# **Management Overview**

# May 2022

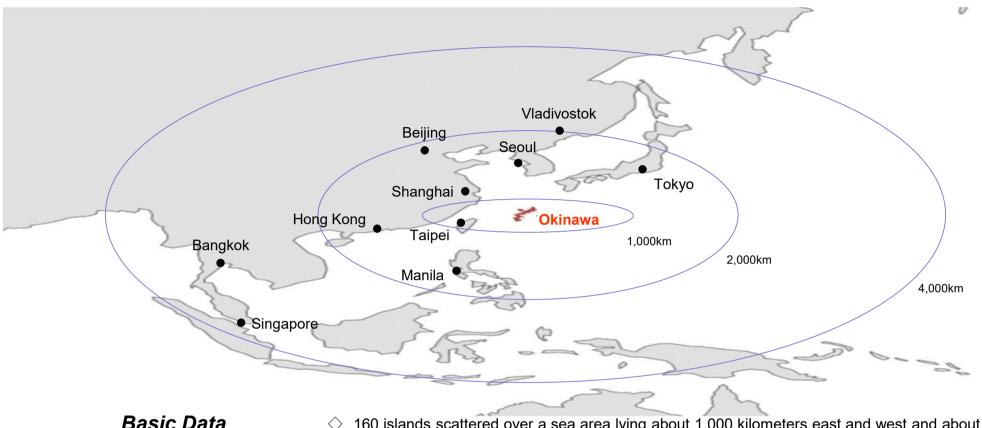


The Okinawa Electric Power Company, Inc.

# **Table of Contents**

Overview of Okinawa Prefecture	 1
Corporate Overview of OEPC	 2
Financial Results for FY2021 (Year-on-Year Comparison)	 3
Annual Outlook Summary FY2022	 4
Electric Energy Demand (Results)	 5
Electric Energy Demand (FY2022 and Long-term Outlook)	 7
Capital Expenditures Plan	 8
Business environment and challenges	 9
The OEPC Group Medium-Term Management Plan 2025	
The OEPC Group Vision	 10
Management Goals	 12
Effective Utilization of Management Results	 13
Direction of Initiatives in the Medium-Term Management Plan	 14
Initiatives to Achieve Carbon Neutrality	 16
Initiatives by Business	 22
Establishment of the Emergency Management Measures Committee	 38
Characteristics of the Business Bases	 40

# **Overview of Okinawa Prefecture**



## **Basic Data**

Population:	1,468,780
No. of Households	624,169
Area	2,283 km²
Climate	Subtropical / Oceanic
Location	26°12N 127°41E
Prefectural GDP	¥4110.4billion
Tourism Revenue	¥248.5billion

160 islands scattered over a sea area lying about 1,000 kilometers east and west and about 400 kilometers north and south.

Okinawa has attracted attention for its advantages and potentials.

- •Geographical characteristics as being located in the center of East Asia.
- •The highest birth rate in Japan.
- ·Rich nature and mild climate.

Making good use of such advantages and potentials, initiatives are underway

- Promotion of tourism.
- Clustering of international logistics industry.

Population, No. of Households as of March 1, 2022 Area as of January 1, 2022

Prefectural GDP as of Estimated results FY 2020

Tourism Revenue as of Estimated results FY 2020 (Source: Okinawa Prefecture, Geographical Survey Institute)

# **Corporate Overview of OEPC**

- The Okinawa Electric Power Company (OEPC) supplies electricity to 37 inhabited islands including Okinawa main island.
- OEPC maintains 11 isolated systems that are not connected with the transmission lines of other power companies.
- OEPC has no nuclear and hydroelectric power plants and depends on fossil fuels for its power supply.

Established	May 15, 1972
Capital	¥7,586 million
Total assets	¥407.311 billion (Non-consolidated) ¥446.519 billion (Consolidated)
Employees	1,532 (Consolidated:2,812)

Security code	9511
Service area	Okinawa Prefecture
Generating facilities	Steam-power generators 5 locations 1,629 thousand kW (Oil 2 locations 375 thousand kW) (Coal 2 locations 752 thousand kW) (LNG 1 locations 502 thousand kW) Gas turbine generators 5 locations 326 thousand kW Internal-combustion power generators 12 locations 208 thousand kW Wind power generators 5 locations 2 thousand kW Total 2,165 thousand kW

(as of March 31, 2022)

## **Ratings**

Rating agency	ating agency S&P		R&I
Rating	A+	A1	AA
Outlook (direction)	Stable	Stable	Stable

<sup>\*</sup> Ratings on long-term preferred debts as of April 30, 2022

# Financial Results for FY2021 (Year-on-Year Comparison)

(Unit: million yen, X)

	Сс	onsolidated (	A)	Non	-consolidated	(A) / (B)		
	FY2020 (Results)	FY2021 (Results)	Rate of Change	FY2020 (Results)	FY2021 (Results)	Rate of Change	FY2020 (Results)	FY2021 (Results)
Sales	190,520	176,232	_	180,638	168,078	_	1.05	1.05
Operating income	12,619	2,810	-77.7%	10,097	465	-95.4%	1.25	6.04
Ordinary income	11,335	2,717	-76.0%	8,939	500	-94.4%	1.27	5.43
Net income	8,341	1,959	-76.5%	6,953	694	-90.0%	1.20	2.82

<sup>\*1</sup> Net income attributable to owners of parent.

### [Revenue]

- Decrease in Electricity sales (Renewable Energy Power Promotion Surcharge) and Grant under Act on Purchase of Renewable Energy Sourced Electricity due to the application of the "Accounting Standard for Revenue Recognition" in Electric business.
- Increase in Sold power to other suppliers and income from the Fuel cost adjustment system in Electric business.

### [Expenditure]

- Decrease in Levy under Act on Purchase of Renewable Energy Sourced Electricity and Purchased power costs due to the application of the "Accounting Standard for Revenue Recognition" in Electric business.
- Increase in Fuel costs in Electric business.

<sup>\*2</sup> Since the Company applies the "Accounting Standard for Revenue Recognition" (ASBJ Statement No. 29) from the beginning of FY 2021, Sales for FY2021 2Q YTD are based on amounts after the application of this accounting standard. As a result, the rate of change to Sales is not stated.

# **Annual Outlook Summary FY2022**

(Unit: million yen, X)

	C	onsolidated(/	۹)	Non	-consolidate	(A) / (B)		
	FY2021 (Results)	FY2022 (Forecasts)	Rate of Change	FY2021 (Results)	FY2022 (Forecasts)	Rate of Change	FY2021 (Results)	FY2022 (Forecasts)
Sales	176,232	undecided	-	168,078	undecided	_	1.05	_
Operating income	2,810	undecided	_	465	undecided	_	6.04	_
Ordinary income	2,717	undecided	_	500	undecided	_	5.43	_
Net income	1,959	undecided	_	694	undecided	_	2.82	_

<sup>\*</sup> Net income attributable to owners of parent.

The trend of fuel prices, which are rising due to the Russia-Ukraine situation, is extremely uncertain, and it is difficult to reasonably calculate the financial forecast.

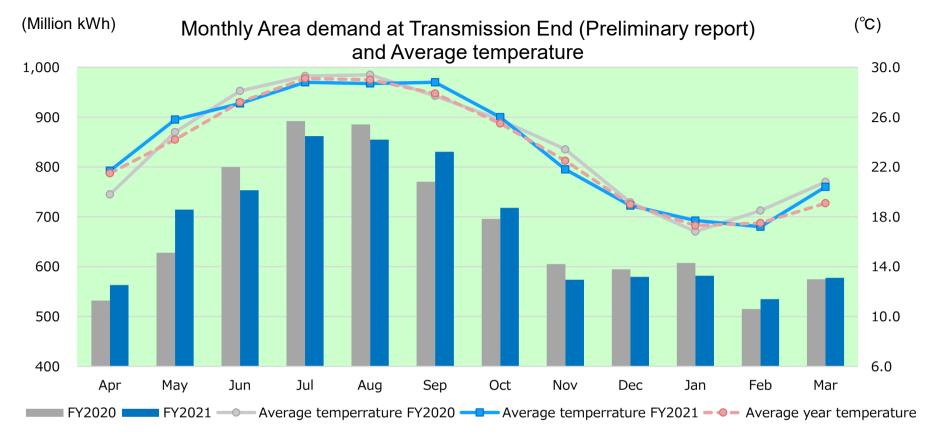
In consideration of this situation, the forecast in the FY2022 are not decided.

The forecast will be disclosed promptly when the reliable calculation of financial forecast becomes possible.

#### [Dividends]

Because of unable to foresee profit levels, the dividends for FY2022 have yet to be determined at this time.

# Electric Energy Demand (Results) (1/2)



Monthly Area demand at Transmission End (Preliminary report)

(Million kWh,%)

	Apr	May	Jun	Jul	Aug	Sep	1 <sup>st</sup> Half	Oct	Nov	Dec	Jan	Feb	Mar	2 <sup>nd</sup> Half	FY
FY2021	563	715	753	862	855	831	4,579	718	574	580	582	535	578	3,566	8,145
FY2020	532	628	800	892	886	771	4,508	696	605	595	608	515	575	3,593	8,101
Rate of Change	+5.9	+13.8	-5.8	-3.4	-3.5	+7.8	+1.6	+3.2	-5.2	-2.5	-4.2	+3.9	+0.5	-0.7	+0.5

Average temperature

(°C)

	Apr	May	Jun	Jul	Aug	Sep	1 <sup>st</sup> Half	Oct	Nov	Dec	Jan	Feb	Mar	2 <sup>nd</sup> Half	FY
FY2021	21.7	25.8	27.1	28.8	28.7	28.8	26.8	26.0	21.8	18.9	17.7	17.2	20.4	20.3	23.6
FY2020	19.8	24.8	28.1	29.3	29.4	27.7	26.5	25.8	23.4	19.2	16.8	18.5	20.8	20.8	23.6
Climatological Normals	21.5	24.2	27.2	29.1	29.0	27.9	26.5	25.5	22.5	19.0	17.3	17.5	19.1	20.2	23.3

<sup>\*</sup> Climatological Normals is observed data from 1991 to 2020.

# Electric Energy Demand (Results) (2/2)

## **Electricity Sales Volume**

(Unit: million kWh, %)

	FY2020 (Results)	FY2021 (Results)	Change	Rate of Change
Lighting	2,983	2,895	-88	-3.0
Power	4,154	4,138	-16	-0.4
Total	7,137	7,033	-104	-1.5

#### Power Generated and Received

(Unit: million kWh)

	(erita ritiliori kiv							
		FY2	020	FY2	021		Rate of change	
		Electricity generated	Com- position ratio	Electricity generated	Com- position ratio	Change		
	Coal	3,216	43.3%	3,114	42.6%	-102	-3.2%	
ဂ္က	Oil	1,076	14.5%	1,002	13.7%	-74	-6.9%	
OEPC	LNG	1,566	21.1%	1,654	22.6%	+88	+5.6%	
	Total	5,858	78.9%	5,770	78.9%	-88	-1.5%	
Oth	ner	1,568	21.1%	1,539	21.1%	-29	-1.8%	
	Total	7,426	100.0%	7,309	100.0%	-117	-1.6%	

## <Lighting>

The demand for Lighting decreased compared with Year-on-Year due to the impact of customer switching to other suppliers and the lower temperature in summer compared with previous year.

### <Power >

The demand for Power remained almost unchanged from the previous year due to the impact of customer switching to other suppliers and the lower temperature, despite weakened impact of the novel coronavirus.

### <Power Generated and Received>

- Power generated and received was 7,309 million kWh, down 1.6%. \*
- Electricity generated of OEPC's Coal-fired thermal power was down 3.2%.
- Electricity generated of OEPC's Oil-fired thermal power was down 6.9%. \*
- Electricity generated of OEPC's LNG-fired thermal power was up 5.6%. \*

\*Comparison with the same period of the previous year.

# Electric Energy Demand (FY2022 and Long-term Outlook)

## **Electricity sales volume (FY2022 Outlook)**

(Unit: million kWh, %)

	FY2021 Results	FY2022 Forecasts	YoY Rate of Change
Lighting	2,895	2,708	-6.5
Power	4,138	4,143	0.1
Total	7,033	6,851	-2.6

## **Electricity sales volume (Long-term Outlook)**

(Unit: million kWh, %)

	FY2010 Results	FY2020 Results	FY2031 Forecasts	2010-2020 Annual average growth rate	2020-2031 Annual average growth rate
Lighting	2,991	2,983	2,776	0.0 (-0.1)	-0.7 (-0.5)
Power	4,530	4,154	3,923	-0.9 (-0.9)	-0.5 (-0.4)
Total	7,521	7,137	6,699	-0.5 (-0.6)	-0.6 (-0.4)

<sup>\*</sup> Adjusted for the influence of temperature and leap year.

### (Lighting)

Demand is expected to be lower year-on-year.

- ✓ Impact of customers switching to other suppliers.
- ✓ Reactionary decrease due to high temperature compared with normal year.

(YoY growth:-6.5%)

#### (Power)

Demand is expected to remain almost unchanged from the previous year.

- ✓ Impact of customers switching to other suppliers.
- ✓ Reactionary decrease due to high temperature compared with normal year.
- ✓ Reactionary increase due to weakened impact of the novel coronavirus compared with previous year. (Factor for increase) (YoY growth:0.1%)

#### (Total)

As explained above, the total electricity sales volume is expected to be 6,851 million kWh, short of the previous year. (YoY growth:-2.6%)

#### (Lighting)

Demand is expected to decrease.

- ✓ Impact of customers switching to other suppliers.
- ✓ Increased demand resulting from growth in the number of population and households. (Factor for increase) (Annual average growth:-0.5%\*)

#### (Power)

Demand is expected to decrease.

- ✓ Impact of customers switching to other suppliers.
- ✓ On the Assumption that the novel coronavirus infection converges, increase in commercial and accommodation facilities and food manufacturers due to growth in the number of population and tourists. (Factor for increase)

(Annual average growth:-0.4%\*)

#### (Total)

As explained above, the total electricity sales volume is expected to be 6,699 million kWh. (Annual average growth:-0.4%\*)

# Capital Expenditures Plan

- Capital investment in FY 2021 was 30.7 billion yen due to the aging of power sources and an increase in the construction and replacement of power distribution facilities.
- Although costs for responding to aging of supply facilities are expected to increase, efforts are made to level off investment amounts.

## Trends in the Capital Investment Amount

(Unit: 100million yen)

	FY	20	19	20	20	20	21	2022
By f	acilities	Results	(Plan)	Results	(Plan)	Results	(Plan)	(Plan)
Pow	er sources	63	( 67)	88	(115)	97	(124)	(195)
ies	Transmission	63	( 87)	67	( 86)	47	(112)	(117)
facilities	Transformation	39	( 59)	63	( 76)	69	(74)	(45)
Supply	Distribution	48	(77)	65	(106)	66	(93)	(84)
Sul	Subtotal	151	(224)	196	(267)	183	(279)	(247)
Othe	ers	16	( 6)	24	( 27)	25	(34)	(44)
	Total	230	(297)	309	(409)	307	(438)	(485)

Note: The figures may not exactly match the figures because of rounding.

[ Major Projects in Capital Investments in FY 2022 ]

**Power sources:** 

Makiminato Gas engine Power Plant

Responding to aging of Gushikawa Thermal Power Plant

Supply facilities: Responding to increasing demand

Replacement of aging facilities

Responding to shortened power outage times

Responding to supply reliability

# **Business environment and challenges**

Item	Overview and Challenges
Sales	<ul> <li>The population and the number of households will continue increasing, but the number of tourists has decreased recently.</li> <li>The demand for Electric Power in Okinawa area will increase, but the rate of its increase has been slowing down.</li> <li>The entry of power producer and supplier has advanced competition.</li> <li>Challenges will be sales expansion of electricity and gas.</li> </ul>
Profitability	<ul> <li>The fuel price has risen so high that it has exceeded the upper limit of the fuel cost adjustment system, which has reduces the company's profits.</li> <li>The profit and cost structure must be reviewed.</li> </ul>
CF	<ul> <li>Capital investment will increase due to the implementation of the Mid-Term Management Plan.</li> <li>No large-scale electric power development is planned for the time being.</li> </ul>
Capital composition	<ul> <li>Equity capital is secured at the level necessary for financial stability.</li> <li>A challenge is to improve capital efficiency.</li> </ul>

# The OEPC Group Vision: Basic Management Stance

# What the OEPC Group Aims To Be

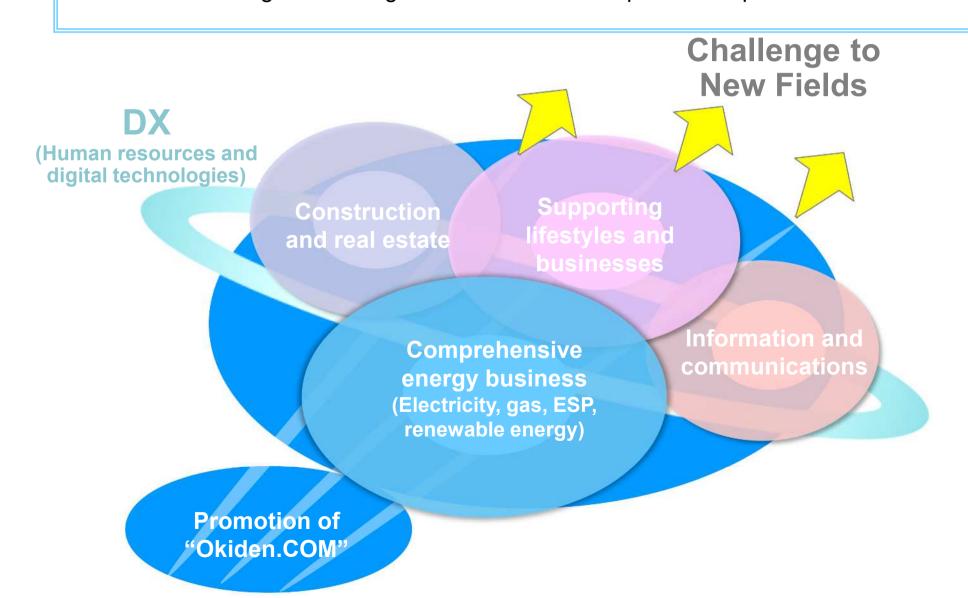
With our comprehensive energy business as the core, we aim to create new value through services to support both corporate and individual customers and as a business group with a sense of solidary, growing and developing hand-in-hand with the community, will contribute to the realization of a sustainable society.

# Basic Management Stance

- (1) Strive to provide a stable supply of energy
- (2) Aggressively take on carbon neutrality
- (3) Meet the diverse needs of our customers and do our utmost to enhance customer satisfaction
- (4) Fulfill social responsibility as a good corporate citizen of local communities
- (5) Nurture and value people
- (6) Achieve sustainable growth through proactive business development and continually enhancing management efficiency

# The OEPC Group Vision: Business Fields

With comprehensive energy business at its core, the OEPC Group will expand its business fields by further developing businesses in construction and real estate, information and communications, and support for lifestyles and businesses. We will also leverage the strengths of the OEPC Group to develop new businesses.

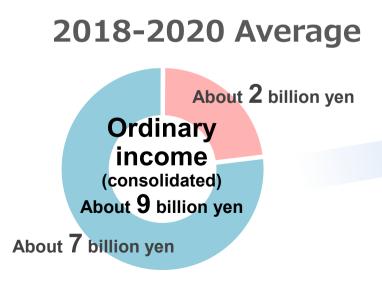


# Management Goals: Financial Goals and Business Portfolio

- The entire Group will work together to realize what we aim to be, striving to achieve financial goals.
- With the comprehensive energy businesses such as gas supply business, ESP and other at its core, in addition to the electric power business, the entire Group aims to grow by developing and enhancing the construction and real estate, information and communications, and lifestyle and business support businesses.

Financial goals (consolidated)	FY2025
Ordinary income	12 billion yen or more
ROE (Return on Equity)	5% or more
Capital adequacy ratio	Maintaining the 30% mark

Business Portfolio (2025)





Electric power business

# Effective Utilization of Management Results: Concept of Investment and Shareholder Return Policy

# Concept of investment

- The basic mission of the OEPC Group is to provide stable energy to customers and contribute to the development of local communities and economies in Okinawa.
- We will maintain the capital adequacy ratio at current 30% level and promote investments that ensure financial stability.

## Investment for stable power supply

With regard to facilities necessary for stable supply, we will steadily implement investments to maintain and build facilities appropriately and efficiently, while reducing the total cost of facilityrelated costs.

## Investment for carbon neutrality

In order to achieve carbon neutrality, we will promote realistic and effective investment in cooperation with the national government, prefectural governments and other businesses under policy and financial supports.

[Investment for mainstreaming renewable energy: Approx. 6 billion yen +  $\alpha$  (2022-2025)]

# Investment in growth sectors

In order to ensure the growth of the entire Group, we conduct appropriate risk management by means of a PDCA cycle based on a regular assessment of the quantity of risks involved, and then make investments for business development.

[Investment limit set for growth sectors: Approx. 20 billion yen (2022-2025)]

## Basic policy on shareholder return

For the distribution of profits, our company will maintain a "consolidated dividend on equity ratio (DOE) of at least 2.0%" based on a "stable and continuous dividend" policy.

# Direction of Initiatives in the Medium-Term Management Plan: Direction of Initiatives to Realize What the OEPC Group Aims To Be

To realize what the OEPC Group aims to be, under the concept of "Okiden.COM," we will promote the "expansion of the topline," "proactive streamlining" and "challenge to become carbon neutral," to provide customers with energy and new extra value.

# What the OEPC Group Aims To Be

# **Creating new value**

## **Main directions**

Expansion of the topline

Proactive streamlining

Challenge to become carbon neutral

Okiden.COM







Based on the concept of "Okiden.COM," we will take initiatives to create new value and achieve what the OEPC Group aims to be and management goals.



Convert (Digitalization): "Give it a try and change"

✓ Promote DX and review business processes to transform cost structures, sophisticate operations, and further improve efficiency



Optimize (Optimization) "Connect and be connected"

✓ Strengthen and further optimize business collaboration within and outside the Group from a broad perspective of the entire supply chain



Make (Value creation) "Creating value"

✓ Aim to create new value and enhance competitiveness under the concept of "Okiden.COM"

# **Initiatives to Achieve Carbon Neutrality: Roadmap**



The Group has set up "Zero Emission Initiatives of OEPC" as a long-term policy in response to the growing social demand for measures to combat global warming and will work towards becoming carbon neutral in 2050 with two directions, "make renewable energy as the main power source" and "reduce CO<sub>2</sub> emissions from thermal power sources."

2030 2050 2040 CO<sub>2</sub> ▲ 26% compared to FY2005 Expansion of Renewable Energy Make Renewable Energy as Main Power Source Introduction of Renewable Energy +100mw Maximum introduction of Renewable Energy Expansion of the PV-TPO business PV-TPO business\*1 +50mw (3.4 times)Expanding the introduction of large-scale Renewable Energy using Large Wind Power\*1 +50MW by current installation) Storage Batteries Grid Stabilization Technologies for Renewable Energy expansion · Utilization and Advancement of Grid Stabilization Technologies using "Storage Batteries" and "Control Technologies" Development of the infrastructure to support the mainstreaming of Renewable Energy · Raising demand for Electrification for Effective Use of Renewable Energy Building and Utilizing VPP \*2 and DR \*3 with DX (Digital Transformation) 0 · Building a disaster-resistant "Renewable Energy Micro-Grid" for local production and consumption Thermal Power Plants Expanding the use of clean fuels **Emissions**  Reducing CO<sub>2</sub> with increased consumption of LNG · Leveraging the mobility of LNG power sources to smooth · Conversion to CO2-free fuels fluctuations in renewable energy output · Introduction of CO2 offset technologies Consideration of introducing CO<sub>2</sub>-free fuels (hydrogen, 5 ammonia, etc.) and offset technologies Reducing CO<sub>2</sub> Fade-out of the inefficient thermal power plants Conversion of Oil to LNG. Lower carbon emission through the Introduction of next-generation power sources using CO2use of Local Biomass in Coal-fired Power Plants free fuel conversion and CO2 offset technology in · Consideration of introducing cutting-edge technologies such rom conjunction with the shutdown of existing machines as next-generation thermal power

Promoting Electrification In addition to achieving a net zero structure on the power supply side, it is essential to promote electrification on the demand side(transportation, industry, business, household), implement necessary policies, and gain financial support.

※2 Virtual Power Plant (VPP) refers to the collective control and management of a number of small-scale renewable energy power plants, etc., to make them function as a single power plant.

<sup>\$1</sup> Service in which PV and storage batteries are installed free of charge and the electricity generated is sold to customers. Both PV-TPO and large wind power are scheduled to be built and managed by our affiliated companies.

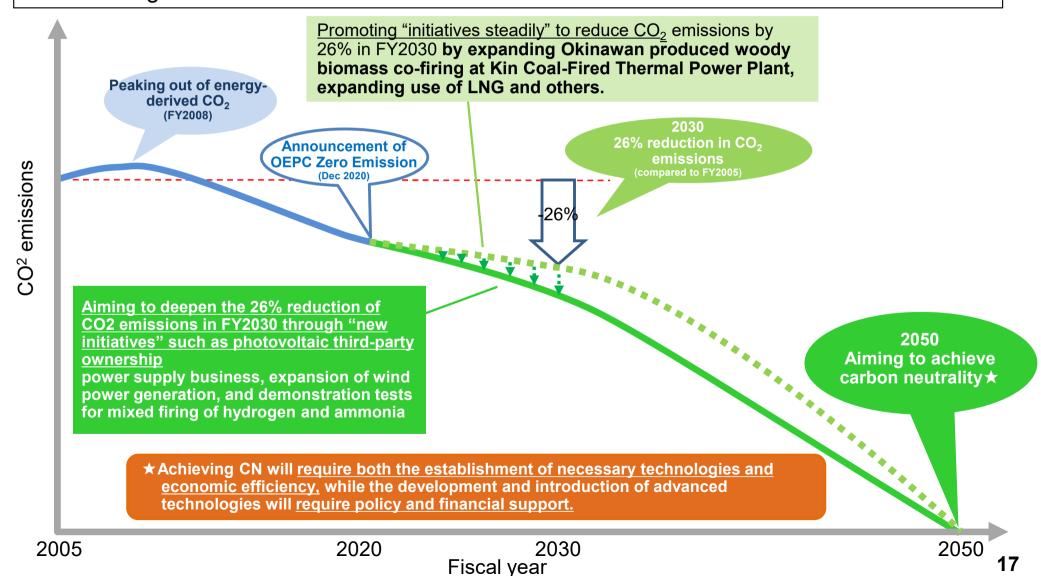
<sup>※3</sup> Demand Response (DR), according to the Ministry of Economy, Trade and Industry (METI), is defined as "an act of changing the consumption pattern of electricity for consumers to curb their use of electricity in response to the setting of electricity prices or the payment of incentives when wholesale market prices rise or when grid reliability declines."

<sup>#4</sup> We aim to Net-Zero CO2 Emissions by combining renewable energy power sources with thermal power sources that incorporate CO2-free fuels and CO2 offset technologies

## **Initiatives to Achieve Carbon Neutrality: Illustration of Achievement**



- Given the difficulty of developing hydroelectric and
- nuclear power in the Okinawa area, it will be a very difficult challenge with limited options, but we will continue to take on challenges while firmly incorporating innovative technologies in the future.

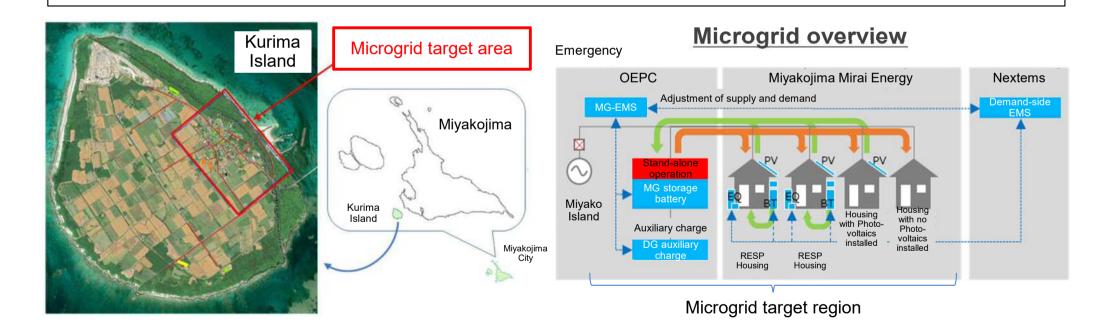


## Initiatives to Achieve Carbon Neutrality: Examples of Initiatives (1)

## **Example: Microgrid Demonstration Project in the Kurima Island Region**



- Our company, jointly with Nextems Co., Ltd.\*2 and Miyakojima Mirai Energy Co., Ltd., applied for the Ministry of Economy, Trade and Industry's subsidized project "FY2020 Regional Microgrid\*1 Construction Project," and a four-party consortium, joined by Miyakojima City, has started a project to develop a regional microgrid on Kurima Island, Miyakojima City.
- By establishing regional microgrids, we will contribute to the realization of decarbonization, strengthening of electric power resilience, and sustainable society, which is increasingly in demand from the society.
  - \*1 A regional microgrid is a system that uses regional renewable energy in an area of a certain size.
  - \*2 Nextems Co., Ltd. (Urasoe City): In December 2019, the company received the Minister of Economy, Trade and Industry Award, the highest award in the New Energy Foundation's FY2019 New Energy Grand Prize in the Advanced Business Model Category.



## **Initiatives to Achieve Carbon Neutrality: Examples of Initiatives (2)**

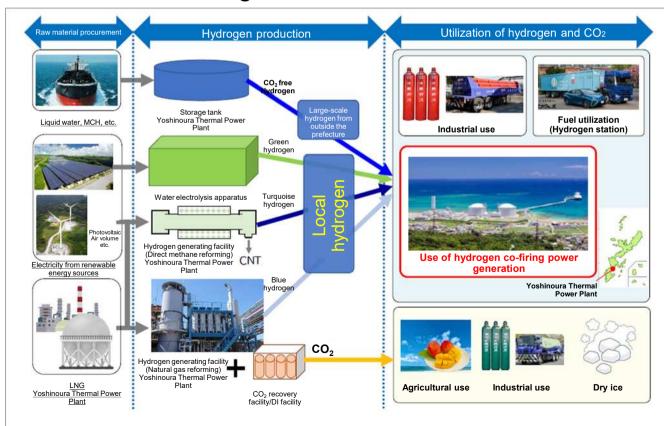
## Example: Investigation for building a hydrogen-based society



- We applied for "Development of Technologies for Realizing a Hydrogen Society/ Development of Technology for Utilizing Regional Hydrogen/Investigation of Potential for Hydrogen Production and Utilization" publicly solicited by NEDO\*, which selected our "Investigation on the development of a total system for the utilization of regional hydrogen centered on the Yoshinoura Multi Gas Turbine Power Plant in the Okinawa area."
- In addition to technical investigation on raw material procurement, and receiving and co-firing facilities for hydrogen co-firing at the Yoshinoura Multi Gas Turbine, we will conduct research on the local production of hydrogen and industrial development using by-produced CO<sub>2</sub>, etc.

\*New Energy and Industrial Technology Development Organization

## Outline of the investigation



# Specific details of the investigation

- (1) Hydrogen co-firing in gas turbine power generation facilities
- (2) Local production of hydrogen using LNG reforming and local renewable energy
- (3) Industrial promotion using CO<sub>2</sub> and carbon nanotubes in hydrogen production
- (4) Large-scale hydrogen import bases at power plants
- (5) Investigation of potential hydrogen utilization in the region

## Initiatives to Achieve Carbon Neutrality: Examples of Initiatives (3)

## **Example: Development of the PV-TPO Business "karE-roof"**



On April 1, 2021, the Company started the "karE-roof," a service that supplies electricity by installing photovoltaic power generation facilities and storage batteries free of charge (PV-TPO business).

## Service overview diagram

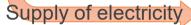




Owned by the OEPC group

- Photovoltaic power generation facilities
- Storage batteries

#### Free installation



Purchase electricity generated from photovoltaic power generation and storage batteries (Discounts, etc.)

#### Supply of electricity

Continue to purchase the electricity which is lacking from Okinawa Electric Power Company.



- · "Kariru" roof
- "Kariru" means borrow in Japanese
- In addition, "Kare" is used as a word that means good fortune and brings good luck in the Okinawan dialect.

It is the "first" service of this kind by a major electric power company\* which includes the installation of storage batteries free of charge, in addition to photovoltaic power generation.

## **Key Benefits to Customers**

Use of electricity in the event of disasters and other emergencies

Electricity can be used from photovoltaic power and storage batteries in the event of disasters and other emergencies. Reasonable Full-elect

\* Assuming former general electricity providers. According to our

rate plan

research as of January 2021.

Full-electrification of homes enables a further reduction in overall energy costs.

Electricity generated by photovoltaic power can be purchased with a reasonable plan.

### Zero yen Free initial installation cost

Photovoltaic generation and storage batteries can be used with zero initial installation cost.



## Initiatives to Achieve Carbon Neutrality: Examples of Initiatives (4)

## **Example: Development of PV-TPO Business**



- On April 1, 2021, the Company started the "karE-roof," a service that supplies electricity by installing photovoltaic power generation facilities and storage batteries free of charge (PV-TPO business).
- We have also started services for offices by applying a business scheme for homes. (The first project, "Urasoe Municipal Minatogawa Junior High School," started in May 2022.)

## Toward Development of Sustainable Communities

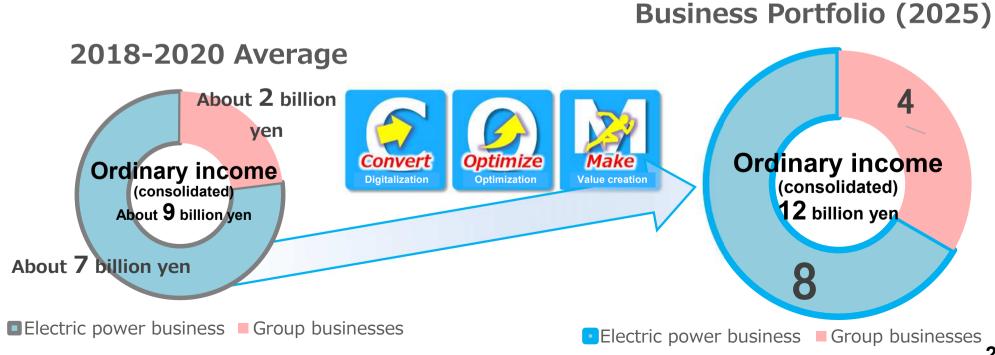
- OEPC Group PV-TPO Service -



## **Initiatives by Business: Electric Power Business**

## [Direction of Initiatives]

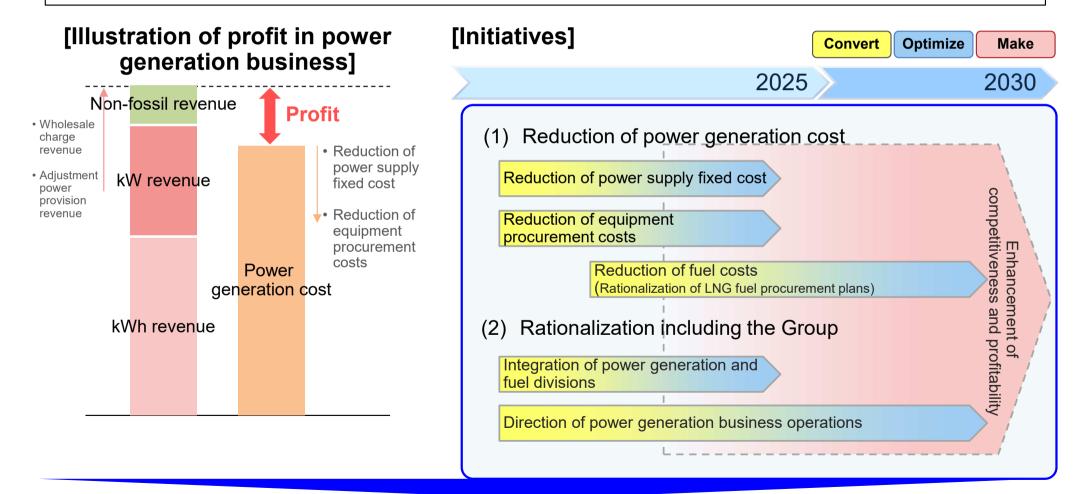
- ① Even in a competitive environment, the Group's fundamental mission of providing a stable supply of energy remains unchanged, and we will make every effort to realize it.
- 2 We will promote the initiatives for carbon neutrality.
- 3 Based on the concept of "Okiden.COM," we will strive to improve the profitability of our electric power business by thoroughly reducing costs and providing electric power with additional value, while reviewing our business model.
- 4 We will develop the infrastructure to enable each electric power business to operate autonomously and flexibly.



## **Power Generation Business**

## [Direction of Initiatives]

- ① We will strive to increase the competitiveness and profitability of power sources by thoroughly reducing power generation costs.
- ② We will streamline our operations, including those of the Group, through outsourcing and centralization.

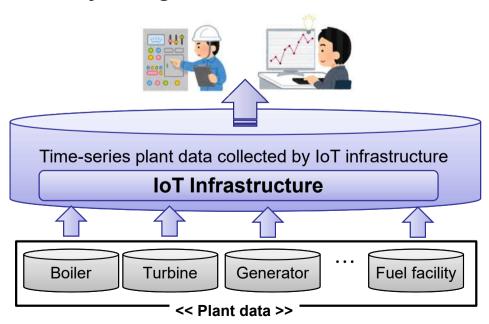


# Power Generation Business (Example of Initiatives: Digitalization and Optimization)

- We have introduced an IoT infrastructure that supports the visualization of operating conditions and data analysis through long-term storage and centralized management of operating data of power generation facilities.
- With the introduction of the IoT infrastructure, a large amount of operating data can be managed on a common platform, enabling real-time monitoring of power plants, understanding of data correlation, and advanced operational management based on them. \*Automation of data collection also leads to work efficiency such as reporting.
- Going forward, we will use this system effectively to "detect early signs of abnormalities," "improve the operability and efficiency of power generation facilities," and "rationally inspect, repair, and upgrade facilities," in an effort to further strengthen our own safety capabilities.

< Illustration of IoT Infrastructure >

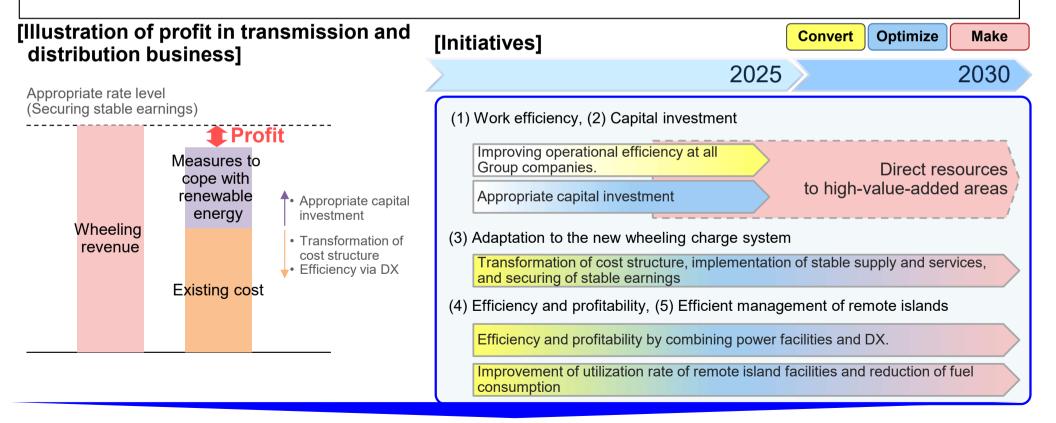
# Advanced operation management and work efficiency through the use of IoT infrastructure



## Transmission and Distribution Business

### [Direction of Initiatives]

- ① We will work to improve work efficiency at all Group companies.
- We will promote the utilization of grid stabilization technology for the mainstreaming of renewable energy as well as capital investment for upgrading and infrastructure development.
- We will aim to secure stable earnings by transforming our cost structure in line with the new wheeling charge system and implementing stable supply and services.
- 4 We will promote efficiency and profitability by combining power facilities and DX.
- (5) We will improve the efficiency of remote island operations by improving the utilization rate of remote island facilities and reducing fuel consumption, among others.



We will secure an appropriate level of profit, while maintaining a stable supply, and make appropriate capital investments for the next-generation power network and the renewal of aging facilities.

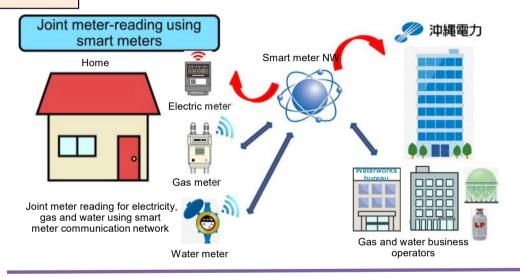
## Transmission and Distribution Business (Example of Initiatives (1))

- We will develop businesses that take advantage of the strengths of our group companies.
- We will are also make new revenue sources, utilizing distribution assets.
- By mechanization, centralization, and outsourcing, we will shift our workforce to high-value-added works (sophistication and profitability) and to strengthening on-site capabilities.

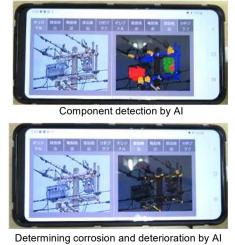
## Shift to high-value-added works

Sophistication

Profitability









[Business outline]
Public lapping service utilizing power poles and ground equipment [Improvement of local beauty and environmental harmony]

[Business targets]
Government, police, neighborhood community associations, shopping districts, etc.

[Utilization of Group companies]
Okidenkigyo Co. Ltd.

## Transmission and Distribution Business (Example of Initiatives (2))

- We will use DX to enhance the sophistication and efficiency of power transmission and distribution operations as a means of ensuring a stable supply of electricity and maintaining low wheeling charges.
- We will also consider creating new businesses using our company facilities.

Illustration of power transmission and transformation utilizing DX (sophistication and efficiency)

Improving the sophistication and efficiency of construction, maintenance and management of power transmission and transformation facilities utilizing DX, such as drones

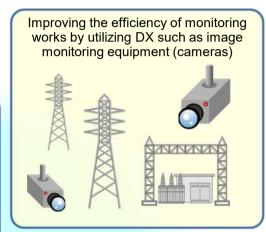




Illustration of new businesses utilizing power transmission and transformation facilities (profit improvement)

Lease of testing and measuring instruments (Lease for on-site tests of manufacturer and others)



Lease of conference rooms and steel towers at technical training facilities

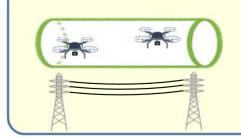


Lease of power transmission and transformation facilities (Steel towers, sites, fences, etc.)

\* Antenna installation, parking, advertisement, signboard, etc.



Participation in Grid Sky Way. (Building drone routes to provide many operators with flying infrastructure)



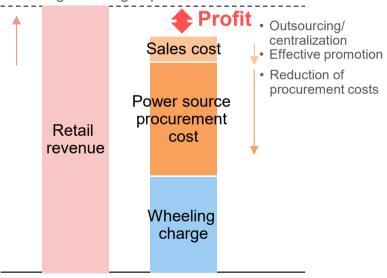
## **Retail Business**

## [Direction of Initiatives]

- ① We will strive to maintain and expand the amount of electricity sold by creating new added value.
- ② We will strive to further expand our income by taking advantage of the resources throughout the group.
- ③ We will consider and implement more effective promotions.
- 4 We will improve efficiency through outsourcing and centralization.

# [Illustration of profit in retail business]

- Sales expansion
- Increased revenue through resource utilization throughout the group.

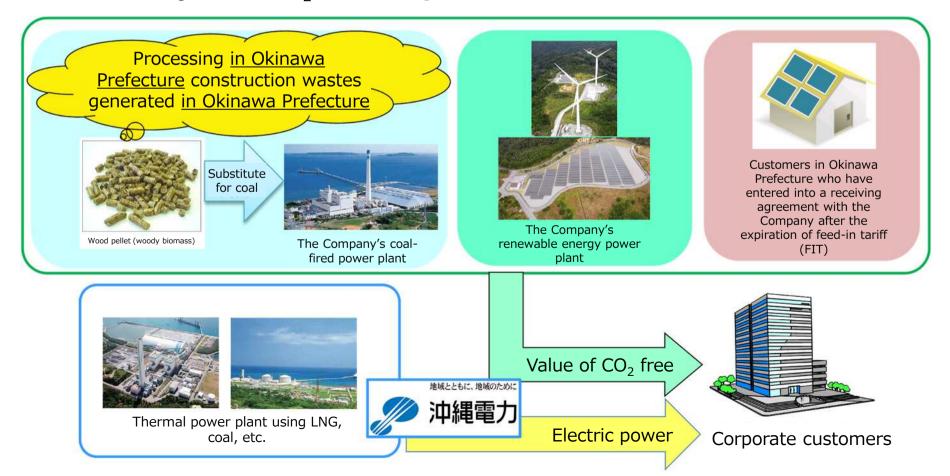


## [Initiatives] **Optimize** Convert Make 2025 2030 (1) Maintenance and expansion of electricity sales Enhancing menus and creating new added value (2) Revenue expansion Further expanding revenue by taking advantage of the resources throughout the group. (3) Effective promotion Establishing an efficient sales promotion system throughout the group (4) Improvement of efficiency through outsourcing and centralization. Directing resources to high-value-added areas Outsourcing and centralization



- The "Uchina-CO<sub>2</sub> Free Menu" uses non-fossil certificates derived from renewable energy utilizing Okinawa's resources. Such as power generated by the mixed firing of woody biomass produced in the prefecture that effectively uses the construction wood scrap generated in the Okinawa prefecture and photovoltaic generation.
- By applying this menu, all or part of the electricity used by customers can be considered to have essentially zero CO<sub>2</sub> emissions.

## [Illustration of offering Uchina-CO<sub>2</sub> Free Menu]



## Retail Business (Example of Initiatives: Member site "more-E" (Creation of New Value Added))

- The member site "OEPC more-E" offers services such as visualization of electricity charges and usage, and information provision services, centered on the point service with points saved according to electricity charges.
- Through "OEPC more-E," we will deepen trusting relationships and communication with our customers more than ever, and support comfortable and affluent lifestyles by providing a variety of value-added services.

#### Overview of "OEPC more-E" Service

#### E-ne!! (1)

### Saving and using "OEPC E points"

"OEPC E points" are given to member customers who purchased electricity or contracted with us to sell electricity! "OEPC E points" can be used for shopping at local stores or providing support for the professional sports teams, or you can donate the points to social activities, etc.

(Current partners are 15 companies and organizations)

#### (2) Th

E-ne!!

#### Visualization service

This service displays graphs of electricity rates and usage, photovoltaic generation sell rate and the power generated amount, also the comparison of electricity usage with other families of similar structure, allowing to analyze energy usage.





E-ne!! (3)

### Information providing service

Articles useful to customers' daily lives and regional information are available.



## E-ne!!

### Participatory service



Participants get points by participating in various campaigns, events and surveys.



#### Future Initiatives for "OEPC more-E"

Act (1)

#### Creation of further value added

We will improve our services by creating further added value through the expansion of our point partners and various campaigns and events. Act (2)

### Further improvement in service convenience

We will improve operability so that customers can enjoy our services more.

#### Act (3) Further contribution to regional revitalization

We will contribute to the revitalization of local communities through collaboration with local companies, organizations, people, things, and matters, and by disseminating information in column articles.

OEPC membership site





OEPC more-E



[Inquiry] OEPC more -E Office (Toll-free call)

TEL. 0800-170-8004

(Reception hours)

Monday-Friday 10:00 - 17:00

Excluding national holidays, Okinawa Memorial Day and old Bon (July 15 on the lunar calendar), year-end and New Year holidays (Dec 29 to Jan 3)

# Initiatives by Business: Group Businesses

## [Direction of Initiatives]

- ① Based on the concept of "Okiden.COM" we will strive to create new value and enhance competitiveness--Make (Value creation)--through improving work efficiency--Convert (digitalization)--and business collaboration--Optimize (optimization).
- ② We will expand our existing business areas and boldly take on new business areas.

# **Business Portfolio (2025)** Ordinary in com (consolidated) 12 billion sen Electric power Group businesses husiness Challenge to New 2018-2020 Average About 2 billion yen **Ordinary income** (consolidated) About 9 billion ven About 7 billion yen Group businesses

## [Initiatives]

Comprehensiv e energy

Strengthening of ESP initiatives in anticipation of urban development

Development of gas supply business by laying gas pipelines

Initiatives for expanding LNG sales

Promotion of PV-TPO business

Business optimization throughout the supply chain

Promotion of business development outside the region by utilizing the Group's know-how

Construction and real estate

business

Promotion of projects to underground power poles

Strengthening of initiatives for private construction orders and PPP/PFI projects

Profitability by utilizing existing assets

Information and communication Promotion of data center business

Creation of new services utilizing know-how

Leverage know-how and platform accumulated by the Group

#### Supporting lifestyles and businesses

Business support business centered on healthcare business

Promotion of initiatives for monitoring services

## Group Businesses (Examples of Initiatives: Development of Comprehensive Energy Services)

As a comprehensive energy company that can supply both electricity and gas, we will build an energy center on the premises of the OEPC head office, which will have the advantages of reducing CO<sub>2</sub> emissions, providing a stable supply, and strengthening business continuity plans (BCPs). We will develop a comprehensive energy supply business centered on the center, which will supply energy to buildings on the premises and hotels planned to be built in the neighborhood.

### Increase in new energy demand

- Large-scale development of urban areas (e.g. former U.S. military bases)
- Construction of hotels in résponse to an increase in the number of tourists
- Construction of large-scale retail stores



#### Advancement and diversification of energy needs

- Reduce initial investment in energy use (e.g. electricity and gas)
- Reduce burdens involved in facility operation/maintenance and emergency response



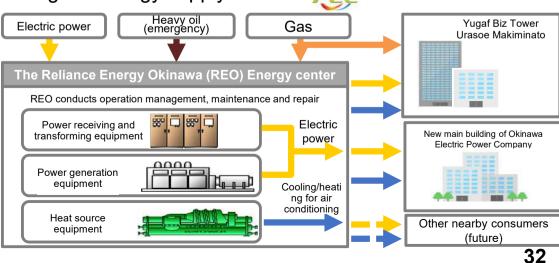


· It owns energy facilities on behalf of customers.

(Image of energy supply areas)

• It provides electricity and gas in the forms of, for example, air-conditioning water (cold / hot), hot-water supply and steam.



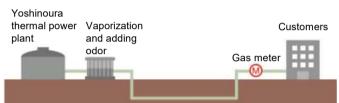


# Gas supply business

- Commenced gas supply business through subsidiary PEC in 2015.
- The OEPC Group will further promote sales of LNG by supplying LNG based on LNG supply center, capturing demand along newly constructed gas pipelines, and collaborating with other energy companies.

#### Pipeline supply (8 cases)

Supplies gas to customers in the vicinity of the Yoshinoura thermal power plant through gas pipelines after vaporizing and odorizing liquefied natural gas (LNG).



#### Lorry supply (10 cases)

Supplies LNG by tank lorry to customers in areas where pipelines are difficult to be developed.

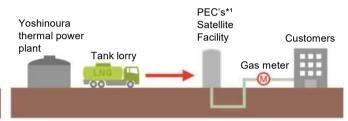


**Forecast** 

#### [100 million yen] [10 thousand t] Fluctuation of Sales Volume and Revenues 7.0 30 28 Total 24 6.0 25 Sales 22 5.0 20 17 4.0 3.2 3.0 2.9 3.1 15 2.9 3.0 2.6 10 2.0 5 1.0 0.0 $\cap$ 2015 2016 2017 2018 2019 2020 2021 2022

#### LNG Supply Center (8 cases)

At former U.S. military base site and industrial parks, PEC\*1 constructs supply centers\*2 and supplies gas through pipelines.



- \*1: Progressive Energy Corp.
- \*2: Awase Natural Gas Supply Center, Suzaki Natural Gas Supply Center and Makiminato Natural Gas Supply Center

#### **Principal customers**

Okinawa Gas Co. (Raw materials for city gas)

TAKUNAN STEEL CO., LTD

Okinawa Watakyu shingu Co.

**ORION BREWERIES,LTD** 

Chubu Tokushukai Hospital

ITO EN, LTD.

Musashino Okinawa

Royal Hotel OKINAWA ZANPAMISAKI

<sup>\*</sup>Customers to whom we supplied over 500t of gas in FY2021

# Development of Demand Along the Route by Laying Gas Pipelines

- Gas pipeline will be laid from the Yoshinoura Thermal Power Plant to the head office of the Okinawa Electric Power Company in Urasoe City through the Nishi-Futenma area, where heat demand is expected due to the development of the former military base sites.
- We will further promote the sale of natural gas in the central part of the main island of Okinawa.

# Route for laying Yoshinoura-Makiminato gas pipelines (tentative name)

[Equipment specifications]

Pressure (high pressure specification), diameter (300 mm), conduit extension (about 14 km)



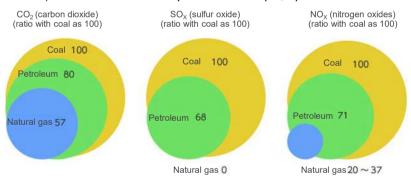
\* Source: The material of the Okinawa Revitalization Council Chair and Specialized Committee Meeting (third session) presented on the Cabinet Office website

 We will develop the pipeline network, and acquire demand in line with customer's change of fuels and urban development. We will also work with other energy companies to consider supply to ordinary households.

#### [Reference]

#### **Environmental friendliness of natural gas**

Natural gas is a clean energy with  $\underline{low CO_2}$  emissions among fossil fuels. In addition, it generates less nitrogen compounds (NOx), which cause air pollution, and does not emit any sulfur oxides (SOx).



Source: "Report on Verification of Technology for Assessment of Atmospheric Impact of Thermal Power Plants" (March 1990)/Institute of Applied Energy for CO<sub>2</sub>, "Natural Gas Prospects" (1986)/OECD and IEA for SOx and NOx

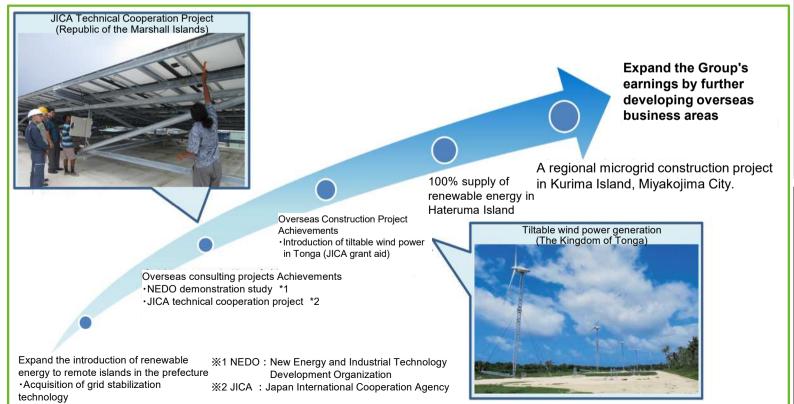
#### Resilience of gas pipelines

Most of gas pipelines are buried, so they are not easily affected by rain and wind. High- and medium-pressure gas pipelines have also been confirmed to be highly earthquake-resistant.

- At the time of the Great Hanshin-Awaji Earthquake, a medium-pressure gas pipeline attached to a bridge was deformed when the bridge fell.
   No gas leakage occurred.
- During the Great East Japan Earthquake, there was no damage to highpressure gas pipelines.

- OEPC established "SeED Okinawa LLC" jointly with five group companies to promote the development of energy business outside the region, by leveraging the knowledge and technologies cultivated with electric business such as the expansion of renewable energy introduction in remote islands, operation of grid stabilization devices, etc. (April 2021)
- As social demands for countermeasures against global warming increase further worldwide, we will contribute to the realization of a low-carbon society and sustainable society, by further spreading renewable energy in the island regions of Asia and the Pacific where we can leverage the strengths of our group.

# Promotion of energy business overseas and out of the region



Papua New Guinea
Power grid planning and
operational capacity improvement
project

(JICA Project)

Technical support will be provided for the formulation of grid planning, maintenance and management of transmission lines and substations, and protection coordination in the country.

SeÉD will participate in JV with other companies

Commissioned survey and verification for the introduction of renewable energy in Iwo-to and Minamitorishima Islands

(the Ministry of the Environment project)

Surveys will be conducted on the potential for introducing renewable energy in both islands.

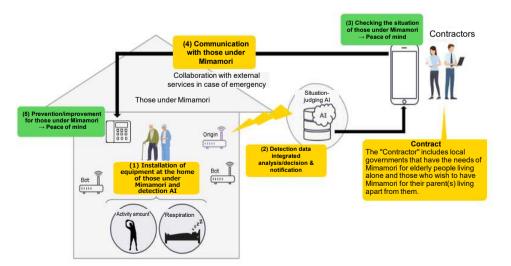
\* Four companies, OEPC, SeED, Okinawa Enetech, and PEC, will participate.

# **Development of Lifestyle and Business Support Businesses**

We will develop our lifestyle support business, which utilizes cutting-edge technologies to realize a safe and secure society, and our business support business centered on our healthcare business.

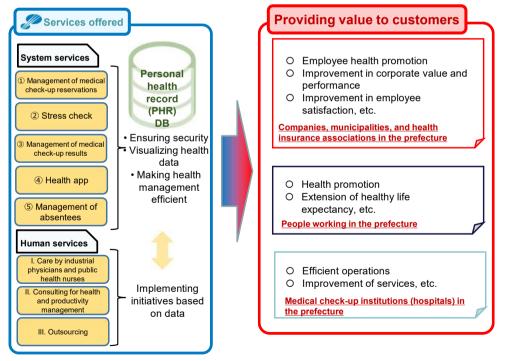
#### ✓ Development of Mimamori (caring family monitor) Service

- We established "Okiden C plus C Corporation" to commercialize Mimamori Service which would utilize cutting-edge technology (May 2021).
- Installing wireless Wi-Fi devices incorporating AI detection functionality. Utilizing sensing technology that can analyze and evaluate the reflected Wi-Fi signals to understand people's indoor and sleeping respiratory activity.
- We concluded agreements with Okinawa City, Ginowan City, and Tomigusuku City on the "Joint Demonstration Test on Mimamori of the Elderly " (August 2021), and started demonstration tests on Mimamori Service for 24 hours a day and 365 days a year (October 2021).
- In the future, the Company will strive to resolve regional issues, including notification of children's returning home and lookingafter-the-house (security) service during absence, as well as to expand the top line.



#### ✓ Development of healthcare business

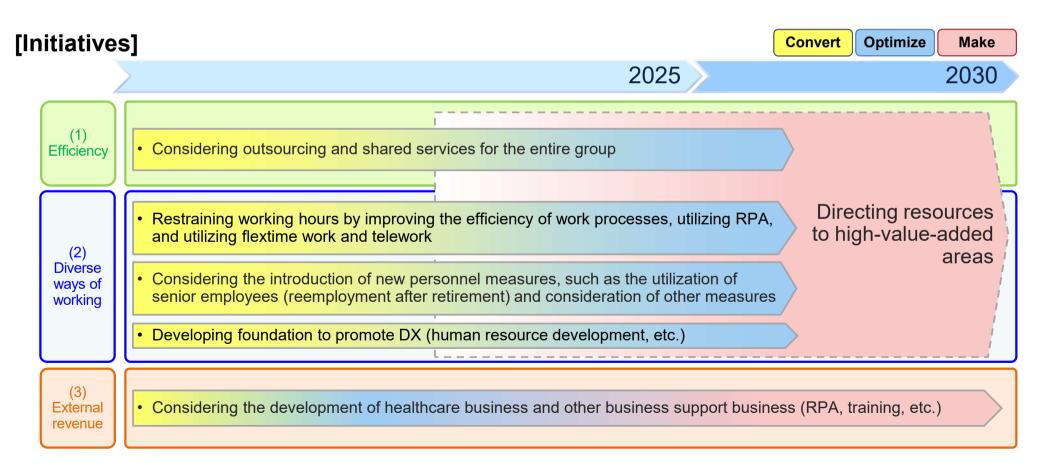
- Considering the commercialization of 'OEPC Health Management Support Service' for people working in the prefecture, hospitals, companies, etc.
- The Company will provide system and human services for health in an integrated manner.



## Initiatives for Each Business: Initiatives for the Business Foundation

## [Direction of Initiatives]

- ① We will improve efficiency through outsourcing and sharing.
- We will aggressively utilize the digital technologies listed in OEPC DX to reduce working hours and promote a variety of working styles through the introduction of new personnel measures.
- ③ We will strive to acquire external revenue by utilizing the knowledge and know-how cultivated within the company.



# **Establishment of the Emergency Management Measures Committee**

1. Composition of the Emergency Management Measures Committee

Committee Chairman: President

Members: All executive officers and full-time corporate auditors

- 2. Main considerations (see attached sheet)
- Consideration of cost measures to improve efficiency on an urgent or ongoing basis
- Consideration of measures to improve profitability
- 3. Establishment period

April 12, 2022 - March 31, 2023 (to be extended as necessary)

# **Establishment of the Emergency Management Measures Committee**

### [Cost measures]

In terms of expenses, the following measures will be implemented as both urgent measures and ongoing measures aimed at improving efficiency.

- (1) Reduction of executive compensation
  - Reduce compensation for full-time directors and executive officers by up to 10%
- (2) Curb Repair and maintenance costs
- Based on the premise of stable supply, curb repair work based on the results of facility deterioration diagnosis, etc. and extend the inspection cycle
- · Strengthening scrutiny of repair work details and costs even more than before
- (3) Digital Transformation
- Strongly promote "Okiden DX" by digitization of internal and external operations, and accelerate "Proactive streamlining"
- Streamlining business operations through remote monitoring of resident on-site response, etc.
- (4) Efficiency improvement through organizational optimization and centralization of operations
- Improved operational efficiency through consolidation of branches and sales offices and centralization of operations dispersed among offices
- (5) Others
- Reconsider implementation timing for less urgent system development, etc.
- · Consideration of reducing rent by reviewing the leased area of buildings

### [Profitability measures]

As a revenue measure, we will abolish the upper limit on fuel cost adjustment system for new customers of deregulated rates for extra-high-voltage and high-voltage customers from June this year.

# **Characteristics of the Business Bases**

Demand for Energy	<ul> <li>Increasing demand for energy due to population growth.</li> <li>As the proportion of energy for consumer use is high, effects of economic fluctuations are low for demand for Electric power.</li> <li>Potential demand due to large-scale urban development projects.</li> </ul>
Competition	<ul> <li>OEPC is outside the framework of wide-area power interchange because it has an isolated system.</li> <li>OEPC has voluntarily released power of 10,000kW supplied by J-Power.</li> <li>Competition is advancing due to the entry of energy suppliers.</li> <li>Biomass power plant by power producer and supplier has started operation.</li> </ul>
Electric Power Generation Facilities	<ul> <li>A high reserve supply capacity is required due to an isolated system.</li> <li>Reliant on fossil fuels only due to difficulties to develop nuclear or hydraulic power generation.</li> <li>Coal-fired thermal power generation is indispensable not only for stable supply but also for maintaining electricity rates.</li> </ul>
Remote Islands	<ul> <li>OEPC supplies power to 11 isolated systems including those in the main island.</li> <li>The region has a high cost structure because it has small islands and also because the scale of the economy is small. This leads to constant loss recording.</li> </ul>
Measures against global warming	<ul> <li>Currently, possible measures are limited due to reasons including the region's geographic characteristics and constraints on the scale of demand.</li> <li>The introduction of renewable energies contributes to reducing fuel consumption and cost on remote islands, where fuel unit price is high.</li> <li>Since the systems of Okinawa area are small and independent, the limit of connection volume is likely to occur when using renewable energies.</li> </ul>

This document includes statements concerning future results. Such statements are based on calculations and predictions and are neither definite nor guaranteed. Please be aware that future results may change in accordance with changes in assumptions related to the management environment and the like.

[Enquiries regarding this document]

Budget & Finance Group, Accounting & Finance Department Okinawa Electric Power Company, Inc.

TEL: +81-98-877-2341 FAX: +81-98-879-1317

Email: ir@okiden.co.jp