

Energy Efficiency Initiatives

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%.</p>

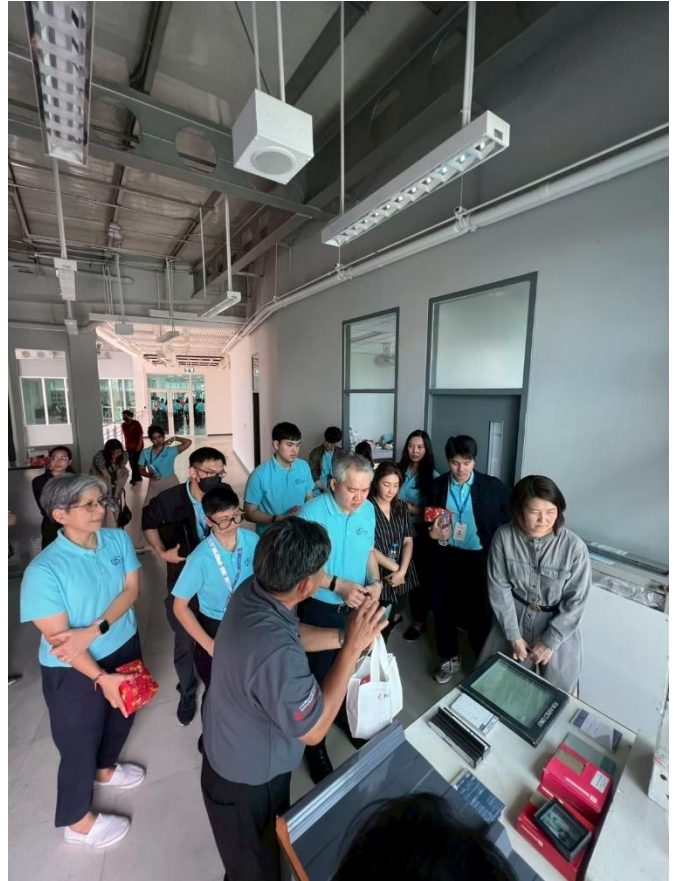
Reduced fuels and energy through production efficiency enhancement

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 (MMBTU)	Target of Electric Power saving (MWh)	Heat rate reduced (MMBTU/ year)	Electric power saved (kilowatt-hour/ year)	Cost saving (Baht/year)	Investment (Baht)	GHG emission Reduced (tCO ₂ e)
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
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

Strengthening Employees Awareness on Energy Conservation



The Company organized a training program on Enhancing Energy Management Systems in Alignment with the Organization's Carbon Footprint to build understanding and awareness of energy management and energy reduction within office buildings. The program aligns with the legal requirements on energy management for controlled buildings and aims to strengthen employee and building user engagement in using energy efficiently, thereby contributing to further reductions in greenhouse gas emissions.

Energy Management System Audit (Head Office Building)



In 2024, the Company (Head Office Building) conducted an annual audit of its energy management system in accordance with the requirements of the Notification of the Ministry of Energy Re: Criteria and Methods for Energy Management in Controlled Factories and Controlled Buildings B.E. 2562 (2019). The audit aimed to evaluate the effectiveness of the Company's energy management practices and ensure full compliance with the legal requirements, which include the following actions:

1. Appointment of the energy management team and assignment of roles and responsibilities.
2. Preliminary assessment of the current status of energy management.
3. Establishment of an energy conservation policy.
4. Assessment of energy conservation potential.
5. Setting energy conservation targets and plans, including training plans and activities to promote energy conservation.
6. Implementation of the energy conservation plan, monitoring and analysis of performance against the targets and plans, and execution of training and promotional activities.
7. Monitoring and evaluation of the energy management system.
8. Review, analysis, and correction of deficiencies in energy management.

The results of both internal and external audits confirmed that the Company, as the owner of a controlled building, has fully complied with all legal requirements and successfully passed the regulatory inspection.