targets, financial, operation, business partners and customers, health, safety and environment, regulatory compliance, and reputation. Mitigation and adaptation plan for climate-related risks and opportunities Climate Strategy development as a framework of decarbonization roadmap planning 	<ul style="list-style-type: none"> Assessment of climate-related risks and opportunities, Page 103 Climate Change Strategy, Page 25, 101-102 Management of Key Material Topics (Greenhouse gas management (Scope 1, 2, and 3 emissions)), Page 41-42 https://www.ratch.co.th/en/environment/climate-strategy https://www.ratch.co.th/storage/download/social/climate-strategy/ratch-disclosure-tcf-d-en.pdf
Risk Management	<ul style="list-style-type: none"> Climate-related physical and transition risk identification, assessment, and management process. Climate-related opportunity assessment process. Impact assessment and mitigation and preventive measures for high risks factors. 	<ul style="list-style-type: none"> Structure of climate action supervision, Page 101 Assessment of climate-related risks/ opportunities, Page 103 https://www.ratch.co.th/en/environment/climate-strategy https://www.ratch.co.th/storage/download/social/climate-strategy/ratch-disclosure-tcf-d-en.pdf
Metrics and Targets	<ul style="list-style-type: none"> Decarbonization roadmap planning Presents the scope 1, 2 and 3 emissions to date and the proposed target of those emissions moving forward. 	<ul style="list-style-type: none"> GHG reduction targets and performance, Page 25, 100 and 108 Approaches to reduce emissions and achieve carbon neutrality in 2050, Page 100, 103-111 https://www.ratch.co.th/storage/download/social/climate-strategy/ratch-disclosure-tcf-d-en.pdf

Sustainable Development Goals (SDGs) Mapping

RATCH has continuously followed the pathway to sustainability. Progress and achievements supported not only internal targets but also the United Nations Sustainable Development Goals (SDGs) for widespread impacts in economic, social and environmental dimensions.

Goal 3: Ensure healthy lives and promote well-being for all at all ages



Target 3.8: Achieve necessary and quality health service and access to safe, effective, quality and affordable essential medicines and vaccines.

Company's activities supporting goals:

1. Holding a 25% stake in 2 private hospitals – Princ Hospital Sakon Nakhon and Princ Mukdahan Hospital – which targets people in secondary cities for greater access to affordable healthcare services. Opened in 2023, Princ Hospital Sakon Nakhon provides tertiary care with 59 beds to residents in 3 Thai provinces and Lao PDR. Princ Mukdahan Hospital, with 59 beds, is the prototype digital platform and smart hospital in the Northeast, providing general healthcare services and care for complex diseases to residents in Mukdahan and nearby provinces as well as Lao PDR residents. It was inaugurated in December 2024.
2. Providing mobile clinic to Ratchaburi Power Plant's neighboring communities for access to healthcare. The communities received preliminary medical examination and treatments by a team from Institute of Thai Traditional Medicine and Alternative Medicine, Muban Chombueng Rajabhat University. In 2024, the clinic served a number of 2,727 community members.
3. Investing, via a subsidiary RATCH-Lao Services Co., Ltd., in a 10% stake in Kasemrat International Hospital in Vientiane, Lao PDR. The 110-bed hospital was opened in 2021, targeting the residents in Lao PDR and neighboring countries.

More details:

- RATCH Business Profile
- Human Resources Management
- Respect for Human Rights
- Safety and Occupational Health
- Community and Social Stewardship

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all



Target 4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, Decent jobs and entrepreneurship.

Company's activities supporting goals:

Implementing the Education for Career Empowerment Project in Lao PDR, in collaboration with the Ministry of Education and Sports, since 2009, to improve the quality of vocational education in Lao PDR in electric control, metal welding, machinery, general maintenance, and renewable energy fields. Organized activities encompassed training for vocational teachers in target fields; training for students, field trips, High vocational Certificate scholarships for teachers, development of training courses, installation of modern equipment and workshop improvement, and solar panel installation for neighboring community. Seven vocational colleges participated in the project. During 2009 and 2024, RATCH awarded a total of 50 high vocational-level and bachelor-degree scholarships; catered skill development intensive training in target fields for 1,646 final-year students; catered training to 134 teachers; and developed related curriculum and training courses. A number of 872 students have passed the comprehensive training and successfully applied for jobs, while 405 students have pursued higher studies.

More details:

- Community and Social Stewardship
- Key Sustainability Actions

Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all



Target 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix.

Company's activities supporting goals:

Investing more in renewable energy under the Climate Change Strategy. As of 2024, the proportion of renewable electricity generation from investment projects in Thailand, Lao PDR, Australia, Indonesia, Vietnam, the Philippines and Japan reached 2,972.22 MW or 27.48% of total capacity. Renewable electricity distribution in 2024 totaled 4,307,864 megawatt-hours. There is a plan to raise the renewable electricity generation capacity to 30% and 40% of total capacity in 2030 and 2035, respectively.

Topic in this report

- RATCH Business Profile
- Economic Performance
- Customer Relationship Management

Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all



Target 8.7: Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labor, including recruitment and use of child soldiers, and by 2025 end child labor in all its forms.

Target 8.8: Protect labor rights and promote safe and secure working environments of all workers, including migrant workers, particularly women migrants, and those in precarious employment.

Company's activities supporting goals:

1. Enforcing the Human Rights Policy and Supplier Code of Conduct and ensuring strict compliance across the Company Group to achieve the targets of zero violation of the human rights of all rights-holders related to the operations and zero use of all forms of child labor and forced labor. In 2024, none of rights-holders filed a complaint and there was no employment of child labor.
2. Defining the occupational health and safety guidelines for both employees and suppliers under the operational regulations on occupational health and safety which demands strict and full compliance from all job operators. All activities demand risk assessment, permits for work, supervision and examination of work environment, to ensure safety and zero injuries or work-related illness for both employees and suppliers.

More details:

- Respect for Human Rights
- Safety and Occupational Health

Goal 12: Ensure sustainable consumption and production patterns

Target 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse.

Target 12.6: Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

Company's activities supporting goals:

1. Utilizing resources efficiently, reducing waste at source, and managing waste appropriately for least impacts. The targets are set to reduce Ratchaburi Power Plant's water consumption per unit of distributed electricity by 1% and maintain each power plant's heat rate at the prescribed level. In 2024, Ratchaburi Power Plant's water consumption per unit of distributed electricity decreased by 0.7% from the previous year while the heat rate of 4 power plants (50%) met the target.
2. Managing waste appropriately, in 2024, Songkhla Biomass Power Plant used tree root waste as fuel, further reducing waste volume by 2.5%. Other power plants used external waste processors' disposal services, instructed them to start with reuse or recycling. The rest of waste is then incinerated for energy or burnt without energy. All avoid sending leftover hazardous waste to landfills, resulting in a 92% decrease in hazardous waste to landfills.
3. Preparing the annual Sustainability Report in alignment with the GRI Standards to disclose the sustainability operations of the Company Group and obtaining the assurance statement from external verifiers.

More details:

- Environmental Management and Biodiversity

Goal 13: Take urgent action to combat climate change and its impacts

Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

Company's activities supporting goals:

1. Steering forward the Climate Change strategy and follow the Decarbonization Roadmap to reduce direct and indirect emissions and remove greenhouses gases. The Company Group's personnel received the capacity-building training on Carbon Footprint for Organization calculation, internal carbon pricing, TCFD disclosure framework, and the requirements under the Climate Change Act.
2. Collaborating with communities in mitigating climate impacts, with the education on GHG removals and supports to related activities. In 2024, RATCH continued its collaboration with various parties in terrestrial and mangrove reforestation, to increase forest areas and carbon sinks and carbon credits. It also supported forest preservation through the Love the Forests and the Community Project, with knowledge in the management, development, restoration and maintenance of community forest and ecosystems, for biodiversity, GHG sequestration, dust absorption and protection against natural disasters.

More details:

- Community and Social Stewardship
- Climate Action

Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Target 14.2: Sustainably manage, and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience and taking action for their restoration, to achieve healthy and productive oceans by 2020.

Company's activities supporting goals:

Collaborating with the Department of Marine and Coastal Resources in expanding mangrove forests in Chanthaburi province, to reduce coastal erosion, build the habitat and nursery for aquatic lives, and enhance biodiversity. The 113.47-rai reforestation area was registered under TGO's T-VER Scheme in 2024, with estimated GHG sequestration capacity of 3,120 tCO₂e in a 10-year period (2023-2033). It is also expected to enhance the ecological balance.

More details:

- Community and Social Stewardship
- Climate Action

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Target 15.1: Ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.

Target 15.2: Promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.

Company's activities supporting goals:

1. Collaborating with the Department of Royal Forest in increasing green areas and reinforcing community strength through engagement in community forest and biodiversity management. The project, covering 6,034 rai, calls for the reforestation on degraded areas and community forest preservation and is expected to sequester 23,064.75 tCO₂e of greenhouse gases throughout the 15-year period. It is also expected to raise conservation awareness and create ecological balance and economic benefits to the communities.
2. Supporting Mae Fah Luang Foundation under Royal Patronage's 11,000-rai community forest conservation project. Implemented in collaboration with communities, the project is expected to create carbon credits, restoring forest biodiversity and reinforce community strengths.

More details:

- Community and Social Stewardship
- Climate Action



LRQA Independent Assurance Statement

Relating to RATCH Group PCL.'s Sustainability Report for the calendar year 2024 (1st January 2024 – 31st December 2024)

This Assurance Statement has been prepared for RATCH Group PCL. in accordance with our contract but is intended for the readers of this Report.

Terms of engagement

LRQA Group limited was commissioned by RATCH Group PCL. (RATCH) to provide independent assurance on its Sustainability Report 2024 ("the report") using AccountAbility's AA1000AS v3, where the scope was a Type 2 engagement, and the assurance criteria below¹.

A moderate level of assurance and materiality of the professional judgment of the verifier has been used for assuring the report. The only exceptions are the direct and energy indirect GHG emission data where a high level of assurance and 5% materiality has been applied.

Our assurance engagement covered RATCH's operations and activities in Thailand, Lao PDR, Australia and Indonesia and specifically the following requirements:

- Evaluating the nature and extent of RATCH's adherence to the AA1000 AccountAbility Principles (2018)
 - Inclusivity, Materiality, Responsiveness and Impact.
- Confirming that the Report is in accordance with GRI Standards 2021
- Reviewing the double material assessment and integrity of RATCH's supplier assessment process
- Reviewing GRI 2-26 Mechanisms for seeking advice and raising concerns, GRI 2-27 Compliance with laws and regulations, Codes of conduct and compliance system including tracking and reporting of breaches.
- Evaluating the reliability of data and information for only the selected environmental and social indicators listed below;

Economic: GRI 204-1 Proportion of spending on local suppliers and GRI 205-1 Operations assessed for risks related to corruption

Environmental: GRI 301-1 Materials used by weight or volume, GRI 302-1 Energy consumption within the organization, GRI 302-3 Energy intensity, GRI 302-4 Reduction of energy consumption, GRI 303-3 to 5 Water withdraw, discharge and consumption, GRI 304-2 Significant impacts of activities, products and services on biodiversity, GRI 305-1 Direct (Scope 1) GHG emissions, GRI 305-2 Energy indirect (Scope 2) GHG emissions, GRI 305-3 Other indirect (Scope 3) GHG emissions – Category 1-7 and 15, GRI 305-4 GHG emissions intensity, GRI 305-5 Reduction of GHG emissions, GRI 305-7 Nitrogen Oxide (NO_x), Sulphur Oxide (SO_x), and other significant air emissions, GRI 306-3 to 5 Waste generated, diverted from disposal and directed to disposal, GRI 308-1 New suppliers that were screened using environmental criteria and GRI 308-2 Negative environmental impacts in the supply chain and actions taken.

Social: GRI 401-1 New employee hires and employee turnover, GRI 401-3 Parental leave, GRI 403-9 Work-related injuries, GRI 403-10 Work-related ill health, GRI 404-1 Average hours of training per year per employee, GRI 404-3 Percentage of employees receiving regular performance and career development reviews, GRI 406-1 Incidents of discrimination and corrective actions taken, GRI 413-2 Operations with significant actual and potential negative impacts on local communities, GRI 414-1 New Suppliers that were screened using social criteria, GRI 414-2 Negative social impacts in the supply chain and actions taken and GRI 418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data.

Our assurance engagement excluded the data and information of RATCH's operations and activities outside Thailand, Lao PDR, Australia and Indonesia as well as suppliers, contractors and any third parties mentioned in the report.

LRQA's responsibility is only to RATCH. LRQA disclaims any liability or responsibility to others as explained in the end footnote. RATCH's responsibility is for collecting, aggregating, analysing, and presenting all the data and information within 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 the responsibility of RATCH.

LRQA's Opinion

Based on LRQA's approach

- the direct and energy indirect GHG emissions data in the report are materially correct; and nothing has come to our attention that would cause us to believe that RATCH has not:
- met the requirements above
- disclosed reliable performance data and information for the selected indicators
- 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 combined level of assurance.

Note: The extent of evidence-gathering for a moderate level of assurance engagement is less than for a high level of assurance engagement. Moderate level assurance engagements focus on aggregated data whilst high levels of assurance checking source data from sites.

¹ <https://www.globalreporting.org>

² GHG quantification is subject to inherent uncertainty.



LRQA's approach

LRQA's assurance engagements are carried out in accordance with AA1000AS v3. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement:

- Assessing RATCH's approach to stakeholder engagement to confirm that issues raised by stakeholders were captured correctly. We did this through interviews with external stakeholders and reviewing documents and associated records.
- Reviewing RATCH's process for identifying and determining material issues to confirm that the right issues were included in their Report. We also tested the filters used in determining material issues to evaluate whether RATCH makes informed business decisions that may create opportunities that contribute towards sustainable development.
- Auditing RATCH'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 procedures, instructions and systems, including those for internal verification. We also spoke with those key people responsible for compiling the data and drafting the report.
- Visiting RATCH's operation units (all Power Plants in Thailand) to sample performance data and information for the selected specific standard disclosures to confirm its reliability.

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 RATCH's stakeholder engagement process. RATCH has open dialogue with all of its stakeholders to understand their concerns.
- **Materiality:**
We are not aware of any material issues concerning RATCH's sustainability performance that have been excluded from the report. It should be noted that RATCH has established extensive criteria for determining which issue/aspect is material to its stakeholders and that these criteria are not biased to the company's management.
- **Responsiveness:**
RATCH has established and implemented processes for responding to the concerns of various stakeholder groups in relation to GHG emissions data. However, RATCH should disclose further supplier ESG improvement program.
- **Impact:**
RATCH should further address quantitative impacts regarding biodiversity and climate change in the future report.
- **Reliability:**
Data management systems are properly defined for the selected GRI disclosures. RATCH should Maintaining internal verification processes will continually improve the reliability of its reported data and information.

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.

This verification together with TGO CFO (Carbon Footprint for Organization Scheme of Thailand Greenhouse Gas Management Organization (Public Organization)) are only works undertaken by LRQA for RATCH and as such does not compromise our independence or impartiality.

Dated: 14 March 2025

Opatt Charuratana

LRQA Lead Verifier

On behalf of LRQA (Thailand) Limited

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LRQA reference: BGK000001165

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Feedback Form: 2024 Sustainability Report

RATCH Group PCL.



Scan QR Code
for feedback

1. Please identity your stakeholder type

- | | | |
|---|---|---|
| <input type="checkbox"/> Shareholder/Investor | <input type="checkbox"/> Customer/Service User | <input type="checkbox"/> Partner/Supplier |
| <input type="checkbox"/> Employee | <input type="checkbox"/> Regulatory Institution | <input type="checkbox"/> Scholar/Independent Organization |
| <input type="checkbox"/> Community | <input type="checkbox"/> Media | <input type="checkbox"/> Other (Please specify)..... |

2. How do you access this Sustainability Report?

- | | | |
|---|--|--|
| <input type="checkbox"/> Printed report | <input type="checkbox"/> Company's website | <input type="checkbox"/> Other (Please specify)..... |
|---|--|--|

3. Why do you prefer reading this Sustainability Report?

- ☐ For support investment decision on RATCH's securities
- ☐ For learning more about RATCH's business
- ☐ Research and educational purposes
- ☐ Other (Please specify).....

4. Satisfactory level towards the 2024 Sustainability Report

- | | | | |
|------------------------|------------------------------------|-------------------------------|-------------------------------------|
| • Attractive topics | <input type="checkbox"/> Very Good | <input type="checkbox"/> Good | <input type="checkbox"/> Acceptable |
| • Information adequacy | <input type="checkbox"/> Very Good | <input type="checkbox"/> Good | <input type="checkbox"/> Acceptable |
| • Reliable information | <input type="checkbox"/> Very Good | <input type="checkbox"/> Good | <input type="checkbox"/> Acceptable |
| • Presentation methods | <input type="checkbox"/> Very Good | <input type="checkbox"/> Good | <input type="checkbox"/> Acceptable |
| • Readability | <input type="checkbox"/> Very Good | <input type="checkbox"/> Good | <input type="checkbox"/> Acceptable |
| • Design | <input type="checkbox"/> Very Good | <input type="checkbox"/> Good | <input type="checkbox"/> Acceptable |
| • Overall satisfaction | <input type="checkbox"/> Very Good | <input type="checkbox"/> Good | <input type="checkbox"/> Acceptable |

5. Are you confident that operational approaches described in the Report will enable RATCH's sustainable growth

- ☐ Yes, because
- ☐ No, because
- ☐ Probably, because.....

6. What dimension you would like RATCH to disclose more information in the next issue? (You can choose more than 1 choice)

- ☐ Economic and Governance (Please specify topic).....
- ☐ Environment (Please specify topic).....
- ☐ Society and Human Right (Please specify topic).....
- ☐ Information adequacy

7. In your opinion, what aspects RATCH should keep focus and continuous improvement?

- Economic and Governance (Please specify topic).....
- Environment (Please specify topic).....
- Society and Human Right (Please specify topic).....

8. Your suggestion for further improvement of the Report

- | | | |
|--|--------------------------------------|---------------------------------|
| <input type="checkbox"/> Content | <input type="checkbox"/> Readability | <input type="checkbox"/> Design |
| <input type="checkbox"/> Other (Please specify)..... | | |

Thank you for your valuable feedback which will be useful
for improvement of next issue of the report.





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