# **Management Reference Materials**

# November 2013



The Okinawa Electric Power Company, Inc.

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## **Characteristics of the Business Base**

## Advantage

		Reference page
Demand for Electric Power	<ul> <li>Increasing demand as population increasing</li> <li>As the proportion of energy for consumer use is high, the effects of business fluctuations are low</li> </ul>	2
Competition	<ul> <li>Severance from competition among electric power companies on account of its isolated system</li> <li>No competition with PPS (Power Producers and Suppliers)</li> <li>The advance of private power generation operations is limited (Prevention of demand withdrawals through Progressive Energy Corp , a subsidiary of OEPC.)</li> </ul>	3

## Disadvantage

		Reference page
Electric Power Generation Facilities	<ul> <li>Due to having an isolated system, it is necessary to have a high margin of power generation reserves</li> <li>Electrical power source composition reliant only on fossil fuels</li> </ul>	4~6
Fuel	<ul> <li>As fossil fuels are the only fuels used, high commodity prices exert a great influence</li> </ul>	7~9
Remote Islands	<ul> <li>With remote islands where cost efficiency is low, the Remote Islands Company constantly records losses</li> </ul>	10~11
The Environment	Dependent on fossil fuels with a high environmental burden	12



## **Demand for Electric Power**

# Stable growth is forecasted for demand for electric power, centering on increased demand for consumer use accompanying population increases.



Annual Average	Growth Rate	2001-2011	2011-2022	
Demand for	Consumer use	0.8(0.9)	1.3(1.3)	
Electric Power	Industrial use	0.9(0.8)	0.5(0.5)	
Tot	al	0.8(0.9)	1.1(1.2)	

Source: The Federation of Electric Power Companies of Japan

852.368

817,211

Note : Figures in brackets are post temperature correction.



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## **Competition with Private Power Generation Operations**

- The proportion of private power generation in Okinawa is 2%
- Progressive Energy Corp's share of private power generation in commercial use sectors is 41% (As of September 30, 2013)

### Trend in the Permitted Output of Private Power Generators



Trend in independent power generation (output and number of facilities)

	FY 2010	FY 2011	FY 2012	FY 2013.1st half
Switch to power purchase	-1MW	-1MW	-3MW	-4MW
	(-2Cases)	(-1Case)	(-3Cases)	(-2Cases)
Switch to independent power generation	7MW	3MW	2MW	0MW
	(3Cases)	(1Case)	(1Case)	(0Case)
Total	6MW	2MW	-1MW	-4MW
	(1Case)	(0Case)	(-2Case)	(-2Case)

\* Totalizing only continuously used power generators interconnected to the company's power grid.
 \* Excluding wind power, solar power and the company's facilities.



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# Status of market penetration by private power generators



# **Power Generation Facilities** (Reserve Capacity)

### **Generation Reserve Capacity**

#### Demand-supply balance of maximum electric power (August)

(Thousand kW、%)

	2012 【Result】	2013 【Result】	2017	2022
Peak Load	1,373	1,432	1,490	1,568
Supply Capacity	2,082	2,264	2,151	2,209
Reserve Capacity	709	832	661	641
Reserve Margin(%)	51.6	58.1	44.4	40.9

Note : Peak Load in FY2012 was generated in July.

- A high generation reserve margin is necessary for such reasons as the inability to exchange power with other electric power companies because of OEPC's isolated system and the responsibility to provide stable supply as a public utility.
- The power supply reserve is achieved by securing the equivalent reserve capacity of the largest single generator so that it is possible to provide stable supply even if the largest unit breaks down.

Although there are factors encouraging increased facility investment associated with the growth of electric power demand, OEPC is making efforts to suppress the level of facility investment and promote load leveling and the like, aiming at efficient facility formation.



# **Power Generation Facilities** (Power Supply Composition)

## **Power Supply Composition**

Power supply is dependent on oil and coal because of the difficulty of introducing hydro or nuclear power generation due to factors including geographic and topographical characteristics and constraints on the scale of demand.

Introducing LNG thermal power stations to diversify power supply sources Improving security for the stable supply of electric power

#### Electric Power Composition Ratio (Generating End)





## **Power Generation Facilities** (Yoshinoura LNG Thermal Power Plant)

- OEPC constructed its first LNG thermal power plant from the viewpoints of securing stable supply of electricity, increasing energy security, environmental measures and venturing into gas-related business.
- Generator No.1 started commercial operation in November 2012 and Generator No.2 started commercial operation in May 2013.



## Purpose of Construction

- Responses to steady increase of electricity demand in Okinawa
- **Diversification of fuels**  $\Rightarrow$  Improve energy security
- Environment measures  $\Rightarrow$  Reduce CO2 and avoid significant increase in environment related cost
- Development into gas supply business

With respect to wholesale supply of electricity to Okinawa Gas, details of a sales agreement are under discussion.

- OEPC is also conducting sales and marketing activities to customers such as plants and hotels to achieve further demand expansion.
- · Aim to start supplying in 2015.



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#### [Outline of the power plant construction plan]

Name	Yoshinoura Thermal Power Plant
Location	Nakagusuku-son, Okinawa Prefecture
Power generation capacity	251,000kW $\times$ 4 power generators
Fuel	Liquefied natural gas (LNG)
Storage facilities	140,000kl × 2 stations
heduled start f commercial operation	Generator No.1: November 27, 2012 Generator No.2: May 23, 2013 Generator No.3 & 4: In 2022 or thereafter
Fuel rocurement	Contractor: Osaka Gas Co., Ltd. Contract period: 27 years from FY2012 (main source of supply: Gorgon Project in Australia) Contracted quantity: About 400,000 t/year Terms of delivery: Delivery on ship's arrival (EX- Ship)



## **Fuel**

- Movements in fuel prices have a significant impact on OEPC's performance.
- The fuel oil price is assumed to remain flat with small ups and downs due to the combination of factors for increase such as geopolitical element and inflow of speculative money and factors for decline such as uncertain outlook for the global economy.
- The coal price is expected to level off or decline gradually in response to softening supply and demand balance.













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#### Achieving stable fuel supply and pursuing cost reductions

Measures of this fiscal year

- Achieving reduction of fuel costs through spot purchase in consideration of the crude oil market conditions and diversification of fuel oil supply sources.
- <<Coal>>

<<Fuel oil>>

- Achieving stable procurement and reduction of fuel costs by signing long-term contracts for coal and its shipping vessel.
- Achieving stable procurement and reduction of fuel costs through diversification of shipping port and shift to short-distance supply sources.
- Achieving stable procurement of coal and reduction of transportation costs by making the maximum use of competitively-priced consecutive voyage charter contract mainly with bulk coal carrier "SHINRYO MARU."
- Achieving service-life extension of ash treatment facilities and reduction of fuel costs by proactively using subbituminous coal that has low ash and sulfur contents and a low environmental burden and is lower in the total cost compared with bituminous coal.
   << LNG >>
- · Stable procurement through long-term LNG supply contracts.

## **The Fuel Cost Adjustment System**

#### Summary of the System

The fuel cost adjustment system was introduced for the purpose of clarifying the "internal factors" such as the results of efforts to promote management efficiency at electric power companies and reflecting "external factors" onto electricity rates such as exchange rates and oil and coal and LNG prices that alter the economic situation.

#### Range of fuel cost adjustment

- We will calculate the average fuel price based on the prices of crude oil, coal and LNG on the trade statistics during the period between five months and three months prior to the fuel cost adjustment, and electricity charge will be automatically adjusted each month by comparing the above price with the standard fuel price at the time of electricity rate revision.
- The maximum level of fuel cost adjustment will be 50%.
- There will be no lower adjustment limit.

#### Conceptual drawing of the fuel cost adjustment system





## **Trend of Average Fuel Price and Standard Fuel Price**

#### Trend of Average Fuel Price and Standard Fuel Price (Since July 2006)



Period for applying the Fuel cost adjustment system	12.Dec.	13.Jan.	13.Feb.	13.Mar.	13.Apr.	13.May	13.Jun.	13.Jul.	13.Aug.	13.Sep.	13.Oct.	13.Nov.
	12.Jul.	12.Aug.	12.Sep.	12.Oct.	12.Nov.	12.Dec.	13.Jan.	13.Feb.	13.Mar.	13.Apr.	13.May	13.Jun.
Period for estimating a fuel	~	~	~	~	~	~	~	~	~	~	~	~
price range	12.Sep.	12.Oct.	12.Nov.	12.Dec.	13.Jan.	13.Feb.	13.Mar.	13.Apr.	13.May	13.Jun.	13.Jul.	13.Aug.
Average Fuel Price (yen/kl)	24,000	24,200	24,600	25,000	25,500	26,600	27,900	28,600	28,900	28,600	28,200	27,900
Average Crude Oil Price(yen/kl)	52,519	54,040	56,241	57,651	59,038	61,612	64,981	66,888	67,390	66,534	65,774	65,706
Average Coal Price(yen/t)	10,039	9,906	9,833	9,800	10,011	10,439	10,836	11,041	11,177	11,125	10,984	10,702

[Method of calculating Average Fuel Price]

Average Fuel Price =  $A \times \alpha + B \times \beta$  A: Average crude oil price per kiloliter in each quarter B: Average coal price per ton in each quarter

× α and β are coefficients in Provisions of supply to calculate the average fuel price. (Reference α:0.2410, β:1.1282 Provisions of supply Sep. 2008 effective)



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# Improvement of Remote Island Income and Expenditure [1/2]

### Movements in Remote Island Revenue and Expenditure



Electricity Sales(FY2012) (Total : 7,313million kWh)



# Improvement of Remote Island Income and Expenditure [2/2]

- The region has a high cost structure because of such reasons as having small islands scattered about a vast sea area and the narrow scale of the economy.
- In order to construct a system enabling fast implementation of measures to improve inequalities in income and expenditure, a Remote Island Operations Division was launched in FY2001 and from FY2002, this was converted into the Remote Island Company.
- Establishing remote control system for power generation plants in Miyako and Ishigaki.
- Revising the procedures for regular inspections on electric power supply facilities.
- · Purchasing other companies' idle facilities and moving idle facilities of own company.
- Switching from A heavy oil to FCC-C heavy oil.
- Fuel costs are greatly increasing due to the recently soaring price of crude oil.

We work out new measures to stabilize supply and improve the balance of revenue and expenditure while pushing ahead with ongoing various measures

- Reducing fuel consumption by introducing renewable energies (Retractable wind-power generators, etc.).
- Effective utilization of waste oil. etc.



## Addressing the global warming issues

- Introducing hydro or nuclear power is difficult in Okinawa Prefecture due to reasons including the region's geological and geographic characteristics and constraints on the scale of demand
  - → Dependency on fossil fuels (oil, coal, etc.)
    - Introduction of LNG thermal power, which creates low CO<sub>2</sub> emissions (Yoshinoura Thermal Power Station)
    - Promotion of the introduction of new energy such as wind and solar power
    - Promotion of multi-fuel operation with biomass energy
    - Operation of small hydro power generation facilities
    - Efficient operation of thermal power plants
  - Equity participation in carbon funds taking advantage of the Kyoto Mechanism
  - Investment for CCS survey research
  - Promoting energy saving on the demand side (by offering EcoCute services, etc.)

(Reference) CO<sub>2</sub> emission coefficient of OEPC

	Unit	FY 1990	FY 2010	FY 2011	FY2012	Average of FY2010 – FY2012
Actual CO <sub>2</sub> emission coefficient	kg- CO₂	0.865	0.935	0.932	0.903	0.924
Adjusted CO <sub>2</sub> emission coefficient	∕kWh	_	0.692	0.692	0.692	0.692
Rate of change(compared with FY1990)	%	—	-20.0	-20.0	-20.0	-20.0



Company Efforts







## Okinawa's Economy

### **OThe current state of affairs**

1

Looking at the economy in Okinawa, consumer spending and tourist-related business are robust. In addition, construction-related business remains brisk both for public works and private works. As a result, the economy on the whole is expanding in the region.

### **OProspects**

As for the outlook of the economy in Okinawa, there will be a surge in demand for consumer spending and housing investment, etc. before the consumption tax goes up, and the number of tourists is expected to increase as a result of opening of the New Ishigaki Airport and on the back of pulling power of LCCs. In addition, projects will be carried out by using lump-sum subsidies for Okinawa development, etc. As a result, the economy in Okinawa is forecast to continue expanding.

				(%)
Indiactora		FY2013		
indicators	1st Half	2nd Half	Total	1st Half
Sales by large-scale retailers	2	12	7	16
No. of new car sold	37	0	17	6
Wholesale shipments of household appliance	-15	2	-8	20
New residential construction starts	10	24	16	21
Value of public works contracts	15	24	19	9
No. of Inbound tourists	9	6	7	13
Total unemployment rate	-0	-1	-1	-1
Value of corporate failures	-67	315	49	76

Trends in Main Economic Indicators (Rates of Growth)

Note 1: The figures for 'Sales by large-scale retailers' are calculated from the values given in preliminary figures for February 2013 on an all-store base.

Note 2: The figures for 'Wholesale shipments of household appliance' are an estimate.

Note 3: The figures for 'Total unemployment rates' are raw data, and points of change of Year-on-Year are listed.

Source: Okinawa General Bureau, Okinawa Prefecture, Ryugin Research Institute, and others.



### Annual Average Growth Rate of GDP

- The average annual growth rate of GDP in Okinawa was about 1.9%, which is higher than the average growth rate nationwide of about 0.8%, for the period of the Okinawa Promotion Plan (from FY2002 to FY2011) on the strength of the measures implemented based on the plan (ended at the end of FY2011).
- The economy of Okinawa Prefecture is expected to grow steadily due to implementation of various measures based on the "Okinawa 21st Century Vision Plan (Okinawa Promotion Plan)" that started in FY2012.

#### Annual Average Growth Rate of GDP

2

	FY2002	FY2011	Annual Average Growth Rate FY2002-Y2011
Prefectural	3,470.0	4,099.8	Approx. 1.9%
GDP	billion yen	billion yen	
National	479,870.8	513,689.0	Approx. 0.8%
GDP	billion yen	billion yen	

Sources: Okinawa prefecture

Economic and Social Research Institute, Cabinet Office Figures for FY2011 are estimates.

#### The Okinawa 21st Century Vision Basic Plan (Okinawa promotional plan)

"The Okinawa 21st Century Vision Basic Plan (Okinawa promotional plan)" was formulated in May 2012 under the initiative of Okinawa Prefecture to replace the Okinawa Promotional Plan which expired as of the end of FY2011.

Through the implementation of various measures that are developed based on the Okinawa 21st Century Vision Basic Plan to take advantage of regional characteristics of Okinawa Prefecture, gross production in Okinawa in FY2020 is estimated to increase about 1.4 times compared with that in FY2010 to 5,100 billion yen.



3

#### **Population and Household Growth in Excess of Nationwide Growth**

- While nationwide (excluding Okinawa) is expected to decrease by 0.34% annually on average from FY 2012 to FY 2020, the population in Okinawa is expected to continue to increase though slightly with the growth rate of 0.07%.
- Okinawa is expected to reach its population peak between 2020 and 2025.





Due to the stability growth of household numbers in association with the increasing population, residential demand increases are expected.



Growth of Population (Excluding Okinawa)

## **Okinawa Prefecture Demographics**

- The population of Okinawa Prefecture in FY2012 is on a favorable trend, with the number of natural population growth per 1,000 people being 4.8 persons, which is the highest nationwide, and the number of social population growth per 1,000 people being 0.9 persons, which is the fourth highest nationwide.
- Consequently, growth of population in the prefecture significantly exceeds the national average of -2.2 person, with 5.6 persons per 1,000 people.

Trend in the Social Increase of population



Trend in the Natural Increase of population

4

Source: Bureau of Statistics, Ministry of Internal Affairs and Communications Note: Natural increase of population = Births – Deaths The figures in brackets in the chart show Okinawa Prefecture's national ranking.



Source: Bureau of Statistics, Ministry of Internal Affairs and Communications Note: Social increase of population = Incoming population – Outgoing population The figures in brackets in the chart show Okinawa Prefecture's national ranking.





Source: Bureau of Statistics, Ministry of Internal Affairs and Communications Note: Population increase = natural increase in population + increase/decrease of population in the society The figures in brackets in the chart show Okinawa Prefecture's national ranking.



#### Trends in the Number of Incoming Tourists and Guest Rooms at Accommodation Facilities

FY2012Result for incoming tourists: 5.92million people(7.2% in the previous year's figure)
 The target figures for 2013 are 6.3 million incoming tourists



With the number of tourism related facilities (hotels, etc.) increasing in association with increased

numbers of incoming tourists, increases are forecast for demand for commercial use electricity.

① FY2012 Results
 Incoming Tourists 5.92million

(Including Tourists from foreign countries 0.38million)

7.2% growth rate (YoY)

The number of domestic tourists remained robust due to factors such as an increase in individual tourists as a result of start of service of LCCs and an increase in groups of tourists from corporations. The total number of foreign tourists increased 7.2% year-on-year due to factors such as expansion of air service routes to Okinawa and an increase in frequency of port call of cruise ships.

2 FY2013

Visit Okinawa Plan

Incoming Tourists 6.30million

(Including Tourists from foreign countries 0.50million)

Tourist Income 474.0billion Yen



5

# 6 Trend in U.S. Base Related Income



(Unit: billion yen、%)

											yon, 707
	1972	1977	1982	1987	1992	1997	2002	2007	2008	2009	2010
Base Related Income (Charges for Land Occupied by US Armed Forces) (A)	77.7	100.6	134.6	128.2	156.3	184.0	203.3	206.7	204.2	205.6	208.6
Prefectural Aggregate Income(B)	501.3	1,163.1	1,822.6	2516.5	3,192.9	3,570.0	3,803.5	3,930.6	3,892.6	3,949.9	3,949.0
Level of Dependence on Bases(A/B)	15.5	8.6	7.4	5.1	4.9	5.2	5.3	5.3	5.2	5.2	5.3

U.S. Base related income has become an income source that supports the Okinawa economy.
 However, the level of dependence on the bases has been falling year on year as the prefectural economy expands, and it had fallen to 5.3% in FY2010 from the 15.5% share at the time Okinawa was returned to Japan (1972).

Source: Okinawa Prefecture



## **Reference : Main Economic Indicators**

#### Trends in Main Economic Indicators (Year-on-Year Comparison)

							FY2012	2								r	FY2013	,		
Indicators	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	total	Apr.	May.	Jun.	Jul.	Aug.	Sep.	1st Half
Sales by large-scale retailers	5	5	-3	-5	1	9	9	15	11	10	11	18	7	9	13	20	18	20	-	16
No.of new car sold	86	73	53	32	5	3	-1	4	3	-6	3	-1	17	13	1	8	-4	6	17	6
Sales of household appliance (Wholesale base)	-11	-6	-27	-21	-18	-5	-1	-14	-3	-8	7	28	-8	1	23	26	18	43	11	20
New residential constraction starts	-37	103	-17	46	15	29	20	12	4	9	63	51	16	-2	-23	12	32	29	72	21
Value of public works contracts	-34	47	34	28	17	10	41	2	20	54	70	-4	19	78	5	29	39	-13	-28	9
No.of Inbound tourists	28	14	9	10	2	-2	1	10	4	6	7	7	7	10	10	15	6	16	20	13
Total unemployment rete	2	1	-1	-2	-1	0	-0	-1	-1	-1	-2	-1	-1	-2	-2	-2	1	0	-1	-1
Value of corporate failures	4	-42	-79	-73	-40	-84	50	-42	44	4,116	63	-75	49	271	-17	538	-34	28	68	76

Note 1: The figures for 'Sales by large-scale retailers' are calculated from the values given in preliminary figures for February 2013 on an all-store base.

Note 2: The figures for 'Wholesale shipments of household appliance' are an estimate.

Note 3: The figures for 'Total unemployment rates' are raw data, and points of change of Year-on-Year are listed.

Source: Okinawa General Bureau, Okinawa Prefecture, Ryugin Research Institute, and others.



(Unit : %)

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## Q2. What is the Current State of U.S. Military Bases ?



%Range in figures due to planned return of facilities includes partial return.

	No. of Facilities	33
	Area	232km <sup>2</sup>
lel*	On Base	33,511
sonr	Off Base	16,524
Per	Total	50,035

\*The figures for No. of Facilities and Area are as of the end of March 2012. The figures for personnel are as of the end of March 2012.

Reference: No. of army employees: 8,771 \*As of the end of December 2012

Source:

Japan Ministry of Defense

Military Base Áffairs Division, Executive Office of the Governor, Okinawa Prefecture Labor Management Organization for USFJ Employees

## J

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#### <Ratio of demand from US military forces in Japan>

The US military forces accounted for about 9% of the total electricity demand and about 7% of revenue in the actual results for FY2012.

#### <The circumstances of realignment of the US military forces in Japan>

- On May 1, 2006, the Security Consultative Committee agreed on the US military forces realignment plan and clarified the facilities to be returned to Okinawa.
- After the change of government in September 2009, two or more relocation plans for Marine Corps Air Station Futenma were studied. However, a US-Japan joint statement was released to confirm relocation to Henoko.
- On April 27, 2012, the Japanese and US governments released a joint statement on review of realignment plan for the US military forces in Japan. In this statement, the governments agreed on overseas relocation of the US Marines in Okinawa and accompanying return of five military facilities and the military zone south of the Kadena Air Base, taking a new approach of delinking relocation of Air Station Futenma.
- On March 22, 2013, the Japanese government submitted an application for approval of public water body reclamation for relocation of Futenma Air Station to Henoko. On April 5 of that year, the Japanese and US governments reached a final agreement on a plan to return/integrate six facilities/zones south of Kadena including Futenma Air Station, showing the timing of return. However, the agreement was largely contingent on relocation of functions to other facilities or construction of alternative facilities, and uncertainty remains in timing of the return. Given the circumstances, the outlook of return of the air station is still unclear.

If the US military facilities are returned, demand is expected to decrease temporarily. However, demand will subsequently increase on the strength of revitalization of the local economy following redevelopment of the US military facilities site.

# Q3. What are the Effects of Liberalization of Electric Power and What is the Future Forecast for Liberalization?

- While liberalization of electricity retailing has been pursued in four steps in the electricity business system reform, the scope of liberalization of OEPC's electricity retailing has been limited compared with that for other electric power companies.
- In April 2013, "Reform Policy for Electricity System" was endorsed by the Cabinet, and the direction to implement full-scale liberalization of the electricity retail market by 2016 was presented. The policy describes, with respect to Okinawa, that "The electricity system will take into account peculiarities of the area", and details will be discussed at the Institutional Design Working Group of the Electricity Systems Reform Subcommittee, the Fundamental Issues Subcommittee, the Advisory Committee for Natural Resources and Energy.
- Electricity System Reform Committee's Report of February 2013" states that "Okinawa will fully liberalize the electricity retail market in principle as well as other regions" and the details will be discussed.





## **Q4. What are the Special Tax Measures?**

#### **Currently Applied Special Tax Measures**

#### **1. Alleviation of Fixed Property Tax**

- Basic Law: Supplementary Provisions of the Local Tax Law (Article 15.5)
- Details: Alleviation to 2/3 of the Standard Tax Rate
- Period: April 1, 1982 March 31, 2015 (Extended for 3 years from April 1, 2012)

#### 2. Exemption from the Oil and Coal Tax

- Basic Law: Special Measures Law for the Promotion of Okinawa (Article 65.2), Special Taxation Measures Law (Article 90.4.3.1)
- Details: ① Exemption from the Oil and Coal Tax for coal ② Exemption from the Oil and Coal Tax for LNG
- Period: ① October 1, 2003 –March 31, 2015 (Extended for 3 years from April 1, 2012) ② April 1, 2012 –March 31, 2015
  - (Newly added starting on April 1, 2012)

#### **%** Alleviation of Business Tax was abolished

#### on May 15,2007

- Details : Standard Tax Rate: 1.1%
  - (Standard Tax Rate for Electric Utilities: 1.3%)
- Period : December 31, 1971 May 14, 2007

#### **Need for Special treatment**

Special treatment is necessary for industrial development and improving the living standards of people in Okinawa Prefecture given that there has been no changes to the conditions of remote islands such as bearing of deficit arising from structural disadvantage.

#### Revision of the Act on the Special Measures for the Promotion and Development of Okinawa

- The Act on the Special Measures for the Promotion and Development of Okinawa was revised in March 2012, and the revised law came into effect on April 1, 2012.
- In addition to the extension of the applicable period of special tax measures applied to the Company up until now (property tax relief measures, exemption of petroleum and coal tax relating to coal), the Company has become exempted from petroleum and coal tax relating to LNG.

#### Value of Tax Alleviation Due to the Special Measures

- The value of the alleviation measures in FY2012 was about 2.4 billion yen.
- The value of the alleviation measures for FY2013 is expected to be 3.3 billion yen.

# The amount of reduction based on the special measures is being returned to customers through electricity charge.



## Q5. What is the Current State of the Promotion of All-Electric Houses?

#### 1. Sales target for FY2013 ⇒ All-Electric Houses 5,300 (17.20 million kWh)

#### 2. Approach for the promotion and diffusion.

- ① Launching of effective promotion activities to facilitate penetration of all electrification housing brand.
- ② Expansion of sales activity in cooperation with sub-users.
- ③ Strengthening of sales activity to collective housing and existing homes.
- (4) Promotion of sales activities for electrification based on widespread use of solar power





## Q6.What is the Current State of the New Demand Creation Through the Promotion of Commercial Electrification Equipment ?

1. Sales target (in total of three years from FY2013 to FY2015): 32 million kWh

#### 2. Actual sales results (September 2013): 11.89 million kWh

- \* Electrification system (electric air-conditioning system including heat storage, electrified kitchen and electrified water heater)
- 3. Approach for the promotion and diffusion.
  - ① Implementation of electrification proposal activities suitable for the power usage of customers.
  - 2 Promotion of heat pump equipment (air-conditioning and water heaters)
  - ③ Expansion of sales activity in cooperation with sub-users.
- Sales target (in total of three years from FY2013 to FY2015): 32 million kWh
   The amount of electricity actually sold for commercial electrical equipment (September 2013): 11.89 million kWh





## Q7.What is the Past Trend of Ordinary Income and What is the Forecast for this Fiscal Year ?



25

# Q8.What are the trends of the Capital Expenditure and Free Cash Flows?

(billion yen)





# Q9.What is the Status of Wind and Solar Power Electricity Generation Facilities?

#### List of OEPC Group's New Energy Facilities



- OEPC Group has new energy facilities with total output of 22,823kW (wind power: 17,105 kW, solar power: 5,718 kW)
- Introducing Plan of New Energy Facilities.
  - ✓ Ogimi wind power plant (2,000 kW class × 2, start in FY2013)
  - ✓ Aguni retractable wind power (245kW, start in FY2014)



lejima wind Power (2Power Plants) : 1,200kW

## **Q10.What is a retractable wind-power generator?**

#### ■ Overview of retractable wind-power generator

Place	Hateruma/Minamidaito Island(2 Plants each)
Manufacturer/country of manufacture	Vergnet/France
Rated power output	245kW
Wind speed for power rating/start-up/stoppage	13m/s, 4m/s, 20m/s
Number of blade	Тwo
Diameter of blade	32m
Height of hub	38m



#### Advantages

- Wind-power generator can be folded nearly 90 degrees so that damages by big wind in typhoon can be avoided by folding it.
- Large-size cranes are not needed to construct the wind-power generator to enable construction in hilly areas.
- Wind-power generator is retractable, making it possible to perform maintenance on the ground.
- > Wind-power generator is supported by wires.





# Q11.What is the New Energy verification studies for the Remote Island Independent System?

#### Purpose

- Grasping the impact on the actual system of introducing large-scale photovoltaic power generation to four remote islands with systems different in size.
- Analyzing the operating data of photovoltaic power generation systems and capacitor to verify the system stabilization method for remote island independent systems.



Place	Miyako Island	Tarama Island	Yonaguni Island	Kitadaito Island
Maximum demand for electricity	About 50,000kW	About 1,160kW	About 2,160kW	About 860kW
Existing internal-combustion power	74,000kW	1,860kW	3,410kW	1,540kW
Existing new energy facilities	Solar Power 18kW Wind Power 4,200kW	_	Wind Power 1,200kW	Solar Power 40kW
Newly-established solar power generation facilities	4,000kW	250kW	150kW	100kW
Newly-established capacitor	NaS* 4,000kW LiB* 100kW	LiC* 250kW	LiC* 150kW	LiC* 100kW
Introduction ratio of Newly-solar power	8%	22%	7%	12%
Facility utilization rate(FY2012)	About 6%	About 13%	About 11%	About 13%





\* NaS : Sodium-sulfur battery LiB : Lithium-ion battery





The Okinawa Electric Power Company, Inc.

# Q12.How do Current Electricity Rates Compare to Rates at Other Companies?

While the detailed comparison of electricity rates is not available due to limited amount of reported data, the following is the comparison of electricity rates for the main supply contracts.

Model Unit Rates for All Companies

(As of November 2013, inclu	(As of November 2013, including fuel cost adjustments, consumption taxes, Renewable Energy Power Promotion Surcharge, and PV Surcharge)										
	OEPC	Co. A	Co. B	Co. C	Co. D	Co. E	Co. F	Co. G	Co. H	Co. I	
Metered Residential	26.84	27.03	26.49	27.40	25.12	22.51	25.53	25.15	24.76	23.85	
	8	9	$\bigcirc$	10	4	1	6	5	3	2	
Model Basic Unit 300											
Commercial Use Electricity	00.07	20.02	00.00	22 50	40.05	10.00	04.40	20.04	40.07	10.00	
(High Voltage)	22.21	20.83	22.38	23.59	19.95	10.80	21.43	20.04	19.97	19.69	
Model Basic Unit 250 (Power Factor 100%)	8	6	9	10	3	1	$\bigcirc$	5	4	2	
High-voltage Power A	20.06	19.74	20.83	22.02	19.45	16.13	20.63	18.90	20.08	19.22	
Model Basic Unit 250 (Power Factor 100%)	6	5	9	10	4	1	8	2	Ī	3	

Note: The circled numbers indicate price level rankings (higher numbers indicate more expensive rates).



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# Q13. Recent changes in standard household electricity charges

**O** Recent changes in standard household electric charges



※ 300kWh/Month ※ Renewable Energy Power Promotion Surcharge and PV Surcharge is included in electricity charges



# Q14. What is the feed-in tariff system of renewable energies?

- The feed-in tariff system of renewable energies was enforced in July 2012
- In this scheme, electric utilities are obliged to purchase electricity generated from renewable energy sources at a fixed price for a specified period set by the government, and purchase cost of electricity will be paid by electricity customers as surcharge together with electricity charge.



## Q15. What are the CO<sub>2</sub> Emission Volumes by Fuel Type?

LNG (Liquefied Natural Gas) produces less carbon dioxide, a major cause of global warming, than coal or oil.

Chart: Comparison of CO<sub>2</sub> Emission Volumes by Fuel Type

Fuel Type	CO <sub>2</sub> Emission Volume Per Unit Heat Value [g-CO <sub>2</sub> /MJ] *1	vs.Coal	vs.Oil *3	CO <sub>2</sub> Emission Volume Per kWh [kg-CO <sub>2</sub> /kWh] *2	vs.Coal	vs.Oil *3
Coal	90.6	1.00	1.27	0.84	1.00	1.24
C Heavy Oil	71.5	0.79	1.00	0.68	0.81	1.00
LNG	49.5	0.55	0.69	0.35	0.42	0.51

- \*1 The values from the Law Concerning the Promotion of the Measures to Cope with Global Warming were used as the CO<sub>2</sub> emission factors to calculate g-CO<sub>2</sub>/MJ.
- \*2 Thermal Efficiency at Generation End of 39%, 38% and 51% were assumed for coal, oil and LNG respectively in calculations.
- \*3 Oil comparisons were based on type C heavy oil.



## Q16. What is the Current State of the Progress of Discussion in the Gas Supply Business ?

# Positioning of Gas Supply Business (as an all-round energy company)

The entry into the gas supply business with the introduction of LNG will contribute to expansion of the business domain of the Group through the entry into the thermal demand field. In addition, it will become a major turning point for operating the total energy business, which the Group positions at its core. Moreover, the Group will be able to make a contribution to the improvement of the energy environment in Okinawa prefecture by supplying LNG, which is superior energy from the environmental and safety viewpoints.

### **Current Efforts**

With respect to wholesale supply of electricity to Okinawa Gas, a general gas utility, OEPC and Okinawa Gas reached an agreement on basic issues such as the supply scheme and supply amount, and details are discussed toward the conclusion of a sales agreement. OEPC is also conducting sales and marketing activities to customers such as plants and hotels to achieve further demand expansion.

OEPC started constructing a gas distribution plant within Yoshinoura Thermal Power Plant for stable supply of LNG.

To start supplying in 2015, intensive efforts are being made.

#### Current status of the gas business in Okinawa (Conversion of heat consumed in FY2012)



Source : Agency for Natural Resources and Energy website, Japan LP Gas Association website, Okinawa Gas

[Reference: Corporate profile of Okinawa Gas]
Date of foundation : July 22, 1958.
Capital : JPY 250,222,000
Sales : JPY 7.3bn (2012)
Supply area : Most of Naha city, A part of Urasoe
city, Tomishiro city, Haebaru town,
Nishihara town, Nakagusuku village
No. of customers: General gas: approx.54,000 units
LP gas: approx.17,000units



# Q17. What is the Current State of the Disaster Prevention Measures ?

We have ever been addressing the removal of causes of disasters and the improvement of disaster resistant environment on a day-to-day basis in order to prevent our power facilities from accidents and to recover the damages that occurred promptly. Based on the enormous damages caused by the Great East Japan Earthquake occurred on March 11, we need to enhance disaster contingency planning by recognizing the importance of our mission, "stable supply of electric power," more than ever.

We are proceeding with practical and organizational revalidation in order to make disaster recovery complete assuming various situations as well as to aim at reviewing disaster contingency planning related to our facilities, etc. against large-scale disasters.

#### (1) Setting up of the Emergency Response Inspection Committee

In March 2011, we set up the Emergency Response Inspection Committee chaired by President, and established working groups which were organized for each relevant department as subordinate organization. We have had total of thirteen committee meetings so far to verify disaster countermeasures and recovery scenarios, as well as administrative support, for electric power systems from the viewpoint of business continuity, and we are implementing necessary measures.

#### (2) Countermeasures against typhoons

Following occurrence of the large-scale, long-lasting blackout caused by the season's 17<sup>th</sup> typhoon last year, we set up a panel for early elimination of obstacles to electricity supply caused by typhoon under the Emergency Response Inspection Committee, and put together countermeasures. The main measures against typhoon are as follows:

- We have already taken measures for preventing entanglement of flying objects to utility poles and electric wires and contact between trees and electric wires, which are the main cause of blackouts, by reinforcing utility poles to prevent their consecutive falls by attaching support poles and stay wires and by strengthening electric wires by replacing the existing electric wires with antifriction wires, low wind pressure wires and high pressure drop cable. In addition, we will pursue expansion of simple type remote controlled switch, which will reduce the blackout area at the time of typhoon by operating it along with the distribution automation system.
- We will also conduct a study toward improving the method of facility inspection to identify the cause of blackout after typhoon for recovering from power outage early, and work to reduce flying objects and cut trees in cooperation with local governments, etc.

#### (3) Reflecting to comprehensive disaster-preparedness drill for FY2013

As with last year, we conducted a drill in which disaster scenarios are not provided beforehand, in addition to the field drill which we have carried out previously and drills in which the result of review in the Emergency Response Inspection Committee is reflected.

#### (4) Future schedule

Based on the new hazard map released by Okinawa Prefectural Government in March 2013, we plan to review the existing disaster countermeasures and confirm how we should proceed hereafter, and we will take appropriate actions successively.



## **Change in Okinawa Electric Power's Stock Price**

Change in Stock Price (January 4, 2013~September 30, 2013)

	Okinawa Electric Power	Average of 9 Other Power Companies	Nikkei Average
Stock price on January 4, 2013	¥2,808	¥1,053	¥10,688
All-time high	¥4,060 as of June 12, 2013(+44.6%)	¥1,468 as of July 17, 2013(+39.4%)	¥15,627 as of May 22, 2013(+46.2%)
All-time low	¥2,692 as of February 13, 2013(-4.1%)	¥830 as of February 13, 2013(-21.8%)	¥10,487 as of January 23, 2013(-1.9%)
Latest stock price Closing quotation (September 30, 2013)	¥3,390(+20.7%)	¥1,312(+24.6%)	¥14,456(+35.2%)









# **Earnings Per Share and Payout Ratio**

#### Earnings per Share and Payout Ratio (Non-consolidated)

FY		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Net Income	Million yen	5,594	7,591	9,163	6,398	6,590	3,635	7,293	6,872	5,050	3,098
Earnings per Share	Yen	363.37	494.77	571.05	402.25	376.84	207.89	417.26	393.36	289.08	177.35
Dividend per Share	Yen	60	60	60	60	60	60	60	60	60	60
Payout Ratio	%	16.5	12.1	10.5	14.9	15.9	28.9	14.4	15.3	20.8	33.8

Date	lssued number of shares of common stock	
1992.02.10	14,728,132	Listed
1995.11.20	14,875,413	Split 1 : 1.01
1999.05.25	15,172,921	Split 1 : 1.02
2005.05.20	15,931,567	Split 1 : 1.05
2007.04.01	17,524,723	Split 1 : 1.10



## Reference

- <u>http://www.okiden.co.jp/english/index.html</u> (The Okinawa Electric Power Company Incorporated)
- <u>http://www.pref.okinawa.jp/english/index.html</u> (Okinawa Prefecture)
- <u>http://www.fepc.or.jp/english/index.html</u> (The Federation of Electric Power Companies of Japan)
- <u>http://criepi.denken.or.jp/en/</u> (Central Research Institute of Electric Power Industry)





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.

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