Investors Meeting
2nd Quarter FY2018

October, 2018
INDEX

01 | Outline of Financial Results for Six-Months ended September 30, 2018

- Summary of Financial Results .................................................. 01
- Electrical Energy Sold .............................................................. 04
- Electrical Power Supplied and Principal Figures ....................... 05
- (Reference) Impact of Accrued Income Incurred by Fuel Cost Adjustment System (Result) .......... 06
- Dividends ................................................................................. 07
- Summary of Forecast for FY2018 ............................................... 08
- (Reference) Impact of Accrued Income Incurred by Fuel Cost Adjustment System in FY2018(Forecast) ............... 10

02 | Management Situation

- Initiatives to Address Management Challenges and Toward Realization of Our “Vision” ......................... 11
- Transition to a Business Model with Unbundling of Each Sector ................................................................. 12
- Improving Safety Further at Hamaoka Nuclear Power Plant ................................................................. 13
- Stable Power Supply for a New Age ........................................ 15
- Strengthening Our Business Base for Growth and Achieving Sustainable Growth ................................. 16
- Establishing a Business Structure/Management Base that can Respond Instantly to Environmental Changes ............. 22

03 | Reference Data (1) : Financial Results

- (2) : Management Information ................................................... 24
Outline of Financial Results for Six-Months ended September 30, 2018

Note: The company’s fiscal year (FY) is from April 1 to March 31 of the following year. FY2018 represents the fiscal year begun on April 1, 2018, and ending on March 31, 2019. 2nd Quarter(2Q) represents six months period ended September 30, 2018. Monetary amounts are rounded down to the nearest whole number of the units being used, while principal figures like electrical energy sold or electric power supplied are rounded to the nearest unit.
### Points of Financial Results

- **Consolidated operating revenues**: 1,487.4 billion yen
  Operating revenues increased by 94.1 billion yen compared with 2017/2Q, mainly due to an increase in surcharge and grant based on Act on Special Measures Concerning Procurement of Electricity from Renewable Energy Sources by Electricity Utilities (+24.7 billion yen), in addition to an increase in fuel cost adjustment charge (+47.3 billion yen), in spite of a decrease in electrical energy sold (-10.5 billion yen).

- **Consolidated ordinary income**: 94.2 billion yen
  Ordinary income increased by 6.8 billion yen compared with 2017/2Q, mainly due to a decrease in fuel cost by an increase in hydroelectric power generated (+11.0 billion yen) and an increase in electrical energy sold to other companies (+9.0 billion yen), in addition to the improvement of the efficiency (+20.0 billion yen), in spite of expansion of time lag loss (-25.0 billion yen) and a decrease in electrical energy sold (-7.0 billion yen). Further, consolidated ordinary income excluding the effect of time lag is approx. 132.0 billion yen (increased by 32.0 billion yen compared with 2017/2Q).

### [Consolidated]

<table>
<thead>
<tr>
<th></th>
<th>2018/2Q (A)</th>
<th>2017/2Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating revenues</td>
<td>1,487.4</td>
<td>1,393.3</td>
<td>94.1</td>
<td>6.8</td>
</tr>
<tr>
<td>Operating income</td>
<td>94.8</td>
<td>96.9</td>
<td>(2.1)</td>
<td>(2.2)</td>
</tr>
<tr>
<td>Ordinary income</td>
<td>94.2</td>
<td>87.3</td>
<td>6.8</td>
<td>7.8</td>
</tr>
<tr>
<td>Net income attributable to owners of parent</td>
<td>66.5</td>
<td>62.1</td>
<td>4.3</td>
<td>7.0</td>
</tr>
</tbody>
</table>

*The number of consolidated subsidiaries [change from the same period of the previous year in parenthesis]*
- 2018/2Q: 34 subsidiaries (+3 companies), 34 affiliates accounted for under the equity method (+8 companies)

### [Nonconsolidated]

<table>
<thead>
<tr>
<th></th>
<th>2018/2Q (A)</th>
<th>2017/2Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating revenues</td>
<td>1,354.6</td>
<td>1,280.0</td>
<td>74.6</td>
<td>5.8</td>
</tr>
<tr>
<td>Operating income</td>
<td>85.8</td>
<td>88.5</td>
<td>(2.6)</td>
<td>(3.0)</td>
</tr>
<tr>
<td>Ordinary income</td>
<td>82.5</td>
<td>78.2</td>
<td>4.2</td>
<td>5.5</td>
</tr>
<tr>
<td>Net income</td>
<td>59.2</td>
<td>57.1</td>
<td>2.0</td>
<td>3.6</td>
</tr>
</tbody>
</table>
[Factors contributing to change in consolidated operating revenues]

- A decrease in electrical energy sold: -10.5 (Billion yen)
- An increase in fuel cost adjustment charge: 47.3 (Billion yen)
- An increase in surcharge and grant under act on purchase of renewable energy sourced electricity: 24.7 (Billion yen)
- An increase in electrical energy sold to other companies: +17.3
- An increase in revenues of affiliates: +19.5, etc.
- An increase in surcharge: +12.8
- An increase in grant: +11.8
- Others: 32.6 (Billion yen)

2017/2Q Operating Revenues: 1,393.3 (Billion yen)
2018/2Q Operating Revenues: 1,487.4 (Billion yen)
[Factors contributing to change in consolidated ordinary income]

- An increase in electrical energy sold to other companies (+9.0, etc.)
- Improvement of the efficiency related to the fuel cost (+17.0)
- Improvement of the efficiency in the basement cost (+3.0)
- An increase in hydroelectric power generated (7.8)
- Others (11.0)

A decrease in electrical energy sold (-7.0)

An increase in income excluding the effect of time lag (approx. +32.0)

2017/2Q Ordinary Income: approx. 100.0 (excluding time lag)
2018/2Q Ordinary Income: approx. 132.0 (excluding time lag)
**<Electrical Energy Sold> (Nonconsolidated)**

- **Dropped by 0.5TWh to 59.4TWh**, compared with 2017/2Q, mainly due to an effect of switches made to other operators, in spite of an increase in air conditioning demand by higher temperature in this summer compared with the previous year and an increase in production of the semiconductor industry, in addition to a sales increase outside Chubu region.

<table>
<thead>
<tr>
<th>Electrical Energy Sold</th>
<th>2018/2Q (A)</th>
<th>2017/2Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low voltage</td>
<td>17.4</td>
<td>17.8</td>
<td>(0.5)</td>
<td>(2.5)</td>
</tr>
<tr>
<td>High voltage Extra-high voltage</td>
<td>42.0</td>
<td>42.1</td>
<td>(0.1)</td>
<td>(0.2)</td>
</tr>
<tr>
<td>Total</td>
<td>59.4</td>
<td>59.9</td>
<td>(0.5)</td>
<td>(0.9)</td>
</tr>
</tbody>
</table>

[Reference(1)]

Electrical Energy Sold including group companies (*)

<table>
<thead>
<tr>
<th></th>
<th>2018/2Q (A)</th>
<th>2017/2Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>61.9</td>
<td>61.8</td>
<td>0.1</td>
<td>0.1</td>
</tr>
</tbody>
</table>

* The sum of the company, consolidated subsidiaries, and affiliates accounted for under the equity method.

[Reference(2)]

Electrical Energy Sold to other companies (*)

<table>
<thead>
<tr>
<th></th>
<th>2018/2Q (A)</th>
<th>2017/2Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5.0</td>
<td>3.4</td>
<td>1.6</td>
<td>46.9</td>
</tr>
</tbody>
</table>

* Electrical Energy Sold to other electric utilities represents wholesale volume in the electric power supplied.
## Electric Power Supplied and Principal Figures

### <Electric Power Supplied> (Nonconsolidated)

- **Hydro**: The flow rate was higher than 2017/2Q; thus hydroelectric power output increased by 1.1 TWh.
- **Wholesale**: Increased by 1.6 TWh, mainly due to an increase in wholesale volume.
- **Purchased power**: Increased by 1.5 TWh, mainly due to an increase in purchase of renewable energy.
- **Thermal**: As a result of decrease in electrical energy sold and above, thermal power output decreased by 1.2 TWh.

<table>
<thead>
<tr>
<th></th>
<th>2018/2Q (A)</th>
<th>2017/2Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hydro</strong></td>
<td>5.8</td>
<td>4.7</td>
<td>1.1</td>
<td>23.4</td>
</tr>
<tr>
<td><strong>Thermal</strong></td>
<td>50.1</td>
<td>51.3</td>
<td>(1.2)</td>
<td>(2.3)</td>
</tr>
<tr>
<td><strong>Nuclear</strong></td>
<td>(0.1)</td>
<td>(0.1)</td>
<td>(0.0)</td>
<td>5.3</td>
</tr>
<tr>
<td><strong>Renewable energy</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>138.0</td>
</tr>
<tr>
<td><strong>Wholesale</strong></td>
<td>(5.0)</td>
<td>(3.4)</td>
<td>(1.6)</td>
<td>46.9</td>
</tr>
<tr>
<td><strong>Purchased power</strong></td>
<td>11.2</td>
<td>9.7</td>
<td>1.5</td>
<td>14.9</td>
</tr>
<tr>
<td><strong>Power used for pumped storage</strong></td>
<td>(0.4)</td>
<td>(0.7)</td>
<td>0.3</td>
<td>(39.0)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>61.5</td>
<td>61.5</td>
<td>0.0</td>
<td>0.1</td>
</tr>
</tbody>
</table>

* Externally generated represent power output that we grasp at the end of the 2018/2Q.

### Principal Figures

<table>
<thead>
<tr>
<th></th>
<th>2018/2Q (A)</th>
<th>2017/2Q (B)</th>
<th>Change (A-B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIF price: crude oil</td>
<td>73.4</td>
<td>51.4</td>
<td>22.0</td>
</tr>
<tr>
<td>FX rate (interbank)</td>
<td>110.3</td>
<td>111.1</td>
<td>(0.8)</td>
</tr>
</tbody>
</table>

*CIF crude oil price for 2018/2Q is tentative.*
(Reference) Impact of Accrued Income Incurred by Fuel Cost Adjustment System (Result)

<table>
<thead>
<tr>
<th>FY2017/2Q</th>
<th>FY2018/2Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss -13.0 billion</td>
<td>Loss -38.0 billion</td>
</tr>
</tbody>
</table>

Fuel procurement price (basis of fuel cost)

Average Fuel price (basis of fuel cost adjustment charge)

* Accrued income include the effect of time lag of gas supply business.
<The Policy on Shareholder Return>
- The company will work to maintain stable dividends after taking account of financial condition and other factors, while continuously investing in building and operating facilities that are essential for a safe and stable supply of electricity.

<Dividends>
- The board of directors has determined that the interim dividend per share is 20 yen per share today.

<table>
<thead>
<tr>
<th></th>
<th>Dividend per share (yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FY 2018</td>
</tr>
<tr>
<td>Interim</td>
<td>20</td>
</tr>
<tr>
<td>Year-end</td>
<td>&lt;20&gt;</td>
</tr>
<tr>
<td>Total in annual</td>
<td>&lt;40&gt;</td>
</tr>
</tbody>
</table>

*1 Forecast in < >.
*2 We have not changed the forecast of the dividend since the previous announcement (July 31, 2018).
**<Forecast>**

Forecasts of financial results have been revised from the previous announcement made in July 31, 2018.

- **Consolidated operating revenues: 3,000.0 billion yen (forecast)**
  Consolidated operating revenues will increase by 20.0 billion yen mainly due to an increase in electrical energy sold.

- **Consolidated ordinary income: 100.0 billion yen (forecast)**
  Consolidated ordinary income have not been revised from the previous announcement mainly due to an increase in electrical energy sold, in spite of the expansion of time lag loss because of rise in fuel price. Further, consolidated ordinary income excluding the effect of time lag is expected to be approx.160.0 billion yen (Increase by 10.0 billion yen from the previous announcement).

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**[Consolidated]**

- Operating revenues will increase for 2 consecutive years since FY2017.
- Ordinary income will decrease following FY2016, for the first time in 2 years.
- We will record increased sales and decreased income following FY2013, for the first time in 5 years.

<table>
<thead>
<tr>
<th></th>
<th>Current (A)</th>
<th>July 31 (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating revenues</td>
<td>3,000.0</td>
<td>2,980.0</td>
<td>approx. 20.0</td>
<td>0.7</td>
</tr>
<tr>
<td>Operating income</td>
<td>110.0</td>
<td>110.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ordinary income</td>
<td>100.0</td>
<td>100.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Net income</td>
<td>75.0</td>
<td>75.0</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

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**[(Reference) Nonconsolidated]**

<table>
<thead>
<tr>
<th></th>
<th>Current (A)</th>
<th>July 31 (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating revenues</td>
<td>2,690.0</td>
<td>2,670.0</td>
<td>approx. 20.0</td>
<td>0.7</td>
</tr>
<tr>
<td>Operating income</td>
<td>90.0</td>
<td>90.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ordinary income</td>
<td>80.0</td>
<td>80.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Net income</td>
<td>60.0</td>
<td>60.0</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Principal figures

**Electrical energy sold**

<table>
<thead>
<tr>
<th></th>
<th>Current (A)</th>
<th>July 31 (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low voltage</td>
<td>36.4</td>
<td>35.7</td>
<td>0.7</td>
<td>2.0</td>
</tr>
<tr>
<td>High voltage Extra-high voltage</td>
<td>82.1</td>
<td>81.6</td>
<td>0.5</td>
<td>0.6</td>
</tr>
<tr>
<td>Total</td>
<td>118.5</td>
<td>117.3</td>
<td>1.2</td>
<td>1.0</td>
</tr>
</tbody>
</table>

### Other principal figures

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>July 31</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIF price: crude oil</td>
<td>approx. 77</td>
<td>approx. 74</td>
</tr>
<tr>
<td>FX rate</td>
<td>approx. 110</td>
<td>approx. 110</td>
</tr>
<tr>
<td>Nuclear power utilization rate</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Reference

Electrical energy sold including group companies (*1) 124.2 123.0 1.2 1.0

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*1 The sum of the company, consolidated subsidiaries, and affiliates accounted for under the equity method.

*2 These figures represent income sensitivity for fuel expenses. Fluctuation of CIF price (crude oil) and FX rate will be reflected in sales revenue, in cases where average fuel price fluctuates and fuel cost adjustment system will be applied.

*3 The impact value of crude oil price includes the impact of LNG price because LNG price is subject to crude oil price.
○ July 31 (Loss of 50.0 billion yen)

<table>
<thead>
<tr>
<th>Standard fuel price</th>
<th>&lt;FY2018&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss -50.0 billion</td>
<td></td>
</tr>
</tbody>
</table>

Fuel procurement price (basis of fuel cost)

Average Fuel price (basis of fuel cost adjustment charge)

- July 31 (Loss of 50.0 billion yen)

○ Current (Loss of 60.0 billion yen)

<table>
<thead>
<tr>
<th>Standard fuel price</th>
<th>&lt;FY2018&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss -60.0 billion</td>
<td></td>
</tr>
</tbody>
</table>

Fuel procurement price (basis of fuel cost)

Average Fuel price (basis of fuel cost adjustment charge)

* Accrued income include the effect of time lag of gas supply business.
Management Situation
**Initiatives to Address Management Challenges and Toward Realization of Our “Vision”**

**Changing social structure**
- Shrinking energy market
- Diversifying customer needs
- Growing importance of working style reform

**Changing business systems**
- Intensifying competition among business operators
- Tightening nuclear regulations
- Business operation/structure changes

**Changing technology**
- Spread of smart grids
- Progressing storage battery technology
- Progressive digital technology (blockchains, etc.)

**Changing environmental awareness**
- Spread of smart grids
- Growing importance of working style reform
- Intensifying competition among business operators
- Growing interest in ESG initiatives
- Introduction/expansion of renewable energy

**Initiatives to Address Management Challenges**
(four priority measures)
1. Improving safety further at Hamaoka Nuclear Power Plant
2. Stable power supply for a new age
3. Strengthening our business base for growth and achieving sustainable growth
4. Establishing a business structure/management base that can respond instantly to environmental changes

**Build a balanced business portfolio**
- Thorough efforts to increase management efficiency
- Deepen efforts to increase management efficiency
- Increase revenue in the energy business
- Open/commercialize new growth fields

**Achieve goal**
- Business goal
  - Consolidated ordinary profit of 150 billion yen or more by FY2018

**Strengthen business base for growth**
- FY2019 – FY2022 (outlook)
  - Consolidated ordinary profit of 128.5 billion yen (FY2017)
- Second half of 2020s (vision)
  - Consolidated ordinary profit of 250 billion yen or more

**Toward Realization of Our “Vision”**
- A total energy service corporate group that is one step ahead

**New growth fields**
- Overseas energy business, etc.
- Domestic energy business

**Consolidated ordinary profit of 150 billion yen or more by FY2018**

**Overseas energy business, etc.**

**Consolidated ordinary profit of 128.5 billion yen (FY2017)**

**Consolidated ordinary profit of 250 billion yen or more (second half of 2020s)**

**Management vision “Vision”**

**Changing social structure**

**Changing business systems**

**Changing technology**

**Changing environmental awareness**

**Changing social structure**

**Changing business systems**

**Changing technology**

**Changing environmental awareness**

**Management vision “Vision”**

**2016**
**2018**
**2022**
**2030**

**2016**
**2018**
**2022**
**2030**
Transition to a Business Model with Unbundling of Each Sector

- With the changes in the system, including full liberalization of the electricity retail market and the legal unbundling of the power transmission/distribution division, that made power generation, power transmission/distribution, and sales into different businesses, the operators of these businesses came to face their different markets (business activities area, business partners, customers).
- That is why we will make a transition by integration of the thermal power generation businesses into JERA and spinning off the power transmission/distribution and sales business to create a “business model with unbundling each sector”. This is different from our traditional “vertical integration business model,” in which operations from power generation to sales are conducted in an integrated system.
- By having each business entity facing its own market and carrying out autonomous initiatives, we will provide new services in addition to delivering a stable supply of high-quality energy in a safe and reasonable form.

### JERA
- (complete integration of the thermal power generation business by Apr. 2019)
  - Expand wholesale sales to a national scale utilizing the wholesale electricity market*1
  - Accelerate collaboration with other business operators, expand equipment scale, and increase revenue

- Implement large-scale business expansion, beyond our traditional supply area
- Leverage economies of scale to deliver a stable supply of energy at a reasonable price

### Power Network Company
- (spin off by Apr. 2020)
  - Deliver a stable supply of high-quality energy in a safe and reasonable form
  - Realize advanced power network services

### Sales Company
- (details such as timing of spin off are under consideration)
  - Strengthen competitiveness through procurement utilizing the wholesale electricity market*1
  - Expand sales area
  - Accelerate collaboration with wide-ranging business operators to flexibly meet customers’ needs

- In addition to flexible procurement that goes beyond just JERA, also achieve agile collaboration with a wide range of business operators
- In addition to reasonable energy, provide more customers with customer-focused service

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*1 It is assumed that JERA’s wholesale sales outside the Chubu Electric Power / Tokyo Electric Group and the sales company’s procurement from outside the Chubu Electric Power Group will both increase by around 30% in the future.
Under a strong determination to “not allow another accident like that at the Fukushima Daiichi Nuclear Power Plant,” the Hamaoka Nuclear Power Plant has strengthened its equipment measures to improve safety and is going through an inspection of conformity with new regulatory standards by the Nuclear Regulation Authority. Furthermore, we have strengthened our ability to respond on-site to ensure equipment functions effectively in an emergency and our coordination with national and local governments, etc., in case of an accident or problem. We will strive to improve safety further and provide careful explanations, aiming to be a power plant that earns more trust from the public.
In order for the business operator itself to squarely reconsider the safety of nuclear power and make efforts to continuously improve safety in the wake of the Fukushima Daiichi accident, the top management at Chubu Electric Power are taking responsibility for improving nuclear power safety and strengthening governance, risk management, and risk communication.

We will push ahead with responses to the new inspection system that stresses independent safety using risk information, which will be introduced in fiscal 2020.

**Roadmap to strengthen risk management (new regulatory system compliance)**

- Establish risk management (respond to new regulatory system)
- Consider means to use risk information
- Establish risk quantification model
- Improve/develop risk quantification methods
- Operate new risk management system; verify and improve it continually

**Strengthen governance**

- Top management will listen to opinions/assessment from in and outside the company about risk and will establish systems for risk management.
- Appropriate management decisions that contribute to improving nuclear safety
- Continual safety improvement at Hamaoka

**Strengthen risk management**

- 24 hours/day, 365 days/year
- Specialized organizations
- All-around capabilities
- Establish/increase specialist emergency response teams

**Strengthen risk communication**

- Visit dialogues
- Meetings to exchange ideas
- Touring educational campaigns in the community
- Power plant tours

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Stable Power Supply for a New Age

Responding to the introduction/expansion of renewable energy (upgrading the power network)

- In response to output fluctuations in renewable energy (distributed energy resources), we will improve the accuracy of output prediction and conduct optimal operation of distribution system using IoT, etc.
- On top of that, we will combine large-scale energy sources from the bulk electric system in an effort to provide a stable supply of power to the entire Chubu region.

![Diagram of power supply system]

- Upgrade power network
- Stable supply and demand adjustment for the entire Chubu region
- Distribution system supply and demand balance coordination

- Optimal operation of distribution system using IoT, etc.
- FY2017: Start verification toward establishment of next-generation distribution system (Toyota City Verification Project)

![Diagram of output adjustment]

- Bulk electric system
- Output prediction/adjustment
- Optimal operation

- Large-scale energy sources
  - Thermal power
  - Hydro power

- Next-generation distribution system
  - Industrial storage batteries
  - Wind power
  - Solar power
  - Household storage batteries
  - Distributed energy resources
  - Customers

- Electricity flow

- Improve accuracy of output prediction (solar power generation)
- <Prediction of intensity of solar radiation from satellite images>

Source: Japan Weather Association

Timely, detailed prediction by area

<table>
<thead>
<tr>
<th>kW</th>
<th>Output prediction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prediction revision</td>
</tr>
</tbody>
</table>

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Aiming to strengthen our business base through improved management efficiency, we will continually work at reducing repair costs and will streamline equipment in light of changes in the supply-demand structure caused by the introduction/expansion of renewable energy.

[Specific initiative example: equipment rationalization using smart meters]

We will increase the capacity factor and reduce device costs by installing equipment according to customers’ actual power usage, based on the use of measurements from smart meters introduced.

<Decision method for equipment capacity/size>

Before smart meter introduction

After smart meter introduction

Choose equipment capacity/size based on customers' contract capacity

Revise decision technique

Choose equipment capacity/size according to customers' actual usage, based on the smart meters' measurements
Strengthening Our Business Base for Growth and Achieving Sustainable Growth

Improve management efficiency to strengthen business base <2>

[Specific initiative example: improving thermal efficiency of LNG combined cycle generation plants]

We are working on cutting fuel costs by improving the efficiency of existing LNG combined cycle generation plants. The following construction projects are being planned or implemented to further improve thermal efficiency, restore summer output capacity, and extend intervals between inspections.

- Replacement of Kawagoe Thermal Power Station Unit No. 3’s gas turbine into a newer model (completed)
- Replacement of Joetsu Thermal Power Station’s hot gas turbine parts into a newer model (completed)
- Replacement of Nishi-Nagoya Thermal Power Station Unit No. 7’s gas turbine into a newer model (replacement underway)

Harnessing the performance of latest gas turbine models, we are taking steps to further improve output change rates and shorten the time for starting up LNG combined cycle generation plants, in an effort to address significant supply-demand fluctuations stemming from an increase in solar power generation.

Kawagoe Thermal Power Station Unit No. 3

Carrying a gas turbine on the premises

Installing a newer gas turbine
Strengthening Our Business Base for Growth and Achieving Sustainable Growth

**Improve management efficiency to strengthen business base <3>**

[Specific initiative example: improving thermal efficiency of LNG combined cycle generation plants]

Based on past hazard results and process of failure development, we categorize periodic inspection items for distribution substation transformation equipment that undergo periodic inspection from preventive maintenance aspects into groups with “large” and “small”*1 impact that are caused during failure. We save costs by doing so and carefully examining necessary inspection items and cycles. By evaluating hazards after previous inspection cycle extensions and by evaluating accelerated aging through the use of removed items, we extend the cycle for replacing parts during periodic inspections and save costs accordingly.

*1 Matters challenging energy supply or involving public safety issues are categorized as “large” impact. Issues that constrain operation are grouped into the “small” impact category.

![Review of periodic inspection (items and cycles)](Target: distribution substation)

<table>
<thead>
<tr>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inspections are conducted under a constant cycle and on a per-item basis</strong></td>
<td><strong>Inspection approaches (e.g. extension of preventive maintenance cycle, corrective maintenance) are streamlined on a per-item basis</strong></td>
</tr>
<tr>
<td>Inspection of circuit breaker bushing</td>
<td><strong>Large influence</strong></td>
</tr>
<tr>
<td>Inspection of transformer pressure relay</td>
<td>Inspection of circuit breaker bushing</td>
</tr>
<tr>
<td>Inspection of disconnecting switch body</td>
<td>Damage in bushing ⇒ Influence on public safety</td>
</tr>
<tr>
<td>All of these are preventive maintenance initiatives</td>
<td>*example&gt;*2</td>
</tr>
<tr>
<td></td>
<td>Inspection: once in 6 years ⇒ Status monitoring + Inspection: once/12years</td>
</tr>
<tr>
<td></td>
<td>Relay device malfunction caused power outage ⇒ Risk of power loss</td>
</tr>
<tr>
<td></td>
<td>*example&gt;*2</td>
</tr>
<tr>
<td></td>
<td>Inspection: once in 6 years ⇒ Status monitoring + Inspection: once/12years</td>
</tr>
<tr>
<td><strong>Small influence</strong></td>
<td>Malfunctioning of disconnecting switch ⇒ Risk of constraining operation</td>
</tr>
<tr>
<td></td>
<td>*example&gt;*2</td>
</tr>
<tr>
<td></td>
<td>Inspection: once in 24 years ⇒ Status monitoring + corrective maintenance</td>
</tr>
</tbody>
</table>

*2 Rounds, equipment performance tests, temperature measurement of energized cables, transformer anomaly diagnoses (e.g. in-oil gas analysis)

**Cycle extension for replacing parts during periodic inspections**

Target: all substation

<example of cycle extension>
Replacement of circuit breaker’s magnetic contactor

- **Before:** 18 years
- **After:** 24 years

<example>
Inspection: once in 6 years ⇒ Status monitoring + Inspection: once/12years

<cycle for replacing>

Before: 18 years
After: 24 years

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Strengthening Our Business Base for Growth and Achieving Sustainable Growth

Accelerate growth after completion of value chain in JERA

- We will complete a whole value chain from upstream investments and fuel procurement through power generation to power and gas wholesale sales by integrating our existing thermal power generation business, etc., with JERA in April 2019.
- We will aim to become a global energy corporate group by producing synergistic effects with the already integrated fuel/overseas power generation business and energy infrastructure business and by accelerating growth in each business field.

[Initiatives after value chain completion]

- Fuel upstream
  - World’s largest fuel trading scale
  - [Investment projects]
    - At present: 5 projects
    - FY2025: Approx. 10 projects

- Fuel procurement
  - [Developed capacity]
    - At present: 8 million kW
    - FY2025: Approx. 15 million kW

- Fuel trading/sales
  - Return trading knowhow to domestic thermal power business
  - Expand gas/LNG wholesale sales
  - [Developed output]
    - At present: 650 MW
    - FY2025: Approx. 9 million kW

- Fuel transportation
  - Expand JERA-owned carrier fleet
  - [Developed output]
    - At present: 16 vessels
    - FY2025: Approx. 25 vessels

- Domestic power generation
  - Electricity/gas market trading: expand third-party sales
  - Optimize power source portfolio to balance strengthening of cost competitiveness and achievement of low-carbon
  - Rationalization through joint procurement of equipment and materials
  - Improve efficiency through competitive O&M model in the global market
  - [Existing output]
    - At present: 23 million kW
    - FY2025: 66 million kW* (under construction)
  - [Developed output]
    - At present: 650 MW
    - FY2025: Approx. 9 million kW

Optimization through integrated operation of the entire value chain

Income/expenditure standard: net income of around 200 billion yen in FY2025

Synergy from JERA integration
- At least 100 billion yen/year (within 5 years after integration)
- Efficiency effect: 60 billion yen / Income growth: 40 billion yen

Stably deliver energy that is internationally competitive / Increase the corporate value of the Chubu Electric Power Group
Strengthening Our Business Base for Growth and Achieving Sustainable Growth

Provide energy services that continue to be chosen by customers

- In order to continue to be chosen by customers in a liberalized retailing market, we will deliver new services that meet customers needs using IoT, etc., not just stable, affordable energy.
- Also, aiming for sustainable growth, we will work at business expansion centered on the Tokyo metropolitan area.

Active gas & power development

- Optimal energy procurement
- Optimal electricity/gas projects according to customer needs

Services focused on daily life

- Online services with rich content
- Life support services, etc.

Total energy solutions

- Energy solutions
- Energy saving support overseas
- Integrated development solutions

[For household customers]

[For business customers]

[Target for second half of 2020s]

- [Electric power sold] 124.2 billion kWh (FY2018 forecast)
- Second half of 2020s
- Maintain 130 billion kWh/year

- [Gas/LNG sold] 970,000 tons (FY2018 forecast)
- Second half of 2020s
- Increase to 3 million tons/year

[Target for FY2018]

- [Gas applications in the Chubu region] 180 thousand (as of Oct. 2018)
- Acquire 200 thousand customers by FY2018

- [Electricity sales in the Tokyo metropolitan areas] 220 thousand (as of Oct. 2018)
- Acquire 300 thousand customers by FY2018
Strengthening Our Business Base for Growth and Achieving Sustainable Growth

Establish new growth fields (provide new forms of community)

- The Chubu Electric Power Group has contributed to regional development through the energy business. In order to help resolve social issues faced by communities, we will establish growth fields by working at providing “new forms of community.”

- Services to raise the quality of life of individuals by using various data
  - Approach of attempting to maintain and raise quality of life by making use of our customer base and various data, focusing on the inconveniences of each customer’s life
  
- Combine two approaches in various ways
  - Establish new growth fields = Provide new forms of community

- Community services based on connecting and evolving several kinds of social infrastructure
  - Approach of making customers’ lives convenient and comfortable by evolving energy infrastructure into community support infrastructure that can meet social issues, working on community units of a certain scope

We have cultivated in the energy business
- connections and relationships of trust with customers in the community,
- knowhow building and operating electricity infrastructure, and
- energy saving and CO2 reduction proposals based on optimal use of energy that leverage our technical capabilities, proposal capabilities, and relationships of trust with customers
Establishing a Business Structure/Management Base that can Respond Instantly to Environmental Changes

22 | Carrying out ESG management (E)

- We carry out business activities with awareness of ESG (environment, society, and governance), in order to fulfil our corporate social responsibility (CSR), increase our medium- to long-term corporate value, and contribute to the sustainable development of society.

E (Environment)
In line with the Chubu Electric Power Group Basic Environmental Policy, we establish action plans as specific goals and practice environmental management.

Reduce CO2 emissions
- Develop, introduce, and expand renewable energy
  - Actively develop power sources
  - Increase connection volume to transmission lines
- Increase thermal efficiency of thermal power generation
  - World-class high efficiency power generators
  - Optimize power plant operation using IoT
- Use nuclear power generation

Help customers/communities reduce CO2
- Energy solutions & energy saving support
- Energy management
- Practice environmental management

Reduce CO2 emissions

[Image of our reduction of CO2 emission intensity]

<table>
<thead>
<tr>
<th>Year</th>
<th>CO2 (kg/kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>0.50</td>
</tr>
<tr>
<td>2010</td>
<td>0.476</td>
</tr>
<tr>
<td>2015</td>
<td>0.476</td>
</tr>
<tr>
<td>2017</td>
<td>0.37</td>
</tr>
</tbody>
</table>

Operation of Shin-Nagoya Unit 8 starts
Operation of Joetsu starts
Hamaoka shut down

Reduction of CO2 emissions
0.476 kg-CO2/kWh
0.37 kg-CO2/kWh

EVEcoCute Solar power generation
HEMS Storage batteries Solar power generation EcoCute EV

Harmony with nature
Achieve recycling society
Local and global cooperation
Carrying out ESG management (S・G)

**S (Social)**
So that employees will work with vitality, we will promote work-life balance, based on the idea that life (physical and mental health and a fulfilling life) is the foundation. Also, we will contribute to sustainable development of communities by valuing communication with members of the community.

**G (Governance)**
Aiming for sustainable growth, we will strive to further enhance our corporate governance, taking fairness and transparency as the core of management. In April 2018, we will establish a Risk Management Meeting and make a structure for integrated management of risks that would have a material effect on the company's management.

### For employees

**Work style reform (increase productivity)**
- Expand flextime system company-wide (from April 2018)
- Introduce telework (from April 2018)

**Promote diversity**
- Provide continual training to double, at least, the number of women in managerial positions compared to FY2014 (FY2020)

**Health management**
- Complete medical check-ups for all employees (from April 2019)

### For the community

**Communication with community members**
- Cooperation with universities (Mie University, etc.)
- Women monitors (tours of energy facilities, etc.)

**Social contribution activities**
- PR for safe electricity use
- Guest classes / workplace experience

---

**Risk management system**

Conventional

- Board of Directors
- Executive Officers’ Meeting

From April 2018

- Risk Management Meeting

- Risk reporting
- Companies and offices/divisions

- Risk coping policy, etc.

- Brining up/reporting important issues

- Directions

- Natural disaster risk
- Cyber risk
- Market risk
- Compliance risk
...
Reference Data(1): Financial Results
## Consolidated Statements of Income

### (Billion yen, %)

<table>
<thead>
<tr>
<th></th>
<th>2018/2Q</th>
<th>2017/2Q</th>
<th>Change</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(A)</td>
<td>(B)</td>
<td>(A-B)</td>
<td>(A-B)/B</td>
</tr>
<tr>
<td>Operating revenues</td>
<td>1,487.4</td>
<td>1,393.3</td>
<td>94.1</td>
<td>6.8</td>
</tr>
<tr>
<td>Non-operating revenues</td>
<td>13.9</td>
<td>8.1</td>
<td>5.8</td>
<td>71.5</td>
</tr>
<tr>
<td>Ordinary revenues</td>
<td>1,501.4</td>
<td>1,401.4</td>
<td>99.9</td>
<td>7.1</td>
</tr>
<tr>
<td>Operating expenses</td>
<td>1,392.6</td>
<td>1,296.3</td>
<td>96.3</td>
<td>7.4</td>
</tr>
<tr>
<td>Non-operating expenses</td>
<td>14.5</td>
<td>17.7</td>
<td>(3.1)</td>
<td>(18.0)</td>
</tr>
<tr>
<td>Ordinary expenses</td>
<td>1,407.1</td>
<td>1,314.0</td>
<td>93.1</td>
<td>7.1</td>
</tr>
<tr>
<td>&lt;Operating income&gt;</td>
<td>&lt;94.8&gt;</td>
<td>&lt;96.9&gt;</td>
<td>&lt;(2.1)&gt;</td>
<td>&lt;(2.2)&gt;</td>
</tr>
<tr>
<td>Ordinary income</td>
<td>94.2</td>
<td>87.3</td>
<td>6.8</td>
<td>7.8</td>
</tr>
<tr>
<td>Reserve for fluctuation in water levels</td>
<td>-</td>
<td>(1.1)</td>
<td>1.1</td>
<td>-</td>
</tr>
<tr>
<td>Income taxes</td>
<td>26.4</td>
<td>25.3</td>
<td>1.1</td>
<td>4.3</td>
</tr>
<tr>
<td>Net income attributable to non-controlling interests</td>
<td>1.2</td>
<td>1.0</td>
<td>0.2</td>
<td>20.7</td>
</tr>
<tr>
<td>Net income attributable to owners of parent</td>
<td>66.5</td>
<td>62.1</td>
<td>4.3</td>
<td>7.0</td>
</tr>
</tbody>
</table>
### Nonconsolidated Statements of Income <1>: Operating Revenues

<table>
<thead>
<tr>
<th></th>
<th>2018/2Q (A)</th>
<th>2017/2Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity sales revenues</td>
<td>1,074.8</td>
<td>1,052.9</td>
<td>21.8</td>
<td>2.1</td>
</tr>
<tr>
<td>Sold power to other electric utilities(*1)</td>
<td>49.9</td>
<td>32.6</td>
<td>17.3</td>
<td>53.0</td>
</tr>
<tr>
<td>Transmission revenue, etc. (*2)</td>
<td>41.9</td>
<td>25.4</td>
<td>16.5</td>
<td>65.1</td>
</tr>
<tr>
<td>Grant under act on purchase of renewable energy sourced electricity</td>
<td>144.8</td>
<td>132.9</td>
<td>11.8</td>
<td>8.9</td>
</tr>
<tr>
<td>Other</td>
<td>13.0</td>
<td>12.4</td>
<td>0.5</td>
<td>4.7</td>
</tr>
<tr>
<td>Electricity business operating revenues</td>
<td>1,324.6</td>
<td>1,256.4</td>
<td>68.1</td>
<td>5.4</td>
</tr>
<tr>
<td>Incidental businesses operating revenues</td>
<td>30.0</td>
<td>23.6</td>
<td>6.4</td>
<td>27.4</td>
</tr>
<tr>
<td>Total operating revenues</td>
<td>1,354.6</td>
<td>1,280.0</td>
<td>74.6</td>
<td>5.8</td>
</tr>
</tbody>
</table>

*1 Sold power to other utilities and Sold power to other suppliers
*2 Transmission revenue and Settlement revenue among utilities

[Major factors for change]
- An increase in fuel cost adjustment charge +47.3
- A decrease in electrical energy sold -10.5
- An increase in wholesale volume
- An increase in purchase of renewable energy sourced electricity
- Gas supply business +6.3
  <Gas/LNG sold>
  → 427 thousand tons
### Nonconsolidated Statements of Income <2>: Operating Expenses

<table>
<thead>
<tr>
<th>Major factors for change</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differences in power generated</td>
<td>-18.3</td>
</tr>
<tr>
<td>Improvement of thermal efficiency by Nishi-Nagoya thermal power plant</td>
<td></td>
</tr>
<tr>
<td>An increase in hydroelectric power generated</td>
<td></td>
</tr>
<tr>
<td>Increase in unit price</td>
<td>+45.8</td>
</tr>
<tr>
<td>Rise in CIF price</td>
<td></td>
</tr>
<tr>
<td>An increase in purchase of renewable energy sourced electricity</td>
<td></td>
</tr>
<tr>
<td>An increase in extra-regional power supply</td>
<td></td>
</tr>
<tr>
<td>Gas supply business</td>
<td>+8.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2018/2Q (A)</th>
<th>2017/2Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and employee benefits</td>
<td>94.7</td>
<td>91.4</td>
<td>3.3</td>
<td>3.6</td>
</tr>
<tr>
<td>Fuel</td>
<td>366.9</td>
<td>339.3</td>
<td>27.5</td>
<td>8.1</td>
</tr>
<tr>
<td>Nuclear back-end expenses (*1)</td>
<td>8.0</td>
<td>6.4</td>
<td>1.5</td>
<td>24.1</td>
</tr>
<tr>
<td>Purchased power etc. (*2)</td>
<td>252.8</td>
<td>226.6</td>
<td>26.2</td>
<td>11.6</td>
</tr>
<tr>
<td>Transmission charges etc. (*3)</td>
<td>11.3</td>
<td>7.9</td>
<td>3.4</td>
<td>43.0</td>
</tr>
<tr>
<td>Maintenance</td>
<td>82.2</td>
<td>80.7</td>
<td>1.5</td>
<td>1.9</td>
</tr>
<tr>
<td>Depreciation</td>
<td>116.2</td>
<td>117.2</td>
<td>(0.9)</td>
<td>(0.8)</td>
</tr>
<tr>
<td>Taxes other than income taxes</td>
<td>62.0</td>
<td>60.7</td>
<td>1.2</td>
<td>2.1</td>
</tr>
<tr>
<td>Levy under act on purchase of renewable energy sourced electricity</td>
<td>147.5</td>
<td>134.7</td>
<td>12.8</td>
<td>9.5</td>
</tr>
<tr>
<td>Other</td>
<td>95.7</td>
<td>103.3</td>
<td>(7.5)</td>
<td>(7.3)</td>
</tr>
</tbody>
</table>

Electricity business operating expenses | 1,237.8 | 1,168.6 | 69.1 | 5.9 |

Incidental business operating expenses | 31.0 | 22.8 | 8.1 | 35.5 |

Total operating expenses | 1,268.8 | 1,191.4 | 77.3 | 6.5 |

*1 Contributions for reprocessing of irradiated nuclear fuel, Designated radioactive waste disposal expenses, Decommissioning nuclear power plants

*2 Purchased power from other utilities, Purchased power from other suppliers, Portion of the existing power generation expenses such as spent fuel reprocessing for which contracts have been signed

*3 Transmission charges, Supply connection transmission charges, Settlement revenue among utilities
### Nonconsolidated Statements of Income <3>: Net Income

<table>
<thead>
<tr>
<th></th>
<th>2018/2Q (A)</th>
<th>2017/2Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating income</td>
<td>85.8</td>
<td>88.5</td>
<td>(2.6)</td>
<td>(3.0)</td>
</tr>
<tr>
<td>Non-operating revenues</td>
<td>9.6</td>
<td>6.6</td>
<td>3.0</td>
<td>46.2</td>
</tr>
<tr>
<td>Non-operating expenses</td>
<td>12.9</td>
<td>16.9</td>
<td>(3.9)</td>
<td>(23.3)</td>
</tr>
<tr>
<td>Ordinary revenues</td>
<td>1,364.3</td>
<td>1,286.6</td>
<td>77.6</td>
<td>6.0</td>
</tr>
<tr>
<td>Ordinary expenses</td>
<td>1,281.7</td>
<td>1,208.3</td>
<td>73.3</td>
<td>6.1</td>
</tr>
<tr>
<td>Ordinary income</td>
<td>82.5</td>
<td>78.2</td>
<td>4.2</td>
<td>5.5</td>
</tr>
<tr>
<td>Reserve for fluctuation in water levels</td>
<td>-</td>
<td>(1.1)</td>
<td>1.1</td>
<td>-</td>
</tr>
<tr>
<td>Income taxes</td>
<td>23.2</td>
<td>22.2</td>
<td>1.0</td>
<td>4.7</td>
</tr>
<tr>
<td>Net income</td>
<td>59.2</td>
<td>57.1</td>
<td>2.0</td>
<td>3.6</td>
</tr>
</tbody>
</table>
## Consolidated and Nonconsolidated Financial Standing

<table>
<thead>
<tr>
<th></th>
<th>Sep 30, 2018 (A)</th>
<th>Mar 31, 2018 (B)</th>
<th>Change (A-B)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consolidated</td>
<td>5,567.8</td>
<td>5,529.4</td>
<td>38.4</td>
</tr>
<tr>
<td>Nonconsolidated</td>
<td>5,012.8</td>
<td>5,001.2</td>
<td>11.5</td>
</tr>
<tr>
<td><strong>Liabilities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consolidated</td>
<td>3,709.9</td>
<td>3,737.4</td>
<td>(27.5)</td>
</tr>
<tr>
<td>Nonconsolidated</td>
<td>3,516.8</td>
<td>3,556.1</td>
<td>(39.2)</td>
</tr>
<tr>
<td><strong>Net assets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consolidated</td>
<td>1,857.8</td>
<td>1,791.9</td>
<td>65.9</td>
</tr>
<tr>
<td>Nonconsolidated</td>
<td>1,495.9</td>
<td>1,445.0</td>
<td>50.8</td>
</tr>
<tr>
<td><strong>Shareholders' equity ratio (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consolidated</td>
<td>32.2</td>
<td>31.3</td>
<td>0.9</td>
</tr>
<tr>
<td>Nonconsolidated</td>
<td>29.8</td>
<td>28.9</td>
<td>0.9</td>
</tr>
<tr>
<td><strong>Outstanding interest-bearing debt</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consolidated</td>
<td>2,599.9</td>
<td>2,595.6</td>
<td>4.2</td>
</tr>
<tr>
<td>Nonconsolidated</td>
<td>2,565.4</td>
<td>2,569.4</td>
<td>(3.9)</td>
</tr>
</tbody>
</table>
# Consolidated Statements of Cash Flows

<table>
<thead>
<tr>
<th></th>
<th>2018/2Q (A)</th>
<th>2017/2Q (B)</th>
<th>Change (A-B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash flows from operating activities (a)</td>
<td>101.1</td>
<td>142.8</td>
<td>(41.7)</td>
</tr>
<tr>
<td>Cash flows from investing activities (b)</td>
<td>(211.1)</td>
<td>(173.0)</td>
<td>(38.0)</td>
</tr>
<tr>
<td>Cash flows from financing activities (c)</td>
<td>(14.0)</td>
<td>(37.0)</td>
<td>23.0</td>
</tr>
<tr>
<td>Net decrease in cash and cash equivalents (a)+(b)+(c)</td>
<td>(123.9)</td>
<td>(67.2)</td>
<td>(56.6)</td>
</tr>
<tr>
<td>Free cash flows (a+b)</td>
<td>(109.9)</td>
<td>(30.1)</td>
<td>(79.7)</td>
</tr>
</tbody>
</table>
Impact of the Feed-in-Tariff Scheme for Renewable Energy

<Result of 2018/2Q (change from the previous year in parenthesis)>

- **Renewable energy generator**
  - Purchased cost (Purchased power from other suppliers)
    - 190.3 billion yen (+21.4 billion yen)

- **Electric utility**
  - Surcharge under act on purchase of renewable energy sourced electricity
    - 147.5 billion yen (+12.8 billion yen)

- **Electric customers**
  - Levy under act on purchase of renewable energy sourced electricity
    - 147.5 billion yen (+12.8 billion yen)

- **Cost Bearing Adjustment Organization**
  - Grant under act on purchase of renewable energy sourced electricity
    - 144.8 billion yen (+11.8 billion yen)
  - Avoidable
    - Effect of reducing fossil fuel power generation in conjunction with purchase

---

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[Ordinary Income(Loss)]

- Non-Consolidated: 80.0 billion yen (2011)
- Consolidated: 100.0 billion yen (2015)

[Net Income(Loss)]

- Non-Consolidated: 60.0 billion yen (2011)
- Consolidated: 75.0 billion yen (2018)
### Cash Flow (Consolidated)

<table>
<thead>
<tr>
<th>Year</th>
<th>Operating Activities</th>
<th>Investing Activities</th>
<th>FCF</th>
<th>Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>539.1</td>
<td>(242.3)</td>
<td>296.7</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>449.7</td>
<td>(336.0)</td>
<td>113.6</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>176.8</td>
<td>(247.0)</td>
<td>113.6</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>227.6</td>
<td>(330.6)</td>
<td>(70.2)</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>203.7</td>
<td>(266.6)</td>
<td>(102.9)</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>194.0</td>
<td>(282.7)</td>
<td>(62.8)</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>562.4</td>
<td>(307.9)</td>
<td>254.4</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>335.0</td>
<td>(360.2)</td>
<td>79.6</td>
<td>307.9</td>
</tr>
<tr>
<td>2017</td>
<td>424.1</td>
<td>(344.4)</td>
<td>(170.0)</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>(Forecast)</td>
<td>(440.0)</td>
<td>270.0</td>
<td></td>
</tr>
</tbody>
</table>
We raised total approx. 1,500.0 billion yen in long-term funding for 3 years since the shutdown of Hamaoka Nuclear Power Station.

We forecast to raise approx. 70.0 billion yen in long-term funding in FY2018.

We forecast outstanding Interest-bearing debt to become approx. 3,000.0 billion yen on consolidated base in FY2018, and approx. 2,900.0 billion yen based on non-consolidated in FY2018.
### Financial Ratio, Credit Ratings

#### Shareholders’ equity ratio

- **Non-consolidated**: Approx. 30% at the end of FY2018 (Consolidated)
- **Consolidated**: Approx. 33% as of Apr. 2019*

#### Debt-Equity ratio

- **Non-consolidated**: Approx. 1.4 times as of Apr. 2019* (Non-Consolidated)
- **Consolidated**: Approx. 1.7 times at the end of FY2018 (Consolidated)

#### Credit ratings (long-term)

<table>
<thead>
<tr>
<th>Moody’s</th>
<th>R&amp;I</th>
<th>JCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>A3</td>
<td>A+</td>
<td>AA</td>
</tr>
</tbody>
</table>

* Forecast after integration of existing thermal power generation businesses into JERA
### [Operating revenues]

<table>
<thead>
<tr>
<th></th>
<th>2018/2Q (A)</th>
<th>2017/2Q (B)</th>
<th>Change (A-B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>external customers</td>
<td>external customers</td>
<td>external customers</td>
</tr>
<tr>
<td>Power Generation</td>
<td>539.9</td>
<td>518.4</td>
<td>21.4</td>
</tr>
<tr>
<td>Power Network</td>
<td>369.7</td>
<td>358.9</td>
<td>10.7</td>
</tr>
<tr>
<td>Customer Service &amp; Sales</td>
<td>1,365.7</td>
<td>1,311.2</td>
<td>54.5</td>
</tr>
<tr>
<td>Others (*)</td>
<td>325.6</td>
<td>325.8</td>
<td>(0.1)</td>
</tr>
<tr>
<td>Total</td>
<td>1,487.4</td>
<td>1,393.3</td>
<td>94.1</td>
</tr>
</tbody>
</table>

### [Operating income and loss]

<table>
<thead>
<tr>
<th></th>
<th>2018/2Q (A)</th>
<th>2017/2Q (B)</th>
<th>Change (A-B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Generation</td>
<td>13.2</td>
<td>29.0</td>
<td>(15.7)</td>
</tr>
<tr>
<td>Power Network</td>
<td>22.2</td>
<td>20.9</td>
<td>1.2</td>
</tr>
<tr>
<td>Customer Service &amp; Sales</td>
<td>46.3</td>
<td>26.8</td>
<td>19.5</td>
</tr>
<tr>
<td>Others (*)</td>
<td>13.7</td>
<td>20.5</td>
<td>(6.8)</td>
</tr>
<tr>
<td>Operating income</td>
<td>95.6</td>
<td>97.4</td>
<td>(1.7)</td>
</tr>
</tbody>
</table>

* "Others" is business segment that is excluded from reporting segments and includes nuclear power division, administrative division and other consolidated subsidiaries.
<table>
<thead>
<tr>
<th></th>
<th>2018/2Q</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chubu region</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The number of applications; New electric tariff menu</td>
<td>1.54 million</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Outside of Chubu region</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical energy sold outside of Chubu region</td>
<td>3.8 billion kWh</td>
<td>Increase to 30.0 billion kWh/year (second half of 2020s) in the Tokyo metropolitan area</td>
</tr>
<tr>
<td>The number of applications; Electricity in the Tokyo metropolitan area</td>
<td>220 thousand</td>
<td>Acquire 300 thousand customers by FY2018</td>
</tr>
<tr>
<td><strong>Gas</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas and LNG sold</td>
<td>427 thousand tons</td>
<td>Increase to 3,000 thousand tons/year (second half of 2020s)</td>
</tr>
<tr>
<td>The number of applications; Gas (for household, etc.)</td>
<td>180 thousand</td>
<td>Acquire 200 thousand customers by FY2018</td>
</tr>
<tr>
<td><strong>KatEne members</strong></td>
<td>2.10 million</td>
<td>—</td>
</tr>
</tbody>
</table>
### Monthly Breakdown of Electrical Energy Sold

#### (TWh)

<table>
<thead>
<tr>
<th></th>
<th>FY2018</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Apr.</td>
<td>May</td>
<td>June</td>
<td>July</td>
<td>Aug.</td>
<td>Sep.</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low voltage</td>
<td>2.9</td>
<td>2.5</td>
<td>2.3</td>
<td>2.7</td>
<td>3.6</td>
<td>3.3</td>
<td>17.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High voltage</td>
<td>6.4</td>
<td>6.3</td>
<td>6.9</td>
<td>7.6</td>
<td>7.6</td>
<td>7.3</td>
<td>42.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extra-high voltage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9.3</td>
<td>8.9</td>
<td>9.1</td>
<td>10.3</td>
<td>11.2</td>
<td>10.5</td>
<td>59.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Low voltage</td>
<td>3.6</td>
<td>2.7</td>
<td>2.3</td>
<td>2.9</td>
<td>3.3</td>
<td>3.2</td>
<td>2.5</td>
<td>2.8</td>
<td>3.4</td>
<td>4.6</td>
<td>4.3</td>
<td>3.4</td>
<td>38.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High voltage</td>
<td>6.6</td>
<td>6.3</td>
<td>6.9</td>
<td>7.4</td>
<td>7.5</td>
<td>7.3</td>
<td>6.9</td>
<td>6.6</td>
<td>6.8</td>
<td>6.7</td>
<td>6.8</td>
<td>6.8</td>
<td>82.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extra-high voltage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>10.1</td>
<td>9.0</td>
<td>9.2</td>
<td>10.3</td>
<td>10.8</td>
<td>10.5</td>
<td>9.4</td>
<td>9.4</td>
<td>10.2</td>
<td>11.3</td>
<td>11.1</td>
<td>10.2</td>
<td>121.4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The total may not match due to rounding.
Reference Data (2): Management Information
Stable Power Supply for a New Age

Responding to the introduction/expansion of renewable energy (reuse storage batteries for EVs)

- In cooperation with Toyota Motor Corporation, we will start new verification aimed at establishing a high-capacity storage battery system that reuses storage batteries for EVs, in order to use it in various distribution system issues caused by the introduction/expansion of renewable energy.

**Example use of storage battery system**

[1: Use for supply and demand adjustment]

- Daylight hours when solar power generation is sufficient
  - Charge supply surplus
- Nighttime hours, etc.
  - Use charged batteries

[2: Use for responding to frequency fluctuations]

- Control frequency fluctuations by using storage battery charging/discharging to absorb output fluctuations caused by renewable energy.

**FY2018: Start verification of storage battery system**

**FY2020: Plan to introduce approx. 10,000 kW generation output / equivalent to 10,000 batteries**

Even batteries whose performance has dropped on an individual basis can be reused in combination.
Strengthening Our Business Base for Growth and Achieving Sustainable Growth

**Initiatives of JERA <1>**

[Domestic power generation business (New establishment and replacement)]

Bring together the knowledge and technology of both companies to establish and replace thermal power stations, and thereby seek a balance between achieving improved competitiveness and addressing global warming issues.

We will develop fair competitive activities and realize sound market development in the newly established domestic electric power market etc.

<table>
<thead>
<tr>
<th>Place (Fuel)</th>
<th>Output</th>
<th>Start of operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hitachinaka (Coal)</td>
<td>650 MW</td>
<td>FY 2020</td>
</tr>
<tr>
<td>Goi (LNG)</td>
<td>Approx. 2,340 MW</td>
<td>FY 2022 - FY 2023</td>
</tr>
<tr>
<td>Anegasaki (LNG)</td>
<td>Approx. 1,950 MW</td>
<td>FY 2022 - FY 2023</td>
</tr>
<tr>
<td>Yokosuka (Coal)</td>
<td>Approx. 1,300 MW</td>
<td>FY 2023</td>
</tr>
</tbody>
</table>

[Assets subjected to integration of existing thermal power generation businesses into JERA]

<table>
<thead>
<tr>
<th>Assets subjected to integration</th>
<th>Chubu</th>
<th>TEPCO FP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal power generation business</td>
<td>Existing thermal power generation</td>
<td>10 locations*1</td>
</tr>
<tr>
<td></td>
<td>Generation capacity*3 (MW)</td>
<td>23,410</td>
</tr>
<tr>
<td></td>
<td>Electricity generated*4 (billion kWh)</td>
<td>1,102</td>
</tr>
<tr>
<td>Fuel acceptance/ storage/gas transmission business</td>
<td>LNG terminals</td>
<td>Own terminals : 3 locations*5</td>
</tr>
<tr>
<td></td>
<td>Tank capacity (million kL)</td>
<td>1.93</td>
</tr>
<tr>
<td></td>
<td>Payout amount*4(million tons)</td>
<td>12.77</td>
</tr>
<tr>
<td>Related companies</td>
<td>Subsidiaries</td>
<td>2 companies*9</td>
</tr>
<tr>
<td></td>
<td>Affiliated companies</td>
<td>4 companies*11</td>
</tr>
</tbody>
</table>

*1 Shin-Nagoya, Yokkaichi, Chita, Taketoyo, Nishi-Nagoya, Atsumi, Chita Daini, Kawagoe, Hekinan, Joetsu
*2 Futsu, Chiba, Goi, Anegasaki, Sodegaura, Yokohama, Yokosuka, Kawasaki, Minami-Yokohama, 
   Higashi-Ogishima, Oi, Shinagawa, Hitachinaka, Hirono
*3 As of 1 January 2018
*4 Results for FY2016
*5 Kawagoe LNG Terminal, Yokkaichi LNG Center, Joetsu LNG Terminal
*6 Chita LNG Joint Terminal
*7 Futsu LNG Terminal, Higashi-Ogishima LNG Terminal
*8 Sodegaura LNG Joint Terminal, Negishi LNG Joint Terminal
*9 Chita L.N.G Co., Ltd, Chita Berth Co., Inc.
   Net Co., Ltd, Nanso Service Co., Ltd, Ogishima Gas Supply Co., Ltd.
*11 Kasumi Berth Co., Inc, Aichi Kinuura Bio K.K.
   Central LNG Marine Fuel Japan Co., Inc., Central LNG Shipping Japan Co., Inc.

(Only equity method affiliated companies)
[Fuel business (upstream, procurement, transportation, trading)]

Optimum portfolio is created using the world’s largest procurement scale and trading, and fuel procurement that can flexibly respond to change of business environment in the future is realized.

- **Creation of optimum portfolio of LNG**
  - Procurement with short-term and spot contract
    - 5 MTPA
  - Procurement with long-term contract
    - 35 MTPA

  **Combining various contracts to form the optimum portfolio**

  - Examination of acquisition of upstream concession at the same time

  *Procurement by combining short-term and spot contract which has exceptional elasticity of procurement amount and long-term contract which has exceptional economy and stability*

Factors contributing to change in handling scale
- Expansion of external sales
- Improvement of power generation efficiency
- Energy Policy

**As of July, 2016**

<table>
<thead>
<tr>
<th>FY 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Short-term and spot contract</strong></td>
</tr>
<tr>
<td>5 MTPA</td>
</tr>
<tr>
<td><strong>Long-term contract (Existing contract)</strong></td>
</tr>
<tr>
<td>35 MTPA</td>
</tr>
<tr>
<td><strong>Combining various contracts to form the optimum portfolio</strong></td>
</tr>
<tr>
<td><strong>Examination of acquisition of upstream concession at the same time</strong></td>
</tr>
</tbody>
</table>

**Factors contributing to change in handling scale**

**Overseas power generation business**

By expanding power generation and energy infrastructure business overseas, economic growth and reduction of environmental load in developing countries are supported and new revenue source is acquired.

**Initiatives of JERA<2>**

**[LNG Sales and Purchase MOA with ADNOC LNG]**

- JERA plans to purchase up to 8 cargoes per annum of LNG from ADNOC LNG for a period of three years beginning in 2019. JERA will continue to focus on building and maintaining an optimal LNG procurement portfolio that enables economical and competitive procurement, as well as flexibility to respond to changes in the business environment.

**[LNG Sales and Purchase MOA with Malaysia LNG]**

- JERA plans to purchase up to approx. 2.5 million tons of LNG for a period of three years beginning in 2018. JERA will continue to focus on building and maintaining an optimal LNG procurement portfolio that enables economical and competitive procurement, as well as flexibility to respond to changes in the business environment.

**[LNG Sales and Purchase MOA with ReNew in India]**

- Acquisition of a part of shares from ReNew in India.
  - Aim to construct the power generation portfolio that includes renewable energy.

**[LNG Sales and Purchase MOA with ADNOC LNG]**

- Acquisition of equity interest in three natural gas-fired thermal power generation plants. Utilizing operation and maintenance technologies developed domestically and overseas to improve efficiency and leading the project.
Provide energy services that continue to be chosen by customers (expand business in the Tokyo metropolitan area)

- We jointly established a new company with Osaka Gas to conduct sales of services related to electric power/gas, lifestyle, and business.
- By combining management resources and business knowhow cultivated by both companies in the electricity and gas businesses and making the most of them in the Tokyo metropolitan area, we will contribute to society by maximizing the value provided to household and corporate customers.

### [Corporate customers]
Provide business solutions with excellent economic and environmental performance by leveraging electrification technology and combustion technology.

Furthermore, we will create “new value” useful in living and business through services using IoT technology with the aim of establishing a new business model and providing services that go beyond the framework of the energy business operator.

### [Household customers]
Provide comfortable and convenient living through optimal use of electricity and gas.

---

**Company name**: CD Energy Direct Co., Ltd.

**Date of establishment**: Apr. 2, 2018

**Capital**: 1.75 billion yen
- Chubu Electric Power: 50%
- Osaka Gas: 50%

**Business**: Business selling services related to electricity and gas as well as lifestyle and business in the Tokyo metropolitan area

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**Topics**

- **May 29, 2018**: Conclusion on absorption-type split agreement
- **May 30, 2018**: Publication of alliance with Tokyu Power Supply
- **June 12, 2018**: Beginning of tariff menu application
- **Aug. 1, 2018**: Beginning of power and gas supply
Establish new growth fields (provide new forms of community)

Services to improve the quality of life of individuals by utilizing various data

- Household data
- Electricity/gas sales data
- Weather data
- Movement data
- Healthcare-related data
- Other companies’ data

Data platform

Expand data through service provision

Expand data through service provision

Services to improve quality of life

Data use and service provision by companies besides us

Serries that lead to solutions to community issues

- For new community development in urban areas:
  Development of safe communities where children and senior citizens can live with a sense of security

- For provincial cities with declining populations:
  Revitalization of the local economy through local production for local consumption of renewable energy
  Economical and low-carbon local transportation using movement data and renewable energy
  Development of attractive communities through establishment of community support infrastructure

- For local communities such as schools:
  Watching over children as they go to and from school through coordination of movement data
  Broadcasting of safe transit routes in real time and guiding of children

- For households attempting to balance work and parenting:
  Care of and watching over children through utilization of household data and remote control of household devices

- For families living far away
  Sharing of electricity between families living far away
  Watching over the health of parents living in far removed communities by coordinating household data and medical data

- For far removed individuals
  Easy trading of surplus solar power-generated electricity between individuals by matching the needs of far removed individuals

IoT services for the home
- We will provide services that make life rich and comfortable by using IoT devices to gather and make use of household data.

Energy management service
- We will enable efficient use of energy by using IoT technology to connect the energy resources of multiple customers.

Smart poles
- We will provide new community services by installing ICT devices such as sensors and communications equipment on utility poles and using the data obtained.

Strengthening relationships with local governments
- Working with local governments such as Toyota City in Aichi Prefecture and Iida City in Nagano Prefecture, we will work at creating community services that lead to higher quality of life for various communities and residents.
Based on energy mix of Japan, aim for optimum composition of power sources by combining various types of power source, such as nuclear power, thermal power and renewable energy, in a well-balanced manner from the standpoint of “S+3E” while taking aging of equipment into account.

[Composition of power sources]

- Nuclear: 11%
- Hydro: 19%
- Oil: 7%
- LNG: 51%
- Coal: 12%

[Composition of Electric Power Output]

- Nuclear: 15%
- LNG: 46% (9% Renewable Energy, 4% Oil)
- Coal: 26%
- LNG: 57%
- Oil: 4%
- Renewable Energy: 9%
- Hydro: 2%

Expansion Non-fossil Energy source

Well-balanced use

Environmentally friendly use

(Reference)

Long-term Energy Supply-demand Outlook

- 2017: Nuclear 20%, Hydro 22%, Oil 24%, LNG 27%, Coal 26%
- 2030: Nuclear 26%, Hydro 3%, Oil 6%, LNG 20%

*1 Figures include interchanged, purchased power
*2 Over 30 MW
*3 Excluding over 30 MW hydro and FIT-based
*4 Figures in JEPX represent procurement from Japan Electric Power Exchange and Others represent output from purchased power of which we cannot specify the power source

Carrying out ESG management (E: Reduction of CO₂ emissions)

- Japanese government set up the target of reducing greenhouse gas emissions (26% reduced by FY2030) as Japan’s goal of the Paris Agreements, and decide the proportion of nuclear power generation and renewable energy (Non-fossil energy sources ratio is more than 44% by FY2030) to achieve the target.
- The entire electric utility industry set the target emission intensity 0.37kg-CO₂/kWh (FY2030).
- In order to achieve the target, we take various actions such as making thermal power facilities highly efficient and continuously utilizing nuclear power generation which largely contributes to reduction of CO₂ emission.

[Trends and outlook of CO₂ emission intensity (before reflecting CO₂ credits)]

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>Shin-Nagoya No.8 started operation</td>
</tr>
<tr>
<td>2010</td>
<td>Joetsu Thermal Power Station started operation</td>
</tr>
<tr>
<td>2017 (FY)</td>
<td>Nishi-Nagoya No.7 started operation</td>
</tr>
</tbody>
</table>

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Establishing a Business Structure/Management Base that can Respond Instantly to Environmental Changes

Carrying out ESG management (E : Improvement of thermal efficiency)

[Outline of development of Taketoyo Thermal Power Plant Unit No.5]

- Output (at the generation end): 1,070 MW
- Thermal efficiency (LHV basis): 46% (LHV basis)
- Fuel: Coal・Wood biomass
  - Wood type: Wooden pellet
  - Mixed fuel burning ratio: Approx. 17% (Heating value ratio)
  - Annual use of fuel: Approx. 0.5 million tons
- Electricity generated by Biomass power: Approx. 1.2 TWh per year

One of Japan's largest biomass generation output (*)

- LNG consumptions: Reduce 0.5 million tons per year
- CO₂ emissions: Reduce 0.9 million tons per year

[Outline of development of Nishi-Nagoya Thermal Power Plant Unit No.7]

- Output (at the generation end): 2,376 MW (1,188MW×2)
- Thermal efficiency: Approx. 62% (LHV basis)
- Fuel: LNG
- Operation started: Sep. 2017 (Unit7-1), Mar. 2018 (Unit7-2)

Effect due to start of operation
- Secure the stable and reasonably priced base load power source
- CO₂ emissions: Reduce 0.9 million tons per year

[Construction progress of Taketoyo Thermal Power Plant]

- Unit No.5 (1,070MW)
  - FY2017
  - FY2018: preparatory works started
  - FY2019: construction plan notified
  - FY2020
  - FY2021: operation to start
  - FY2022: first firing

TOPICS
- LNG consumptions: Reduce 0.5 million tons per year
- CO₂ emissions: Reduce 1.4 million tons per year

Unit 7-1 having been granted with recognition as the world's most efficient combined cycle power plant.
### Carrying out ESG management (E: Promotion of Renewable Energy)

(As of the end of September, 2018)

<table>
<thead>
<tr>
<th>Development locations of hydroelectric power station</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Conventional hydro</td>
</tr>
<tr>
<td>● Generation with minimum water level</td>
</tr>
<tr>
<td>Parentheses denote the commercial operation start year.</td>
</tr>
</tbody>
</table>

#### Power generation output of renewable energy

* Increase over the level in 2016

<table>
<thead>
<tr>
<th>Wind Power Generation</th>
<th>Akita Port and Noshiro Port survey of development possibility of offshore wind power generation business in Akita Pref. (joint survey)</th>
</tr>
</thead>
</table>

### Summary of Project

- **Power generation method**: Offshore wind power generation
- **Site**: Akita port area and Noshiro port area in Akita Pref. (Total: Approx. 730ha)
- **Output**: Supposition total output 145 MW (Akita port 65 MW, Noshiro port 80 MW)
- **Project Period**: 20 years (planned)

### Conventional hydro

- **Output**: Supposition total output 145 MW (Akita port 65 MW, Noshiro port 80 MW)
- **Project Period**: 20 years (planned)

### Offshore wind power generation in Akita Pref.

<table>
<thead>
<tr>
<th>Site</th>
<th>Output (MW)</th>
<th>Start Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akita port</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>Noshiro port</td>
<td>80</td>
<td></td>
</tr>
</tbody>
</table>

### Development locations of hydroelectric power station

- **Hydro**
  - **Operating**
    - Chubu Electric: 197 Site: 5,459MW
      - Akigami: 0.29MW (FY2016)
      - Sakore: 0.38MW (FY2018)
  - **Plan**
    - Kurokawada: 0.17MW (FY2021)
    - Seinaiji: 5.6MW (FY2022)
    - Abekawa: 7.1MW (FY2022)
    - Amazake: 0.53MW (FY2018)

- **Wind**
  - **Operating**
    - Omaezaki: 22MW
  - **Plan**
    - 150MW

- **Solar**
  - **Operating**
    - Mega Solar Iida: 1.0MW
    - Mega Solar Shimizu: 8.0MW
    - Mega Solar Kawagoe: 7.5MW
    - 223MW
  - **Plan**
    - 6 Site: 20MW (FY2018)
    - 7 Site: 131MW (FY2019)

- **Biomass**
  - **Operating**
    - Mixture of wooden chip
    - Mixture of fuel from carbonized sewage sludge
    - Taki bio power: 6.75MW (FY2016)
  - **Plan**
    - Biomass power generation facility at Yokkaichi Thermal Power Station: 49MW
    - CEPO Handa biomass: 45MW (FY2019)

### Total

- **Total output**: 5,497.5MW
- **Grand total**: 5,878.11MW

* Joint businesses are recorded by equity interest.
**Carrying out ESG management (E : connect & manage)**

- Chubu Electric Power has begun an initiative (N-1 power control) to use capacity that is set aside for an emergency in case of failure, based on the anticipated flow of electricity in check with power generator operation (anticipated current), so that more sources of power, including renewable energy, can be connected to transmission lines.

- In the future, we will look at an initiative (non-firm connection) to use transmission lines when there is available capacity, as even more effective utilization.

### Introduction of renewable energy in Chubu region

<table>
<thead>
<tr>
<th>Solar Power Generation (MW)</th>
<th>Wind Power Generation (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2014.3</strong></td>
<td><strong>2014.3</strong></td>
</tr>
<tr>
<td>2206</td>
<td>208</td>
</tr>
<tr>
<td><strong>2015.3</strong></td>
<td><strong>2015.3</strong></td>
</tr>
<tr>
<td>3668</td>
<td>212</td>
</tr>
<tr>
<td><strong>2016.3</strong></td>
<td><strong>2016.3</strong></td>
</tr>
<tr>
<td>5048</td>
<td>238</td>
</tr>
<tr>
<td><strong>2017.3</strong></td>
<td><strong>2017.3</strong></td>
</tr>
<tr>
<td>6083</td>
<td>310.0</td>
</tr>
<tr>
<td><strong>2018.3</strong></td>
<td><strong>2018.3</strong></td>
</tr>
<tr>
<td>6867</td>
<td>308</td>
</tr>
</tbody>
</table>

**What is connect & manage?**

A system that makes maximal use of existing transmission lines and allows the connection of renewable energy, etc., with certain conditions, enabling the connection of lots of power sources while attempting to reduce the costs of connection.

**N-1 power control**

Increase the amount of electricity that can flow through transmission lines (operation capacity), on the premise that generator output will be limited instantly during a failure, such as on a transmission line.

**Non-firm connection**

Allow use of transmission lines when there is available capacity, on the premise that generator output will be limited when operation capacity is exceeded.

**Image of increased connection amount, including renewable energy**

- Capacity set aside for emergencies
- Operation capacity (N-1)
- Anticipated current
- Available capacity
- Maximum current (anticipated)
- Available capacity
- Time

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