



erex Co., Ltd. [9517]

**To become a pioneer in the new
era of electric power with
renewable energy at its core**

I Company Overview

- Financial Trends

II Introduction to the Business of erex Group

- Initiatives of erex Group for De-Carbonization in Japan and Overseas
- erex Group's Response to Transition
- erex Group's Biomass Business in Vietnam

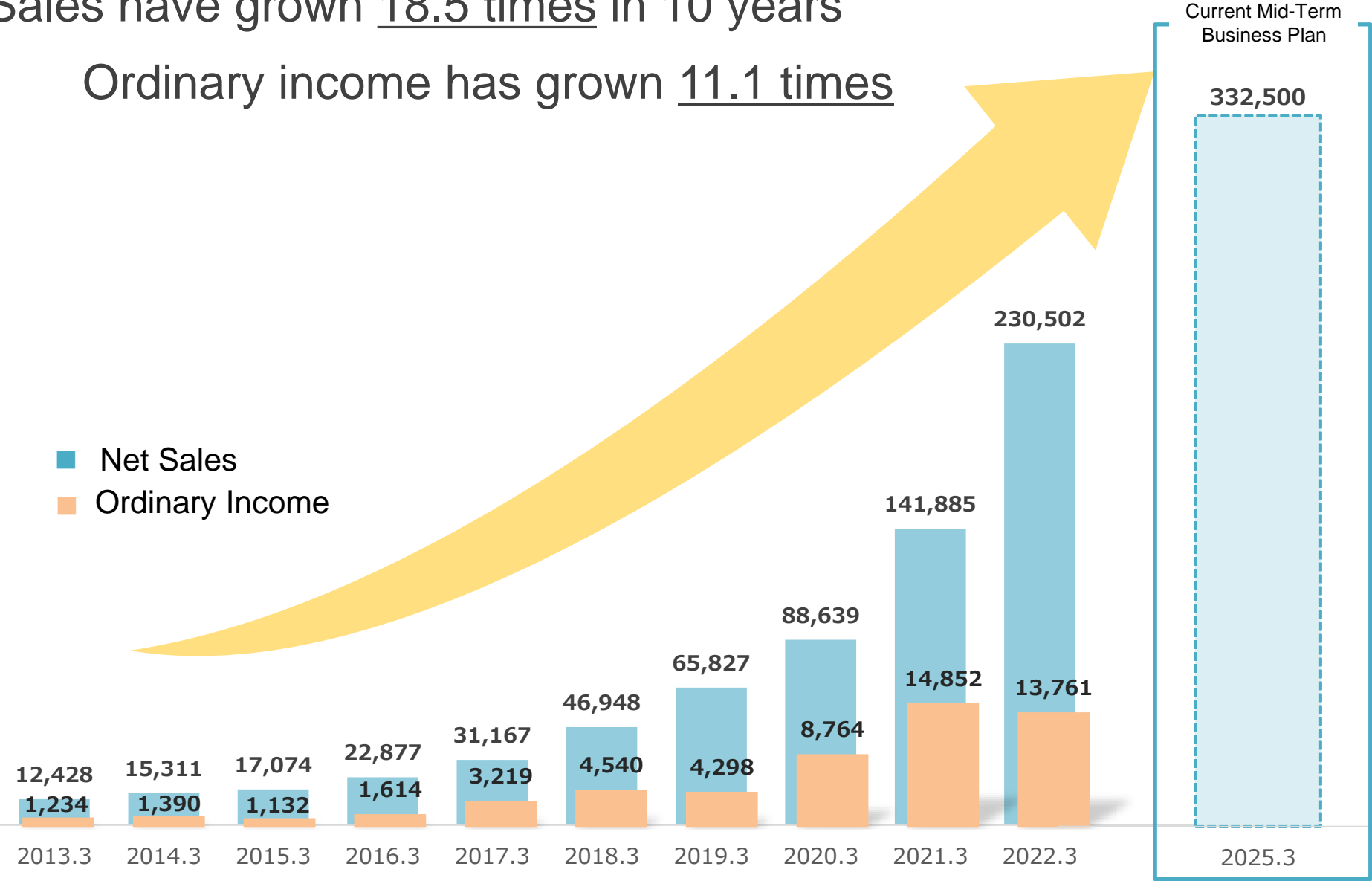
III Summary of Financial Results ~3Q of FY March 2023~

Appendix

Company Overview

Company Name	erex Co., Ltd
Headquarter	14F Kyobashi Edogrand, 2-2-1 Kyobashi, Chuo-Ward, Tokyo 104-0031, Japan
Incorporation	December 8, 1999
Capital Stock	11.2 Billion Japanese Yen (as of the End of March 2022)
Listing Market	Tokyo Stock Exchange, Prime Market (Stock Code 9517)
Subsidiaries Related to Power Retail	Evergreen Marketing Co., Ltd. (EGM) ※ JV with TEPCO Energy Partner Evergreen Retailing Co., Ltd. (EGR) Okinawa Gas New Power Co., Ltd. (OGNP) ※ JV with Okinawa Gas T'dash G.K. e-sell Co., Ltd.
Subsidiaries Related to Power Generation	erex New Energy Co., Ltd. (Tosa Biomass Power Plant) erex New Energy Saiki Co., Ltd. (Saiki Biomass Power Plant) Buzen New Energy LLC (Buzen Biomass Power Plant) Ofunato Power Co., Ltd. (Ofunato Biomass Power Plant) ※ Equity Method Affiliated Company Okinawa Uruma New Energy Co., Ltd. (Nakagusuku Biomass Power Plant) Itoigawa Power Co., Ltd. (Itoigawa Coal-Fired Power Plant)
Other Group Subsidiaries	Saiki Biomass Center Co., Ltd. erex Singapore PTE.LTD. EREX(CAMBODIA)CO.,LTD. erex Vietnam etc.

Sales have grown 18.5 times in 10 years
Ordinary income has grown 11.1 times



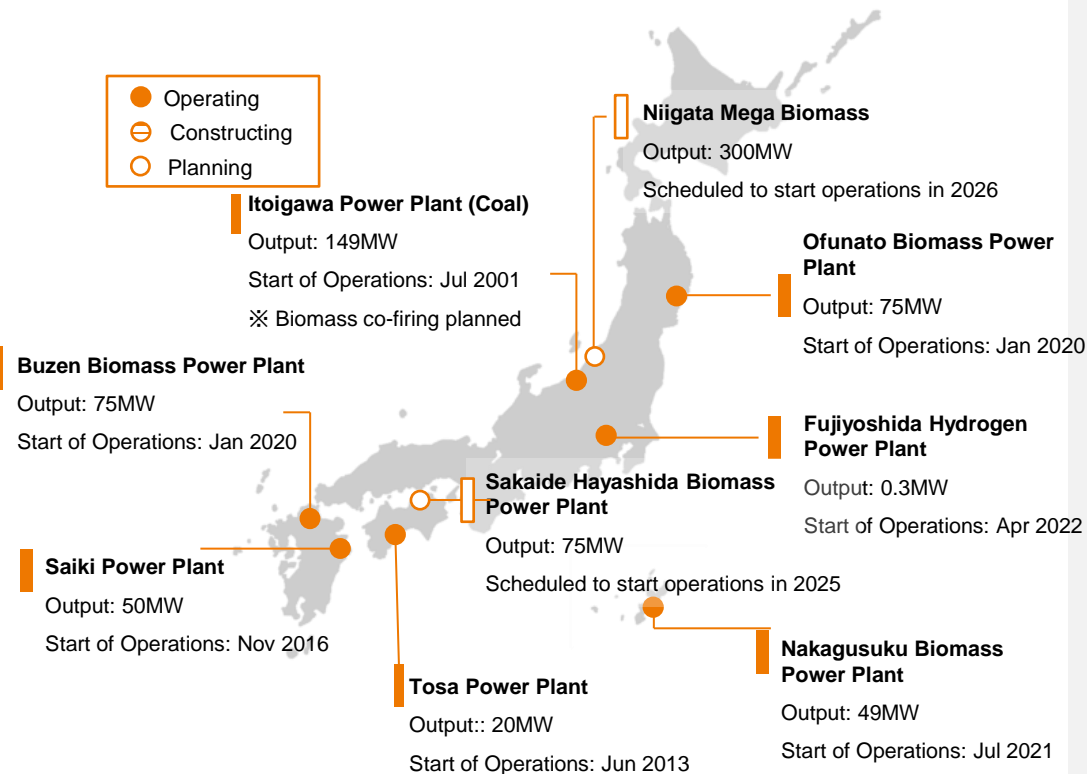
Introduction to the Business of erex Group

- De-Carbonization Business Strategies -

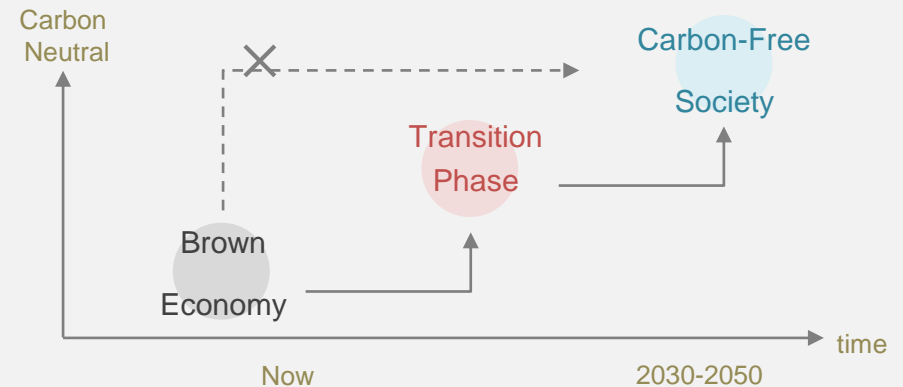
Power Generation Facilities

Japan: erex Group owns **418MW** (mainly biomass)

Overseas: Biomass, hydro & solar power plants are under construction

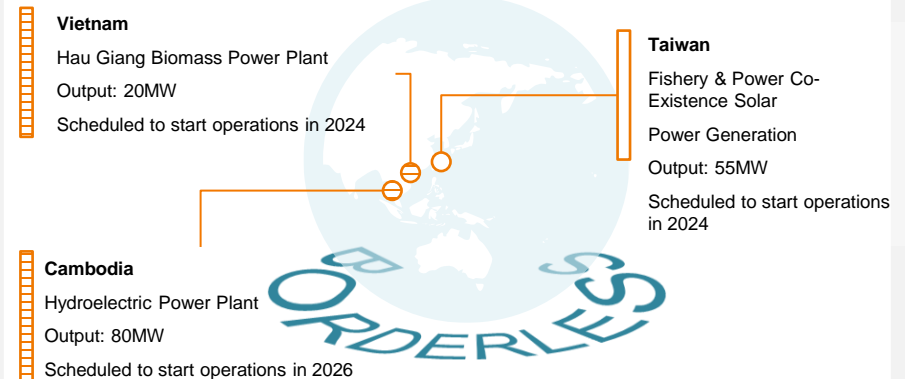


Carbon neutrality can not be achieved in one leap
Now is the phase to work on realistic transitions



Greenhouse gases have no national borders

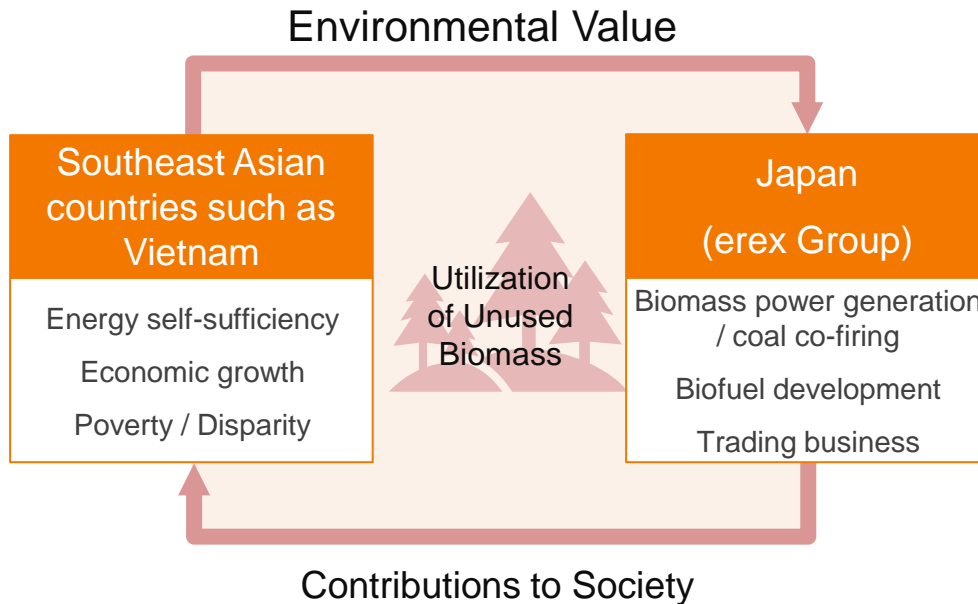
- De-carbonization is an issue that must be addressed in a borderless manner -



- It is inappropriate to promote de-carbonization based on a single standard because the situation in Southeast Asia, where economic growth is remarkable, is different from that in developed countries
- De-carbonization is essential, but renewable energy has regional characteristics, and measures based on the situation in each country are appropriate
- In Southeast Asia, it is realistic to **introduce stable and inexpensive biomass** using abundant **unused biomass resources**
- Utilization of domestic unused biomass **contributes to economic growth** through effects such as **improving the energy self-sufficiency rate and creating employment**

Sustainable Management Promoted by erex Group

Value Delivered



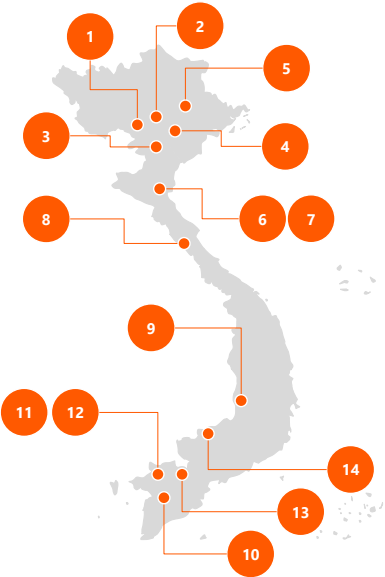
- ① Supply of CO2-free power
- ② Stable power supply
- ③ Supply of competitive power utilizing unused resources
- ④ Job creation through business
- ⑤ Improvement in energy self-sufficiency rate
- ⑥ Managed renewable biomass resources



Newly-Built Biomass Power Generation

- Biomass power generation at 14 sites in 12 provinces (total 1,060 MW) is being planned
- Plans to utilize "woody residue" in the north and "rice husks" in the south

Project Name	
1	Yen Bai
2	Tuyen Quang
3	Hoa Binh
4	Phu Tho
5	Bac Kan
6	Thanh Hoa 2
7	Thanh Hoa 1
8	Quang Binh
9	Dak Lak
10	Can Tho
11	An Giang 1
12	An Giang 2
13	Long An
14	Binh Phuoc

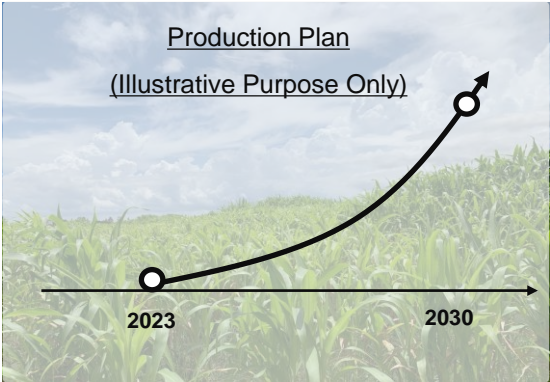


Transition of Existing Coal-Fired Power

- It is a project to gradually convert existing coal-fired power plants to biomass co-firing to achieve stable supply, economic efficiency, and de-carbonization at the same time
- MOU has been signed with Vinacomin Power

Development of New Biomass Fuels

- Development of new sorghum for fuel, a member of the grass family, is being promoted mainly in southern Vietnam



Summary of Financial Results

～3Q of FY March 2023～

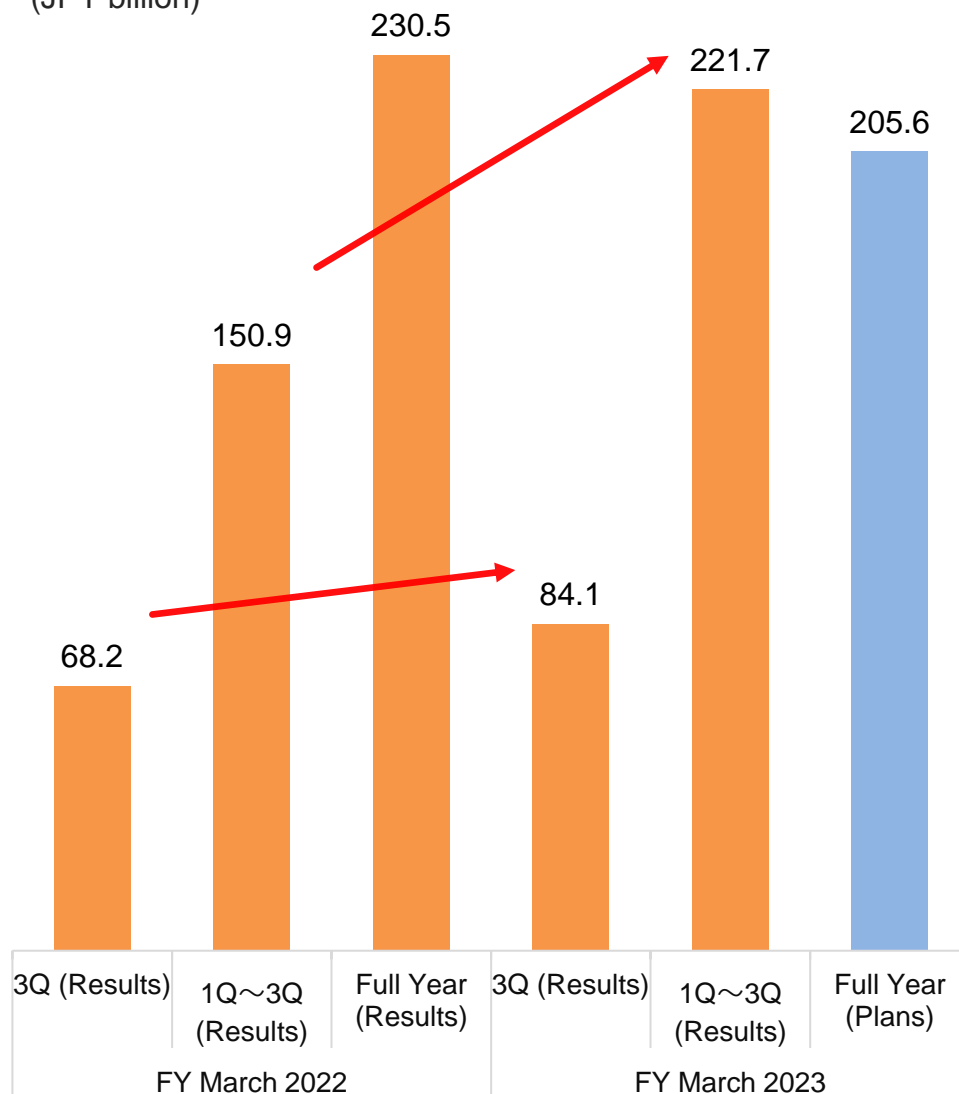
(JPY billion)	FY March 2022 1Q~3Q (Results)	FY March 2023 1Q~3Q (Results)	FY March 2023 Full Year (Plans)	YoY Comparison	Achievement Ratio against Full Year Plans
Net Sales	150.9	221.7	205.6	46.9%	107.8%
EBITDA*	15.0	16.0	—	7.0%	—
Operating Income	7.9	14.3	14.9	80.7%	96.3%
Ordinary Income	10.7	11.1	14.7	3.7%	75.9%
Net Income*	7.9	(Note) 5.9	8.0	△24.9%	74.2%

Note: Income taxes increased YoY (Income taxes in the previous year were affected (decreased) by losses carried forward)

* EBITDA... Income before income taxes + Interest expense + Depreciation + Amortization of contribution for construction, etc.

* Net income attributable to the owners of the parent company

(JPY billion)



Net sales **JPY221.7 billion**

+ 46.9% year-over-year

High Voltage Retail

- Sales decreased by 1.3% year-over-year
- Power sales volume decreased due to sales price increase, but unit sales price increased

Low Voltage Retail

- Sales grew by 53.5% year-over-year
- The number of customers increased to about 310,000 (+38,000 year-over-year)
- The number of customers and power sales volume increased. Unit sales price also increased

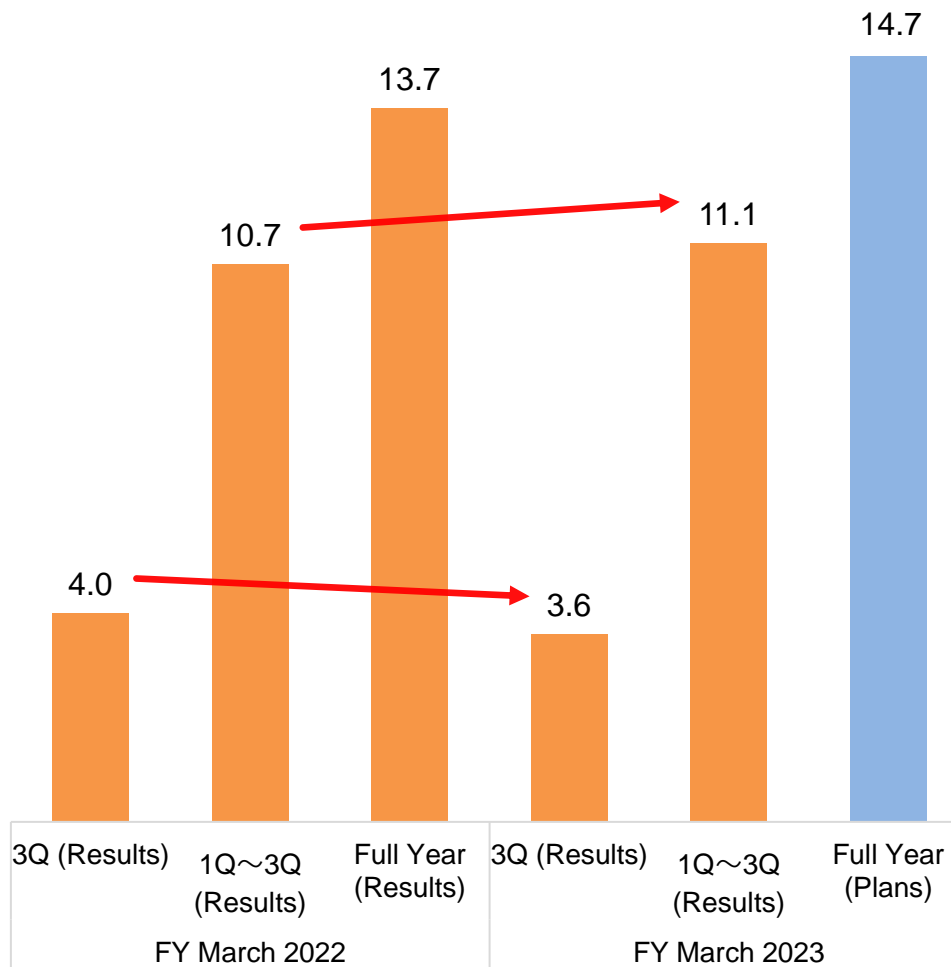
Wholesale

- Wholesale and market transactions were actively utilized
- Power sales volume declined, but sales increased due to soaring market prices

Buzen and Nakagusuku Power Plants

- All power generated was sold to 3rd parties. Operations were as planned

(JPY billion)



Ordinary Income **JPY11.1 billion**

+3.7% YoY

- Despite active use of wholesale, **electric power and fuel procurement costs increased due to soaring resource prices**
- Steady improvement in retail profit margins
- Foreign exchange gains due to the effect of yen depreciation (Foreign currency deposits, foreign currency loans to affiliates)
- Increase in SG&A expenses such as business tax, etc. due to Vietnam-related business expansion

Summary of Financial Results

～FY March 2022～

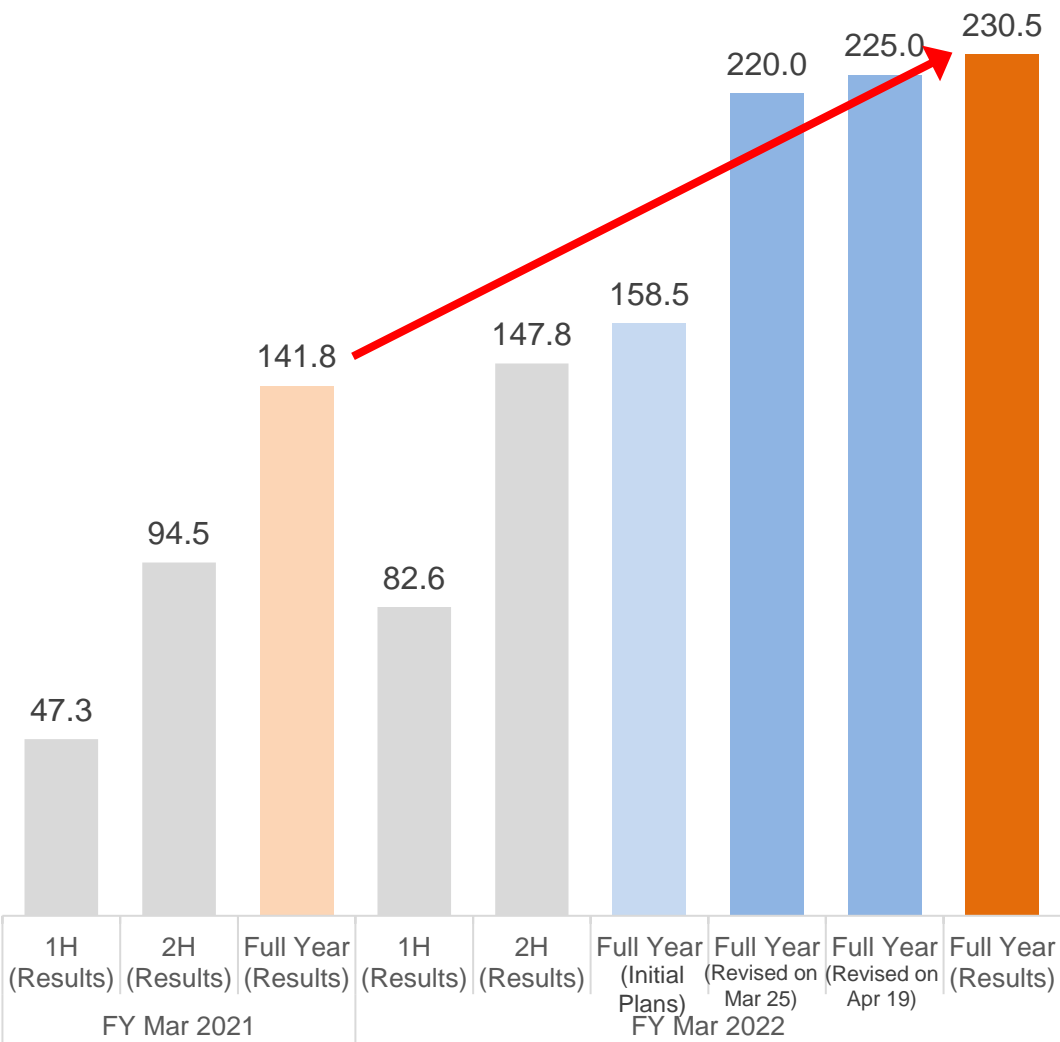
Financial Results for the Full Year of FY March 2022 (April 2021 – March 2022)

(JPY billion)	Full Year of FY March 2021 (Results)	Full Year of FY March 2022 (Initial Plans)	Full Year of FY March 2022 (Revised on March 25)	Full Year of FY March 2022 (Revised on April 19)	Full Year of FY March 2022 (Results)	Increase /Decrease Ratio vs Initial Plans
Net Sales	141.88	158.50	220.00	225.00	230.50	45.4%
EBITDA*	18.11	16.76	—	—	19.67	—
Operating Income	15.72	11.40	9.00	12.00	12.49	9.6%
Ordinary Income	14.85	11.50	11.60	13.00	13.76	19.7%
Net Income*	6.28	6.50	7.95	9.00	9.65	48.4%

* EBITDA... Income before income taxes + Interest expense + Depreciation + Amortization of contribution for construction, etc.

* Net income attributable to the owners of the parent company

(JPY billion)



Net Sales **JPY230.5** billion

+62.5% year-over-year

High Voltage Retail

- Sales increased by 69.6% year-over-year
- Steady sales volume due to reinforced sales activities to high-volume customers, etc.

Low Voltage Retail

- Sales increased by 14.8% year-over-year
- Number of customers increased to about 290,000 (+56,000 year-over-year)

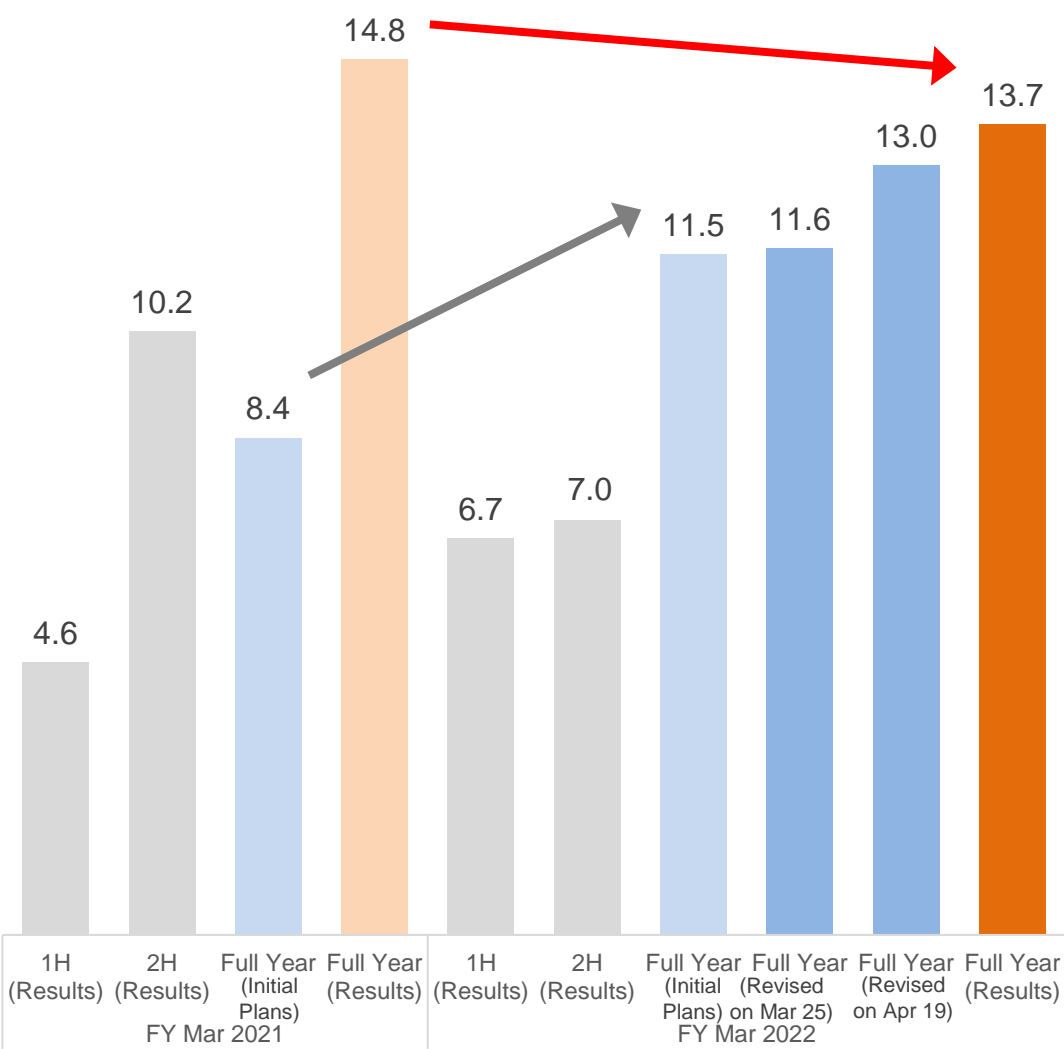
Wholesale

- Active expansion of wholesale and market transactions, with derivatives trading also utilized

Buzen & Nakagusuku Power Plant

- All power generated was sold to 3rd parties. Generally operated steadily

(JPY billion)



Ordinary Income **JPY13.7** billion

△7.4% year-over-year

- +JPY2.2 billion vs the initial plans
- The impact of rising power procurement costs and the risk of market price fluctuations were reduced through the use of PPA contracts and derivative transactions, contributing to higher ordinary income
- Power procurement costs rose due to soaring prices of LNG, coal, etc.
- Review of high-voltage sales prices

(Reference) Ordinary income for the previous fiscal year of JPY14.8 billion (+JPY6.4 billion yen vs plans): PPA power sources were increased due to high market prices in winter, part of which were used for wholesale, contributing to higher ordinary income

Summary of the Consolidated Balance Sheet

(JPY billion)	FY March 2021	FY March 2022		
		Results	Increase /Decrease	Major Factors for Increase/Decrease
Current Assets	55.0	69.4	14.4	Increase in accounts receivable/trade due to increase in power sales volume
Noncurrent Assets	72.8	87.7	14.8	Increase in noncurrent assets due to start of commercial operations of Uruma Power Plant
Total Assets	127.8	157.1	29.2	
Current Liabilities	29.9	42.9	12.9	Increase in accounts payable/trade due to increase in power procurement volume
Noncurrent Liabilities	43.4	47.3	3.9	Increase in Uruma's long-term loans payable
Total Liabilities	73.3	90.3	16.9	
Shareholders' Equity	41.0	49.8	8.8	Increase in retained earnings
Accumulated Other Comprehensive Income	3.0	5.8	2.8	Increase in deferred hedge gain/loss
Non-Controlling Shareholders' Interest	10.4	11.1	0.6	Increase due to pro rata share of profit and loss of subsidiaries
Total Net Assets	54.4	66.8	12.3	
Cash & Deposits	31.7	27.1	△4.5	
Interest-Bearing Debt	47.6	53.6	5.9	
Net Asset Ratio	34.5%	35.5%	1.0%	

Consolidated Cash Flow Statement



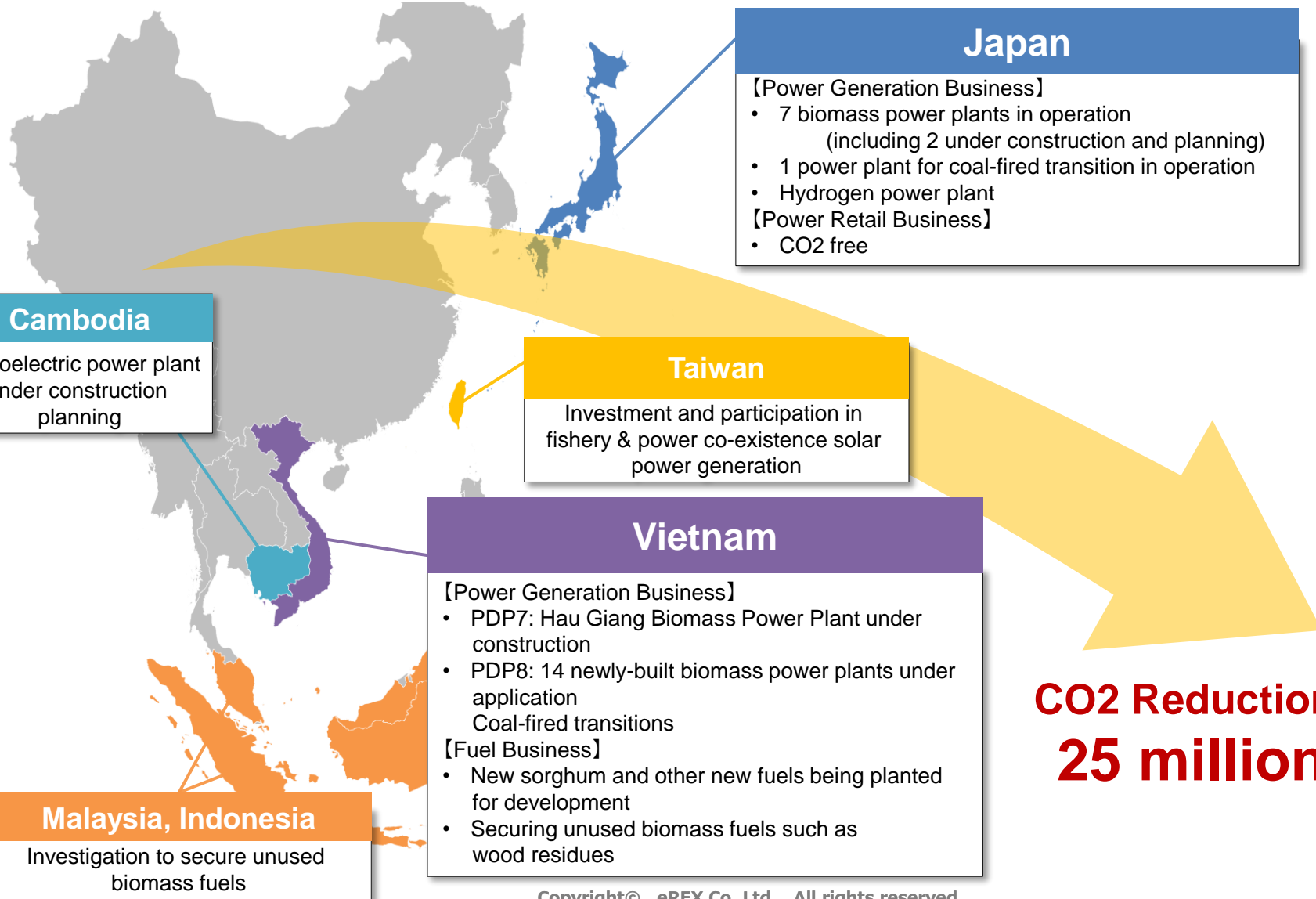
(JPY billion)	FY March 2021	FY March 2022		
		Results	Increase/ Decrease	Major Factors for Increase/Decrease from the Beginning Balance
Cash Flow from Operating Activities	18.7	13.3	△5.3	
Income before Income Taxes	13.5	13.8	0.2	
Depreciation and Amortization	3.8	4.8	0.9	Increase due to start of Uruma's commercial operations
Increase/Decrease in Working Capital *	△0.4	△6.8	△6.4	Increase due to acquisition of large customers
Payment of Income Taxes	△3.5	△6.2	△2.6	Increase in payment amount due to increase in taxable income
Others	5.2	7.6	2.4	Increase in deposits payable due to application of New Standard for Revenue Recognition
Cash Flow from Investing Activities	△9.6	△22.9	△13.3	Payment for acquisition of property, plant and equipment (Uruma)
Free Cash Flow	9.0	△9.6	△18.6	
Cash Flow from Financing Activities	6.4	4.6	△1.7	Proceeds form long-term loans payable (Uruma)
Effect of Exchange Rate Change on Cash and Cash Equivalents	0.0	0.1	0.0	
Cash and Cash Equivalents at the Beginning of the Fiscal Year	16.2	31.7	15.4	
Cash and Cash Equivalents at the End of the Fiscal Year	31.7	26.7	△4.9	

* Accounts receivable/trade + Inventory + Accrued revenue – Accounts payable/trade

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Appendix

De-carbonization is promoted in each of fuel, power generation and retail business.
De-carbonization initiatives are implemented in Asian countries



CO2 Reduction in 2030
25 million tons

Vietnam

Biomass Power Generation Business

- PDP7 Approval: Hau Giang Biomass Power Plant (20MW) under construction
- PDP8※ Application: New construction of 14 biomass power plants in 12 provinces
- MOU has been signed with Vinacomin Power Holdings for existing coal-fired power transition

Cambodia

Hydroelectric Power Generation Business

- Relocation of local residents has been completed. Start of construction of the main body

Taiwan

Solar Power Generation Business

- Investment and participation in fishery & power co-existence solar power generation

※ The 8th Power Development Plan of the Socialist Republic of Vietnam

- PDP7 Approval: 20MW biomass power plant is under construction in Hau Giang Province
- Operations are scheduled to start in October 2024
- Rice husks will be used as a biomass power plant of “local production for local consumption”

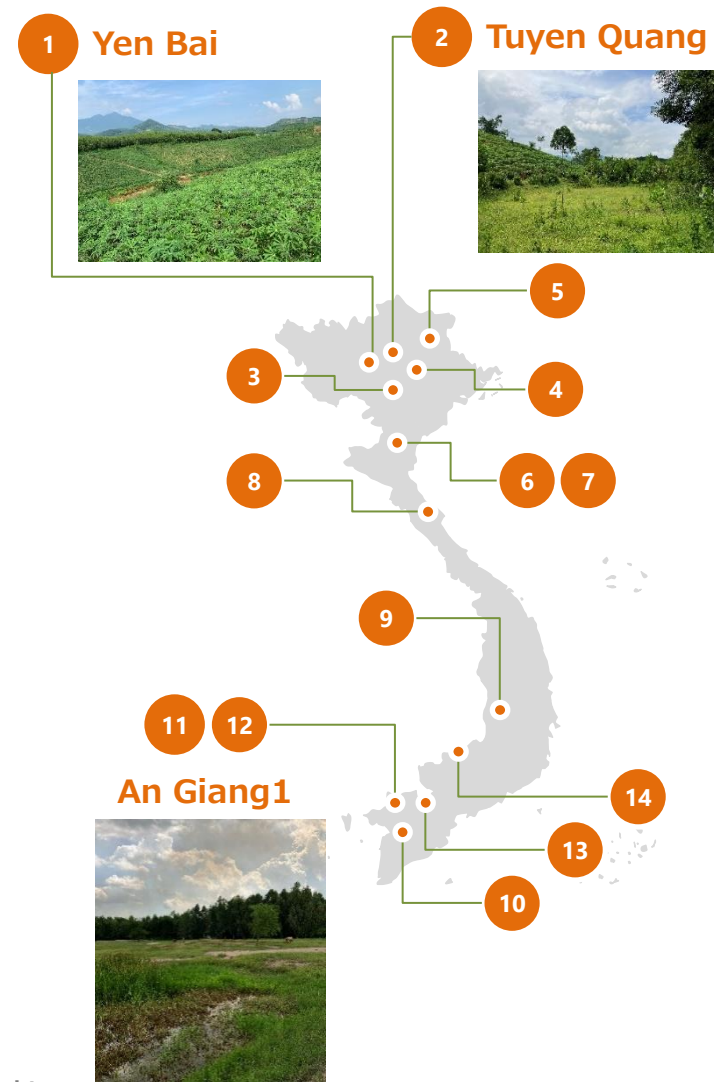
Construction Site



Business Company Name	Hau Giang Bioenergy Joint Stock Company
Power Plant Name	Hau Giang Biomass Power Plant
Planned Construction Site	Hau Giang Province, Socialist Republic of Vietnam
Start of Operations (Plans)	October 2024
Investing Companies (Plans)	erex Co., Ltd. 51% Power Engineering Consulting Joint Stock Company 2 10% Son My Renewable Energy Joint Stock Company 19% Ninh Thuan Agriculture & Renewable Energy Joint Stock Company 9% Other Fuel Supply Company 11%
Power Sales Unit Price	8.47US cent/kWh (in accordance with the FIT scheme of Vietnam)
Power Generation Output	20MW (Annual power generation is equivalent to about 93,000 general households)
Fuel	Rice husks (about 130,000 tons per year)

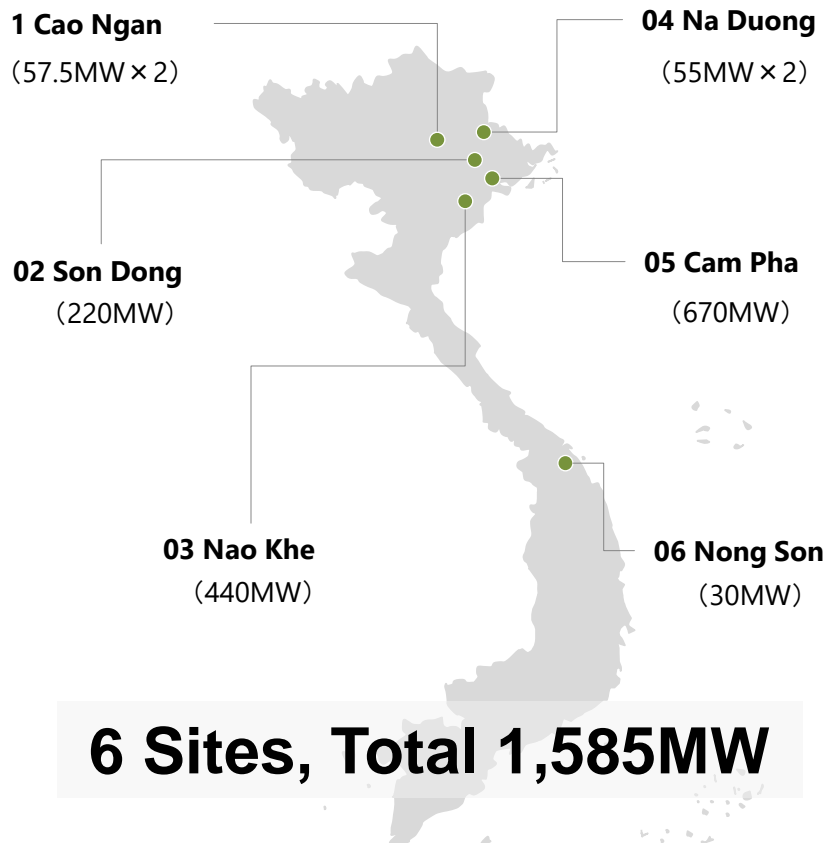
- PDP8 approval is expected for 14 projects/total 1,119 MW in 12 provinces
- Feasibility studies have already started for 3 sites (Yen Bai, Tuyen Quang, An Giang1)

		Project Name
Northern Region	1	Yen Bai
	2	Tuyen Quang
	3	Hoa Binh
	4	Phu Tho
	5	Bac Kan
Central Region	6	Thanh Hoa 2
	7	Thanh Hoa 1
	8	Quang Binh
	9	Dak Lak
Southern Region	10	Can Tho
	11	An Giang 1
	12	An Giang 2
	13	Long An
	14	Binh Phuoc



- MOU has been signed with Vinacomin Power Holdings ※ for coal transitions to accelerate studies for early biomass co-firing
- erex Group contributes to Vietnam's stable power supply, de-carbonization, and energy self-sufficiency, etc. through this initiative

Coal-Fired Power Plants Owned by Vinacomin Power



The 2nd Asia Green Growth Partnership Ministerial Meeting



MOU was signed with Vinacomin Power Holdings, Inc. at the 2nd Asia Green Growth Partnership Ministerial Meeting (September 26, 2022) hosted by the Ministry of Economy, Trade and Industry to study the transition of coal-fired power plants in Vietnam with biomass fuel co-firing and single-fuel-firing and new construction of biomass power plants, etc.

※ It is a group company of VIETNAM NATIONAL COAL MINERAL INDUSTRIES, a major state-owned enterprise in Vietnam, operates thermal and hydroelectric power plants, and manages and operates other investment projects related to power plant construction, power supply systems, power generation, transmission and distribution, power purchase and sale, and power construction.

- It is a hydroelectric power generation with large water storage capacity and can provide stable supply of electric power throughout the year
- Construction is progressing steadily toward the start of operations in 2025
- As a second step, expanding to hydropower saving and biomass fuel development

Conceptual Drawing at Completion



Drainage Pipe Insertion Work



Water Intake Work

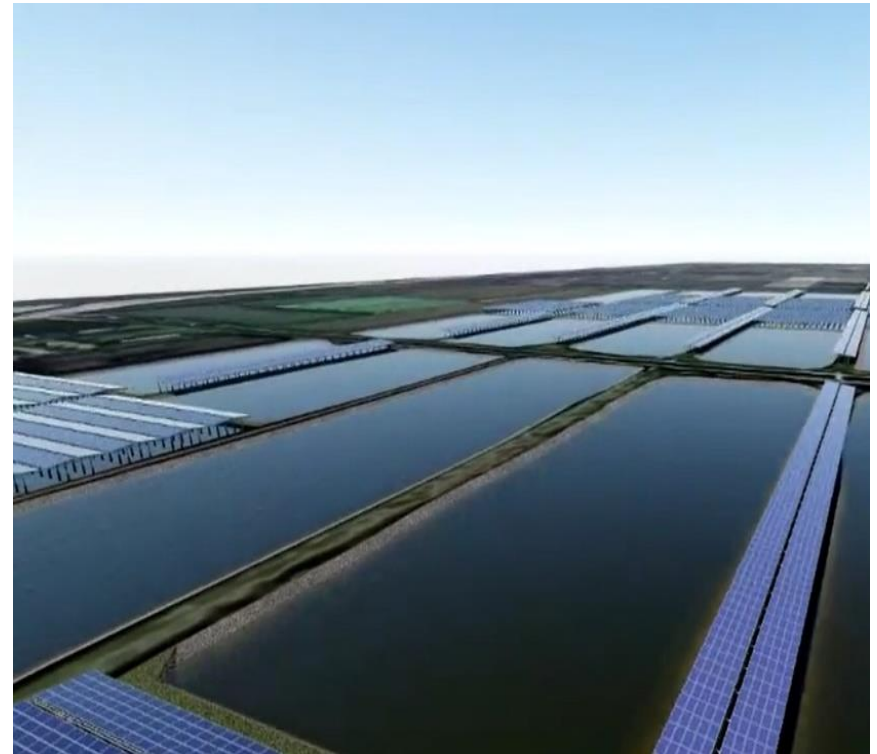


Power Generation Capacity	80MW
Total Investment Costs	USD231 million
Power Sold to	Electricite de Cambodge (EDC)
Unit Price of Electric Power Sold	7.9¢/kWh (for 35 years)
Dam Area (Water Storage Capacity)	85km ² (1.2 billion m ³)
Start of Operations	2025 (schedule)

- The project site has obtained special zone certification for fishery & power co-existence solar power generation
- The Taiwanese government considers “Fishery & Power Co-existence” as a new method of solar power generation, and aims to introduce 4GW by 2025 using this method

Fishery & Power Co-existence Solar Power Generation (for illustrative purposes only)

Business Company Name	WG MANIES SOLAR Energy Co., Ltd.
Location of the Power Plant	Wanggong Section, Fangyuan Township, Changhua County (719,338 square meters)
Power Output Capacity	About 55MW
Start of Operations	FY2024 (Plans)
Power Sales Period	20 Years



Vietnam

In-House Development of New Fuels, Securing Unused Biomass Fuels

- Planting of new fuel “new sorghum” is underway in Tay Ninh, Phu Yen, and Long An provinces
- erex Group is promoting to secure unused biomass fuels such as woody residues
- A warehouse for storing rice husks and other biomass fuels has been secured

Indonesia, Malaysia

Stockpiles for Fuel Storage Owned

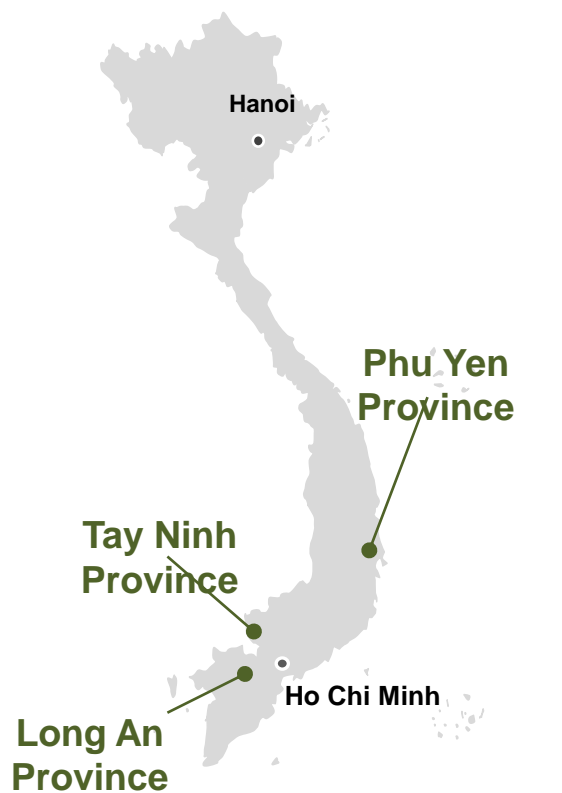
- Two stockpiles are owned, contributing to stable fuel supply

Various Areas in Southeast Asia




Study to Secure Unused Biomass Fuel

- Investigations are underway for effective utilization of unused fuel

- CO2 reduction is expected and low-cost cultivation is possible due to the nature of fuel that can be grown 3 times a year
- Planting is currently conducted at three locations, with the aim of exporting to Japan in 2024
- The fuel is expected to be used for the planned mega non-FIT biomass power plant, Itoigawa coal-fired power plant, and the planned coal-fired transitions



Other potential cultivation sites are under investigation

Planting Scenery	
	
Tay Ninh Province	Phu Yen Province
	
	Long An Province
Candidate Site	Status
Tay Ninh Province	<ul style="list-style-type: none"> ● 100ha under cultivation (sowing in January) ● Plans to expand to 570 ha from April
Long An Province	<ul style="list-style-type: none"> ● 42 ha under cultivation (sowing in January) ● Surveying farmland for further expansion
Phu Yen Province	<ul style="list-style-type: none"> ● 1.3 ha under cultivation ● Cultivation will continue on the same farmland from next year onward to confirm the impact of typhoons throughout the year

※ Sowing crop seeds on arable land

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- Unused biomass fuels are secured in Vietnam to be used for biomass power plants under construction and as co-firing fuel for coal-fired transitions in Vietnam. Export to Japan is also planned
- Collection points are secured and collection methods are confirmed
- A pellet plant is expected to be built in 2024

Unused Biomass Fuels in Vietnam (Research by erex Group)



Woody Residue Collected in Tuyen Quang Province

Northern Region

Tuyen Quang Province

Hanoi

Woody residues such as acacia and eucalyptus

Agricultural residues such as rice husks and rice straw

An Giang Province

Ho Chi Minh

Southern Region



Rice Husk Storage Warehouse

1 Development of Biomass Power Plants, Operation of Existing Biomass Power Plants

- Operation of 6 biomass power plants (344MW), including under construction
※ Sakaide Power Plant is scheduled to start operations in 2025
- The world's largest level 300MW non-FIT mega biomass power plant is under construction planning. It is a power plant that is economically independent from the FIT system ※, contributing to de-carbonization and supply capacity

2 Promoting Coal-Fired Power Transition

- Biomass fuel test co-firing is scheduled for September 2023 at the acquired Itoigawa coal-fired power plant (149MW)
- Discussions are underway with other companies to convert other coal-fired power plants to biomass

3 Hydrogen Business Development

- Hydrogen power plant started operations in April 2022 (Fujiyoshida City, Yamanashi Prefecture)
- Commercialization of hydrogen is being promoted

Retail Development of CO2 Free Plans / Reduction of CO2 Emission Factor

- Development of environmentally friendly rate plans such as CO2 free plans
- erex Group aims to achieve 100% non-fossil certificate rate
- Reduction of erex Group's 0.47 t-CO₂/kWh ※ (0.46 for Former General Electricity Utility)

Trading, Others Utilization of CO2 Reductions from Overseas De-Carbonization Projects

- Reduction of CO2 in Japan using JCM, etc.
- Hedging transactions of marine fuel for biomass fuels

※ Source: Emission factors by power company, published by Ministry of the Environment and Ministry of Economy, Trade and Industry

erex

ENERGY RESOURCE EXCHANGE