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Outline of Financial Results for Nine-Months ended December 31, 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. 3rd Quarter (3Q) represents nine months period ended December 31, 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.
Summary of Financial Results <1>

<Points of Financial Results>

- **Consolidated operating revenues: 2,199.1 billion yen**
  Operating revenues increased by 136.4 billion yen compared with 2017/3Q, 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 (+32.5 billion yen), in addition to an increase in fuel cost adjustment charge (+86.1 billion yen), in spite of a decrease in electrical energy sold (-31.0 billion yen).

- **Consolidated ordinary income: 90.3 billion yen**
  Ordinary income decreased by 25.8 billion yen compared with 2017/3Q, mainly due to expansion of time lag loss (-47.0 billion yen) and a decrease in electrical energy sold (-14.0 billion yen), in spite of an increase in electrical energy sold to other companies (+13.0 billion yen), in addition to a decrease in fuel cost through the full operation of Nishi-Nagoya thermal power plant (+10.0 billion yen) and cost reduction achievement in fuel procurement and improvement of the efficiency related to the basic costs (+17.0 billion yen). Further, consolidated ordinary income excluding the effect of time lag is approx.151.0 billion yen (increased by 21.0 billion yen compared with 2017/3Q).

[Consolidated]

- Operating revenues increased for 2 consecutive years since 2017/3Q.
- Ordinary income decreased for 3 consecutive years since 2016/3Q.
- We recorded increased sales and decreased income for 2 consecutive years since 2017/3Q.

<table>
<thead>
<tr>
<th></th>
<th>2018/3Q (A)</th>
<th>2017/3Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating revenues</td>
<td>2,199.1</td>
<td>2,062.7</td>
<td>136.4</td>
<td>6.6</td>
</tr>
<tr>
<td>Operating income</td>
<td>94.9</td>
<td>124.8</td>
<td>(29.9)</td>
<td>(24.0)</td>
</tr>
<tr>
<td>Ordinary income</td>
<td>90.3</td>
<td>116.2</td>
<td>(25.8)</td>
<td>(22.2)</td>
</tr>
<tr>
<td>Net income attributable to owners of parent</td>
<td>62.9</td>
<td>80.8</td>
<td>(17.8)</td>
<td>(22.1)</td>
</tr>
</tbody>
</table>

*The number of consolidated subsidiaries [change from the same period of the previous year in parenthesis.]
2018/3Q: 36 subsidiaries (+5 companies), 35 affiliates accounted for under the equity method (+9 companies)

[Nonconsolidated]

<table>
<thead>
<tr>
<th></th>
<th>2018/3Q (A)</th>
<th>2017/3Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating revenues</td>
<td>1,997.1</td>
<td>1,887.8</td>
<td>109.2</td>
<td>5.8</td>
</tr>
<tr>
<td>Operating income</td>
<td>83.2</td>
<td>111.9</td>
<td>(28.7)</td>
<td>(25.7)</td>
</tr>
<tr>
<td>Ordinary income</td>
<td>73.1</td>
<td>97.5</td>
<td>(24.3)</td>
<td>(25.0)</td>
</tr>
<tr>
<td>Net income</td>
<td>53.4</td>
<td>68.5</td>
<td>(15.1)</td>
<td>(22.1)</td>
</tr>
</tbody>
</table>
[Factors contributing to change in consolidated operating revenues]

- An increase in surcharge and grant under act on purchase of renewable energy sourced electricity: 32.5 Billion yen
- An increase in fuel cost adjustment charge: 86.1 Billion yen
- A decrease in electrical energy sold: -31.0 Billion yen
- An increase in electrical energy sold to other companies: +26.8 Billion yen
- An increase in revenues of affiliates: +27.1 Billion yen
- Others: 48.7 Billion yen

Operating Revenues:
- 2017/3Q: 2,062.7 Billion yen
- 2018/3Q: 2,199.1 Billion yen

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[Factors contributing to change in consolidated ordinary income]

(Billion yen)

- Cost reduction achievement in fuel procurement: +9.0
- Improvement of the efficiency related to the basic costs: +8.0

- A decrease in electrical energy sold: -14.0
- A decrease in fuel cost by Nishi-Nagoya thermal power plant: 17.0
- An increase in electrical energy sold to other companies: +13.0
- Others: 8.1

An increase in income excluding the effect of time lag (approx. +21.0)
<Electrical Energy Sold> (Nonconsolidated)

- **Dropped by 1.6TWh to 87.2TWh**, compared with 2017/3Q, mainly due to an effect of switches made to other operators, in spite of a sales increase outside Chubu region and an increase in production of the semiconductor industry.

<table>
<thead>
<tr>
<th></th>
<th>2018/3Q (A)</th>
<th>2017/3Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low voltage</td>
<td>25.2</td>
<td>26.5</td>
<td>(1.3)</td>
<td>(4.9)</td>
</tr>
<tr>
<td>High voltage</td>
<td>62.0</td>
<td>62.3</td>
<td>(0.3)</td>
<td>(0.5)</td>
</tr>
<tr>
<td>Extra-high voltage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>87.2</td>
<td>88.8</td>
<td>(1.6)</td>
<td>(1.8)</td>
</tr>
</tbody>
</table>

[Reference(1)]

Electrical Energy Sold including group companies (*)

|                      | 91.0        | 91.7        | (0.6)        | (0.7)   |

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

[Reference(2)]

Electrical Energy Sold to other companies (*)

|                      | 7.6         | 5.2         | 2.5          | 47.5    |

* 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 2017/3Q; thus hydroelectric power output increased by 0.6 TWh.
- **Wholesale:** Increased by 2.5 TWh, mainly due to an increase in wholesale volume.
- **Purchased power:** Increased by 2.9 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 2.9 TWh.

<table>
<thead>
<tr>
<th></th>
<th>2018/3Q (A)</th>
<th>2017/3Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internally generated</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydro</td>
<td>7.4</td>
<td>6.8</td>
<td>0.6</td>
<td>9.1</td>
</tr>
<tr>
<td>&lt;flow rate&gt;</td>
<td>&lt;110.0&gt;</td>
<td>&lt;96.3&gt;</td>
<td>&lt;13.7&gt;</td>
<td></td>
</tr>
<tr>
<td>Thermal</td>
<td>75.5</td>
<td>78.4</td>
<td>(2.9)</td>
<td>(3.7)</td>
</tr>
<tr>
<td>Nuclear</td>
<td>(0.2)</td>
<td>(0.2)</td>
<td>(0.0)</td>
<td>4.5</td>
</tr>
<tr>
<td>&lt;utilization rate&gt;</td>
<td>&lt;-&gt;</td>
<td>&lt;-&gt;</td>
<td>&lt;-&gt;</td>
<td></td>
</tr>
<tr>
<td>Renewable energy</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>78.6</td>
</tr>
<tr>
<td><strong>Externally generated</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wholesale</td>
<td>(7.6)</td>
<td>(5.2)</td>
<td>(2.5)</td>
<td>47.5</td>
</tr>
<tr>
<td>Purchased power</td>
<td>16.9</td>
<td>14.0</td>
<td>2.9</td>
<td>20.8</td>
</tr>
<tr>
<td>Power used for pumped storage</td>
<td>(0.5)</td>
<td>(0.9)</td>
<td>0.4</td>
<td>(44.0)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>91.5</td>
<td>93.0</td>
<td>(1.4)</td>
<td>(1.5)</td>
</tr>
</tbody>
</table>

* Externally generated represent power output that we grasp at the end of the 2018/3Q.

#### Principal Figures

<table>
<thead>
<tr>
<th></th>
<th>2018/3Q (A)</th>
<th>2017/3Q (B)</th>
<th>Change (A-B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIF price: crude oil</td>
<td>74.3</td>
<td>53.9</td>
<td>20.4</td>
</tr>
<tr>
<td>FX rate (interbank)</td>
<td>111.1</td>
<td>111.7</td>
<td>(0.6)</td>
</tr>
</tbody>
</table>

*CIF crude oil price for 2018/3Q is tentative.*
Accrued income include the effect of time lag of gas supply business.

* Accrued income include the effect of time lag of gas supply business.
Forecasts of financial results have been revised from the previous announcement made in October 26, 2018.

- Consolidated operating revenues: 3,000.0 billion yen (forecast) *No change from the previous announcement
- Consolidated ordinary income: 110.0 billion yen (forecast)
  Consolidated ordinary income will increase by 10.0 billion yen from the previous announcement mainly due to a reduction 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.
  *No change from the previous announcement

[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>October 26 (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>3,000.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Operating income</td>
<td>120.0</td>
<td>110.0</td>
<td>approx. 10.0</td>
<td>9.1</td>
</tr>
<tr>
<td>Ordinary income</td>
<td>110.0</td>
<td>100.0</td>
<td>approx. 10.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Net income attributable to owners of parent</td>
<td>80.0</td>
<td>75.0</td>
<td>approx. 5.0</td>
<td>6.7</td>
</tr>
</tbody>
</table>

[(Reference) Nonconsolidated]

<table>
<thead>
<tr>
<th></th>
<th>Current (A)</th>
<th>October 26 (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>2,690.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Operating income</td>
<td>100.0</td>
<td>90.0</td>
<td>approx. 10.0</td>
<td>11.1</td>
</tr>
<tr>
<td>Ordinary income</td>
<td>90.0</td>
<td>80.0</td>
<td>approx. 10.0</td>
<td>12.5</td>
</tr>
<tr>
<td>Net income</td>
<td>65.0</td>
<td>60.0</td>
<td>approx. 5.0</td>
<td>8.3</td>
</tr>
</tbody>
</table>
### Principal figures

#### (Electrical energy sold)

<table>
<thead>
<tr>
<th></th>
<th>Current (A)</th>
<th>October 26 (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>36.4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>High voltage • Extra-high voltage</td>
<td>82.1</td>
<td>82.1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>118.5</td>
<td>118.5</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Reference

Electrical energy sold including group companies (*1)  

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>October 26</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>124.2</td>
<td>124.2</td>
</tr>
</tbody>
</table>

### Other principal figures

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>October 26</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIF price: crude oil ($/b)</td>
<td>approx. 71</td>
<td>approx. 77</td>
</tr>
<tr>
<td>FX rate (yen/$)</td>
<td>approx. 111</td>
<td>approx. 110</td>
</tr>
<tr>
<td>Nuclear power utilization rate (%)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Income sensitivity

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>October 26</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIF price: crude oil (1$/b)</td>
<td>7.0</td>
<td>7.0</td>
</tr>
<tr>
<td>FX rate (1yen/$)</td>
<td>6.5</td>
<td>6.5</td>
</tr>
<tr>
<td>Flow rate (1%)</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Interest rate (1%)</td>
<td>4.5</td>
<td>4.5</td>
</tr>
</tbody>
</table>

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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.
○ October 26 (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</td>
<td>-60.0 billion</td>
</tr>
</tbody>
</table>

- Fuel procurement price (basis of fuel cost)
- Average Fuel price (basis of fuel cost adjustment charge)

○ Current (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</td>
<td>-50.0 billion</td>
</tr>
</tbody>
</table>

- Fuel procurement price (basis of fuel cost)
- Average Fuel price (basis of fuel cost adjustment charge)

Note: 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

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

Achieve continued growth
- Second half of 2020s (vision)
  - Consolidated ordinary profit of 250 billion yen or more

Strengthen business base for growth
- FY2019 – FY2022 (outlook)
  - Consolidated ordinary profit of 150 billion yen or more

Management vision “Vision”
- A total energy service corporate group that is one step ahead

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

Deepen efforts to increase management efficiency
- Increase revenue in the energy business
- Open/commercialize new growth fields

Deepening efforts to increase management efficiency
- Thorough efforts to increase management efficiency

Overseas
- Group companies
- Sales
- Power generation
- Power transmission/distribution

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

Changing environmental awareness
- Progressive digital technology (blockchains, etc.)
- Introduction/expansion of renewable energy
- Growing interest in ESG initiatives
- Formation of international frameworks for reducing greenhouse gases

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

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

Management vision “Vision”
- A total energy service corporate group that is one step ahead

Changing technology

Initiatives to Address Management Challenges (four priority measures)
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Deepening efforts to increase management efficiency
- Thorough efforts to increase management efficiency

Overseas
- Group companies
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Consolidated ordinary profit of 250 billion yen or more (second half of 2020s)

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- Introduction/expansion of renewable energy
- Growing interest in ESG initiatives
- Formation of international frameworks for reducing greenhouse gases

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

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

Management vision “Vision”
- A total energy service corporate group that is one step ahead
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

---

**Sales Company**
(spin off on Apr. 1st, 2020)

- 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

---

*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.

### Main inspection items and progress of application for approval of nuclear reactor establishment/change

<table>
<thead>
<tr>
<th>Application</th>
<th>Earthquake/tsunami-related inspection</th>
<th>Plant-related inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Geology</strong></td>
<td>Site vicinity</td>
<td>On the site</td>
</tr>
<tr>
<td>Earthquake</td>
<td>Underground structures</td>
<td>Oceanic intraplate earthquake</td>
</tr>
<tr>
<td></td>
<td>Interplate earthquake</td>
<td>Inland crustal earthquake</td>
</tr>
<tr>
<td>Tsunami, etc.</td>
<td>Tsunami</td>
<td>Volcanic event/ground</td>
</tr>
<tr>
<td><strong>Design standards</strong></td>
<td>Aseismic/anti-tsunami design policy</td>
<td>Tornado</td>
</tr>
<tr>
<td></td>
<td>External fire</td>
<td>Other natural phenomenon</td>
</tr>
<tr>
<td></td>
<td>Internal fire</td>
<td>Internal inundation</td>
</tr>
<tr>
<td><strong>Serious accident countermeasures</strong></td>
<td>Effectiveness assessment</td>
<td>Equipment/technical capabilities</td>
</tr>
</tbody>
</table>

**Legend:**
- Mostly complete
- Under deliberation
- To be deliberation complete

As of December, 2018

### Strengthen ability to respond on-site in an emergency

Participation in nuclear emergency response drills organized by Shizuoka Prefecture

### Strengthen coordination with nation/local governments, etc.

Implementation of combined exercises with the Omaezaki Coast Guard Station
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.

### Strengthen governance
Top management will listen to opinions/assessment from in and outside the company about risk and will establish systems for risk management.

- **Internal information/risk assessment**
- **Management top**
- **Opinions/assessment from outside**

### Strengthen risk management

#### Emergency Response Force

- 24 hours/day, 365 days/year
- Specialized organizations
- All-around capabilities

Establish/increase specialist emergency response teams

#### 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

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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.

---

**Optimal operation of distribution system using IoT, etc.**

**Upgrade power network**

- **Stable supply and demand adjustment for the entire Chubu region**
- **Distribution system supply and demand balance coordination**

**Next-generation distribution system**

- **Improve accuracy of output prediction (solar power generation)**
- **Timely, detailed prediction by area**
  - Output prediction
  - Prediction revision

**Source:** Japan Weather Association

- **<Prediction of intensity of solar radiation from satellite images>**

**FY2017: Start verification toward establishment of next-generation distribution system (Toyota City Verification Project)**

**Bulk electric system**

- **Output adjustment**
- **Optimal operation**
- **Output prediction/adjustment**

**Output flow**

- Solar power
- Wind power
- Household storage batteries
- Industrial storage batteries
- Distributed energy resources

**Large-scale energy sources**

- Thermal power
- Hydro power

---

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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

- Choose equipment capacity/size based on customers’ contract capacity

After smart meter introduction

- Choose equipment capacity/size according to customers’ actual usage, based on the smart meters’ measurements
- Revise decision technique
[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.
Improve management efficiency to strengthen business base <3>

Strengthening Our Business Base for Growth and Achieving Sustainable Growth

[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.

\[\text{Review of periodic inspection (items and cycles)}\]

<table>
<thead>
<tr>
<th><strong>Target:</strong> distribution substation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Before</strong></td>
</tr>
<tr>
<td>Inspections are conducted under a constant cycle and on a per-item basis</td>
</tr>
<tr>
<td>Inspection of circuit breaker bushing</td>
</tr>
<tr>
<td>Inspection of transformer pressure relay</td>
</tr>
<tr>
<td>Inspection of disconnecting switch body</td>
</tr>
<tr>
<td>All of these are preventive maintenance initiatives</td>
</tr>
</tbody>
</table>

| **After** |
|-----------------|-----------------|
| Inspection approaches (e.g. extension of preventive maintenance cycle, corrective maintenance) are streamlined on a per-item basis |
| Large influence |
| Status monitoring\(^*2\) + preventive maintenance (cycle extension) |
| Inspection of circuit breaker bushing |
| Large influence |
| Status monitoring\(^*2\) + preventive maintenance (cycle extension) |
| Inspection of transformer pressure relay |
| Small influence |
| Status monitoring\(^*2\) + corrective maintenance |
| Inspection of disconnecting switch body |
| Small influence |
| Status monitoring\(^*2\) + corrective maintenance |
| Inspection of disconnecting switch body |

\(^*2\) ROUNDS, EQUIPMENT PERFORMANCE TESTS, TEMPERATURE MEASUREMENT OF ENERGIZED CABLES, TRANSFORMER ANOMALY DIAGNOSES (E.G. IN-OIL GAS ANALYSIS)

\[\text{Cycle extension for replacing parts during periodic inspections} \]

<table>
<thead>
<tr>
<th><strong>Target:</strong> all substation</th>
</tr>
</thead>
<tbody>
<tr>
<td>◇ Cycle extension for replacing parts during periodic inspections</td>
</tr>
<tr>
<td>(&lt;\text{example of cycle extension}&gt;) Replacement of circuit breaker’s magnetic contactor</td>
</tr>
</tbody>
</table>

\(<\text{cycle for replacing}>\)

Before : 18 years

After : 24 years
18 | 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

Fuel procurement

- Fuel trading/sales: Return trading knowhow to domestic thermal power business
- Fuel trading/sales: Expand gas/LNG wholesale sales

Fuel transportation

- Expand JERA-owned carrier fleet
- Fuel transportation: 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

Overseas power generation/energy infrastructure

- Accelerate renewable energy development
- Develop global-level O&M business

Fuel upstream

- 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
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.

---

**For household customers**
- 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.

**For business customers**
- Total energy solutions
  - Energy solutions
  - Energy saving support overseas
  - Integrated development solutions

---

**Business expansion centered on the Tokyo metropolitan area**

**Intensifying competition following electricity/gas liberalization**

**To continue to be chosen by customers**
- Deliver a stable supply of energy at an affordable price
- Diversification of services

**Aiming for sustainable growth**

**Active gas & power development**
- Alliance in gas sales and point linkage (started in Jun. 2018)
- Electricity sales (started in Sep. 2018)

**Establishment of sales companies**
- CS Energy Service: Selling gas and electricity to corporate clients in the Higashi Mikawa region in Aichi Prefecture, the Seien region in Shizuoka Prefecture (started in Oct. 2018)

**Expand sales through collaboration with partner companies and other business operators**
- Electricity sales in Kansai area (Apr. 2018)
- Started selling electricity by established sales company for energy (Joint venture with Osaka Gas: Aug. 2018)
- On the business partnership with the ARUHI Marketing Corporation on electricity and gas retail sales (Sep. 2018)
- Started selling “KODOMO Shim bun Denki” jointly developed with The Yomiuri Shim bun (Jan. 2019)

---

**[Target for second half of 2020s]**
- Electric power sold: 124.2 billion kWh (FY2018 forecast)
- Gas/LNG sold: 970,000 tons (FY2018 forecast)
  - Maintain 130 billion kWh/year
  - Increase to 3 million tons/year

**[Target for FY2018]**
- Gas applications in the Chubu region: Target of 200 thousand customers by FY2018
- Achieved approx. 208 thousand customers (as of Jan. 2019)
- Electricity sales in the Tokyo metropolitan areas: Approx. 230 thousand (as of Jan. 2019)
  - Target of 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.”

- 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

- 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

Carrying out ESG management (E)

- We carry out business activities with awareness of ESG (environment, society, and governance), in order to fulfill 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**
  - (1) Current situation survey
  - (2) Analysis/assessment
  - (3) Planning/proposal
  - (4) Cooperation (implementation)

- **Energy management**
  - Mega Solar Shimizu
  - HEMS
  - Storage batteries
  - Solar power generation
  - EcoCute
  - EV

### Practice environmental management
- Harmony with nature
- Achieve recycling society
- Local and global cooperation

[Image of our reduction of CO2 emission intensity]
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
- Companies and offices/divisions

**From April 2018**

- Board of Directors
- Risk Management Meeting
- Company-wide risk management

- Risk reporting
- Risk coping policy, etc.

- Brining up/reporting important issues

- Directions

- Individual risk management / business execution

**Risk management**

- Natural disaster risk
- Cyber risk
- Market risk
- Compliance risk

---

Establishing a Business Structure/Management Base that can Respond Instantly to Environmental Changes
Reference Data(1): Financial Results
### Consolidated Statements of Income

<table>
<thead>
<tr>
<th></th>
<th>2018/3Q (A)</th>
<th>2017/3Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating revenues</strong></td>
<td>2,199.1</td>
<td>2,062.7</td>
<td>136.4</td>
<td>6.6</td>
</tr>
<tr>
<td><strong>Non-operating revenues</strong></td>
<td>19.6</td>
<td>16.0</td>
<td>3.6</td>
<td>22.8</td>
</tr>
<tr>
<td><strong>Ordinary revenues</strong></td>
<td>2,218.8</td>
<td>2,078.7</td>
<td>140.0</td>
<td>6.7</td>
</tr>
<tr>
<td><strong>Operating expenses</strong></td>
<td>2,104.2</td>
<td>1,937.8</td>
<td>166.3</td>
<td>8.6</td>
</tr>
<tr>
<td><strong>Non-operating expenses</strong></td>
<td>24.2</td>
<td>24.6</td>
<td>(0.4)</td>
<td>(1.7)</td>
</tr>
<tr>
<td><strong>Ordinary expenses</strong></td>
<td>2,128.4</td>
<td>1,962.4</td>
<td>165.9</td>
<td>8.5</td>
</tr>
<tr>
<td><strong>Operating income</strong></td>
<td>&lt;94.9&gt;</td>
<td>&lt;124.8&gt;</td>
<td>&lt;(29.9)&gt;</td>
<td>&lt;(24.0)&gt;</td>
</tr>
<tr>
<td><strong>Ordinary income</strong></td>
<td>90.3</td>
<td>116.2</td>
<td>(25.8)</td>
<td>(22.2)</td>
</tr>
<tr>
<td><strong>Reserve for fluctuation in water levels</strong></td>
<td>-</td>
<td>(0.4)</td>
<td>0.4</td>
<td>-</td>
</tr>
<tr>
<td><strong>Income taxes</strong></td>
<td>25.2</td>
<td>34.1</td>
<td>(8.8)</td>
<td>(25.9)</td>
</tr>
<tr>
<td><strong>Net income attributable to non-controlling interests</strong></td>
<td>2.1</td>
<td>1.6</td>
<td>0.4</td>
<td>28.0</td>
</tr>
<tr>
<td><strong>Net income attributable to owners of parent</strong></td>
<td>62.9</td>
<td>80.8</td>
<td>(17.8)</td>
<td>(22.1)</td>
</tr>
</tbody>
</table>
## Nonconsolidated Statements of Income <1>: Operating Revenues

### (Billion yen,%)

<table>
<thead>
<tr>
<th></th>
<th>2018/3Q (A)</th>
<th>2017/3Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity sales revenues</td>
<td>1,591.8</td>
<td>1,564.5</td>
<td>27.2</td>
<td>1.7</td>
</tr>
<tr>
<td>Sold power to other electric utilities(*1)</td>
<td>76.0</td>
<td>49.2</td>
<td>26.8</td>
<td>54.5</td>
</tr>
<tr>
<td>Transmission revenue, etc. (*2)</td>
<td>62.6</td>
<td>39.8</td>
<td>22.8</td>
<td>57.2</td>
</tr>
<tr>
<td>Grant under act on purchase of renewable energy sourced electricity</td>
<td>193.9</td>
<td>177.5</td>
<td>16.4</td>
<td>9.2</td>
</tr>
<tr>
<td>Other</td>
<td>20.6</td>
<td>18.8</td>
<td>1.7</td>
<td>9.5</td>
</tr>
<tr>
<td><strong>Electricity business operating revenues</strong></td>
<td><strong>1,945.1</strong></td>
<td><strong>1,850.0</strong></td>
<td><strong>95.0</strong></td>
<td><strong>5.1</strong></td>
</tr>
<tr>
<td>Incidental businesses operating revenues</td>
<td>51.9</td>
<td>37.8</td>
<td>14.1</td>
<td>37.5</td>
</tr>
<tr>
<td><strong>Total operating revenues</strong></td>
<td><strong>1,997.1</strong></td>
<td><strong>1,887.8</strong></td>
<td><strong>109.2</strong></td>
<td><strong>5.8</strong></td>
</tr>
</tbody>
</table>

### [Major factors for change]

- An increase in fuel cost adjustment charge +86.1
- A decrease in electrical energy sold -31.0
- An increase in wholesale volume
- An increase in purchase of renewable energy sourced electricity
- Gas supply business +10.9
  <Gas/LNG sold>
  614 thousand tons → 663 thousand tons

---

*1 Sold power to other utilities and Sold power to other suppliers
*2 Transmission revenue and Settlement revenue among utilities
## Nonconsolidated Statements of Income <2>: Operating Expenses

<table>
<thead>
<tr>
<th></th>
<th>2018/3Q (A)</th>
<th>2017/3Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and employee benefits</td>
<td>139.8</td>
<td>135.7</td>
<td>4.1</td>
<td>3.0</td>
</tr>
<tr>
<td>Fuel</td>
<td>580.5</td>
<td>514.3</td>
<td>66.1</td>
<td>12.9</td>
</tr>
<tr>
<td>Nuclear back-end expenses (*1)</td>
<td>12.0</td>
<td>9.7</td>
<td>2.3</td>
<td>24.1</td>
</tr>
<tr>
<td>Purchased power etc. (*2)</td>
<td>361.9</td>
<td>310.9</td>
<td>50.9</td>
<td>16.4</td>
</tr>
<tr>
<td>Transmission charges etc. (*3)</td>
<td>17.6</td>
<td>12.2</td>
<td>5.3</td>
<td>43.7</td>
</tr>
<tr>
<td>Maintenance</td>
<td>120.0</td>
<td>121.7</td>
<td>-1.7</td>
<td>-1.4</td>
</tr>
<tr>
<td>Depreciation</td>
<td>175.7</td>
<td>184.7</td>
<td>-9.0</td>
<td>-4.9</td>
</tr>
<tr>
<td>Taxes other than income taxes</td>
<td>91.7</td>
<td>90.6</td>
<td>1.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Levy under act on purchase of renewable energy sourced electricity</td>
<td>217.3</td>
<td>201.1</td>
<td>16.1</td>
<td>8.0</td>
</tr>
<tr>
<td>Other</td>
<td>146.4</td>
<td>158.1</td>
<td>-11.7</td>
<td>-7.4</td>
</tr>
<tr>
<td><strong>Electricity business operating expenses</strong></td>
<td><strong>1,863.3</strong></td>
<td><strong>1,739.7</strong></td>
<td><strong>123.6</strong></td>
<td>7.1</td>
</tr>
<tr>
<td><strong>Incidental business operating expenses</strong></td>
<td><strong>50.5</strong></td>
<td><strong>36.1</strong></td>
<td><strong>14.3</strong></td>
<td>39.7</td>
</tr>
<tr>
<td><strong>Total operating expenses</strong></td>
<td><strong>1,913.8</strong></td>
<td><strong>1,775.8</strong></td>
<td><strong>137.9</strong></td>
<td>7.8</td>
</tr>
</tbody>
</table>

### Major factors for change

- Low performance in pension assets management
- Differences in power generated: -32.2
  - A decrease in fuel cost by Nishi-Nagoya thermal power plant
  - An increase in hydroelectric power generated
- Increase in unit price: +98.3
  - Rise in CIF price
- An increase in purchase of renewable energy sourced electricity
- Sales increase outside Chubu region
- The progress of the depreciation etc.
- Gas supply business: +14.5

*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>2018/3Q (A)</th>
<th>2017/3Q (B)</th>
<th>Change (A-B)</th>
<th>(A-B)/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating income</td>
<td>83.2</td>
<td>111.9</td>
<td>(28.7)</td>
<td>(25.7)</td>
</tr>
<tr>
<td>Non-operating revenues</td>
<td>12.1</td>
<td>9.0</td>
<td>3.1</td>
<td>34.9</td>
</tr>
<tr>
<td>Non-operating expenses</td>
<td>22.2</td>
<td>23.4</td>
<td>(1.2)</td>
<td>(5.2)</td>
</tr>
<tr>
<td>Ordinary revenues</td>
<td>2,009.2</td>
<td>1,896.8</td>
<td>112.4</td>
<td>5.9</td>
</tr>
<tr>
<td>Ordinary expenses</td>
<td>1,936.1</td>
<td>1,799.3</td>
<td>136.7</td>
<td>7.6</td>
</tr>
<tr>
<td>Ordinary income</td>
<td>73.1</td>
<td>97.5</td>
<td>(24.3)</td>
<td>(25.0)</td>
</tr>
<tr>
<td>Reserve for fluctuation in water levels</td>
<td>-</td>
<td>(0.4)</td>
<td>0.4</td>
<td>-</td>
</tr>
<tr>
<td>Income taxes</td>
<td>19.7</td>
<td>29.3</td>
<td>(9.6)</td>
<td>(32.8)</td>
</tr>
<tr>
<td>Net income</td>
<td>53.4</td>
<td>68.5</td>
<td>(15.1)</td>
<td>(22.1)</td>
</tr>
</tbody>
</table>
## Consolidated and Nonconsolidated Financial Standing

<table>
<thead>
<tr>
<th></th>
<th>Dec 31, 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>5,551.3</td>
<td>5,529.4</td>
<td>21.9</td>
</tr>
<tr>
<td>Nonconsolidated</td>
<td>4,980.5</td>
<td>5,001.2</td>
<td>(20.6)</td>
</tr>
<tr>
<td><strong>Liabilities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consolidated</td>
<td>3,724.2</td>
<td>3,737.4</td>
<td>(13.2)</td>
</tr>
<tr>
<td>Nonconsolidated</td>
<td>3,512.9</td>
<td>3,556.1</td>
<td>(43.2)</td>
</tr>
<tr>
<td><strong>Net assets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consolidated</td>
<td>1,827.1</td>
<td>1,791.9</td>
<td>35.1</td>
</tr>
<tr>
<td>Nonconsolidated</td>
<td>1,467.6</td>
<td>1,445.0</td>
<td>22.6</td>
</tr>
<tr>
<td><strong>Shareholders' equity ratio (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consolidated</td>
<td>31.8</td>
<td>31.3</td>
<td>0.5</td>
</tr>
<tr>
<td>Nonconsolidated</td>
<td>29.5</td>
<td>28.9</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>Outstanding interest-bearing debt</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consolidated</td>
<td>2,648.2</td>
<td>2,595.6</td>
<td>52.5</td>
</tr>
<tr>
<td>Nonconsolidated</td>
<td>2,597.9</td>
<td>2,569.4</td>
<td>28.4</td>
</tr>
</tbody>
</table>
Impact of the Feed-in-Tariff Scheme for Renewable Energy

(Result of 2018/3Q (change from the previous year in parenthesis))

Renewable energy generator

- Purchased cost (Purchased power from other suppliers)
  256.1 billion yen (+29.8 billion yen)

Electric utility

- Surcharge under act on purchase of renewable energy sourced electricity
  217.3 billion yen (+16.1 billion yen)

Electricity customers

- Levy under act on purchase of renewable energy sourced electricity
  217.3 billion yen (+16.1 billion yen)

Cost Bearing Adjustment Organization (Green Investment Promotion Organization)

- Grant under act on purchase of renewable energy sourced electricity
  193.9 billion yen (+16.4 billion yen)

- Avoidable effect of reducing fossil fuel power generation in conjunction with purchase

Purchased cost (Purchased power from other suppliers)
256.1 billion yen (+29.8 billion yen)

Surcharge under act on purchase of renewable energy sourced electricity
217.3 billion yen (+16.1 billion yen)

Levy under act on purchase of renewable energy sourced electricity
217.3 billion yen (+16.1 billion yen)

Avoidable

Effect of reducing fossil fuel power generation in conjunction with purchase

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Ordinary Income (Loss) and Net Income (Loss)

[Ordinary Income (Loss)]

(billion yen)

<table>
<thead>
<tr>
<th>Year</th>
<th>Nonconsolidated</th>
<th>Consolidated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>110.0 billion</td>
<td>90.0 billion</td>
</tr>
<tr>
<td>2010</td>
<td>110.0 billion</td>
<td>80.0 billion</td>
</tr>
<tr>
<td>2011</td>
<td>80.0 billion</td>
<td>65.0 billion</td>
</tr>
<tr>
<td>2012</td>
<td>80.0 billion</td>
<td>65.0 billion</td>
</tr>
<tr>
<td>2013</td>
<td>80.0 billion</td>
<td>65.0 billion</td>
</tr>
<tr>
<td>2014</td>
<td>80.0 billion</td>
<td>65.0 billion</td>
</tr>
<tr>
<td>2015</td>
<td>80.0 billion</td>
<td>65.0 billion</td>
</tr>
<tr>
<td>2016</td>
<td>80.0 billion</td>
<td>65.0 billion</td>
</tr>
<tr>
<td>2017</td>
<td>80.0 billion</td>
<td>65.0 billion</td>
</tr>
<tr>
<td>2018</td>
<td>80.0 billion</td>
<td>65.0 billion</td>
</tr>
</tbody>
</table>

[Net Income (Loss)]

(billion yen)

<table>
<thead>
<tr>
<th>Year</th>
<th>Nonconsolidated</th>
<th>Consolidated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>110.0 billion</td>
<td>90.0 billion</td>
</tr>
<tr>
<td>2010</td>
<td>110.0 billion</td>
<td>80.0 billion</td>
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<td>2011</td>
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<td>2012</td>
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<td>2014</td>
<td>80.0 billion</td>
<td>65.0 billion</td>
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<td>2015</td>
<td>80.0 billion</td>
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<td>2016</td>
<td>80.0 billion</td>
<td>65.0 billion</td>
</tr>
<tr>
<td>2017</td>
<td>80.0 billion</td>
<td>65.0 billion</td>
</tr>
<tr>
<td>2018</td>
<td>80.0 billion</td>
<td>65.0 billion</td>
</tr>
</tbody>
</table>
Cash Flow (Consolidated)

Cash Flows from Operating Activities
Cash Flows from Investing Activities
FCF

(billion yen)

2009: 539.1
2010: 449.7
2011: 296.7
2012: 176.8
2013: 227.6
2014: 203.7
2015: 194.0
2016: 254.4
2017: 335.0
2018 (FY): 424.1
Forecast: 290.0

Cash Flows from Operating Activities
- 2009: (242.3)
- 2010: (336.0)
- 2011: (70.2)
- 2012: (102.9)
- 2013: (62.8)
- 2014: (266.6)
- 2015: (282.7)
- 2016: (307.9)
- 2017: (360.2)
- 2018 (FY): (440.0)

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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 nonconsolidated in FY2018.
[Shareholders’ equity ratio]

- Nonconsolidated: Approx. 30% as of FY2018 (Consolidated)
- Consolidated: Approx. 33% as of Apr. 2019* (Consolidated)

- Nonconsolidated: Approx. 30% at the end of FY2018 (Consolidated)
- Consolidated: Approx. 31% as of Apr. 2019* (Nonconsolidated)

[Debt-Equity ratio]

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

- Nonconsolidated: Approx. 2.0 times at the end of FY2018 (Nonconsolidated)
- Consolidated: Approx. 1.6 times as of Apr. 2019* (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
## Segment Information

### Operating revenues

<table>
<thead>
<tr>
<th>Segment</th>
<th>2018/3Q (A) (Billion yen)</th>
<th>2017/3Q (B) (Billion yen)</th>
<th>Change (A-B) (Billion yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Generation</td>
<td>825.6</td>
<td>794.9</td>
<td>30.6</td>
</tr>
<tr>
<td>Power Network</td>
<td>544.8</td>
<td>534.1</td>
<td>10.6</td>
</tr>
<tr>
<td>Customer Service &amp; Sales</td>
<td>2,009.2</td>
<td>1,929.1</td>
<td>80.1</td>
</tr>
<tr>
<td>Others (*)</td>
<td>497.7</td>
<td>494.2</td>
<td>3.4</td>
</tr>
<tr>
<td>Total</td>
<td>2,199.1</td>
<td>2,062.7</td>
<td>136.4</td>
</tr>
</tbody>
</table>

### Operating income and loss

<table>
<thead>
<tr>
<th>Segment</th>
<th>2018/3Q (A) (Billion yen)</th>
<th>2017/3Q (B) (Billion yen)</th>
<th>Change (A-B) (Billion yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Generation</td>
<td>7.0</td>
<td>44.8</td>
<td>(37.7)</td>
</tr>
<tr>
<td>Power Network</td>
<td>27.0</td>
<td>29.7</td>
<td>(2.7)</td>
</tr>
<tr>
<td>Customer Service &amp; Sales</td>
<td>43.9</td>
<td>22.2</td>
<td>21.6</td>
</tr>
<tr>
<td>Others (*)</td>
<td>21.3</td>
<td>28.9</td>
<td>(7.6)</td>
</tr>
<tr>
<td>Operating income</td>
<td>99.3</td>
<td>125.7</td>
<td>(26.3)</td>
</tr>
</tbody>
</table>

* "Others" is a 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>2018/3Q</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>Approx. 1.59 million</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>6.0 billion kWh</td>
<td>Increase to 30.0 billion kWh/year (around FY2030) in the Tokyo metropolitan area</td>
</tr>
<tr>
<td>The number of applications; Electricity in the Tokyo metropolitan area</td>
<td>Approx. 230 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>663 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>Approx. 208 thousand</td>
<td>Acquire 200 thousand customers by FY2018</td>
</tr>
<tr>
<td><strong>KatEne members</strong></td>
<td>2.18 million</td>
<td>—</td>
</tr>
</tbody>
</table>
## Monthly Breakdown of Electrical Energy Sold

### FY2018

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low voltage</strong></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>2.3</td>
<td>2.5</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>High voltage</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extra-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>7.0</td>
<td>6.6</td>
<td>6.5</td>
</tr>
<tr>
<td><strong>Total</strong></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>9.3</td>
<td>9.1</td>
<td>9.5</td>
</tr>
</tbody>
</table>

### FY2017

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low voltage</strong></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>
</tr>
<tr>
<td><strong>High voltage</strong></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>Extra-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>
</tr>
<tr>
<td><strong>Total</strong></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>
</tr>
</tbody>
</table>

* The total may not match due to rounding.
Reference Data (2) : Management Information
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.

- **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.

**Example use of storage battery system**

1. **Use for supply and demand adjustment**
   - Daylight hours when solar power generation is sufficient ⇒ Charge supply surplus
   - Night time 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.
**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></td>
<td></td>
</tr>
<tr>
<td>Existing thermal power generation</td>
<td>10 locations*¹</td>
<td>15 locations*²</td>
</tr>
<tr>
<td>Generation capacity*³ (MW)</td>
<td>23,410</td>
<td>42,960</td>
</tr>
<tr>
<td>Electricity generated*⁴ (billion kWh)</td>
<td>1,102</td>
<td>1,902</td>
</tr>
<tr>
<td>Fuel acceptance/ storage/gas transmission business</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNG terminals</td>
<td>Owned terminals : 3 locations*⁵</td>
<td>Own terminals : 2 locations*⁷</td>
</tr>
<tr>
<td>Tank capacity (million kL)</td>
<td>Joint terminal : 1 location*⁶</td>
<td>Joint terminal : 2 locations*⁸</td>
</tr>
<tr>
<td>1.93</td>
<td>2.98</td>
<td></td>
</tr>
<tr>
<td>Payout amount*⁴ (million tons)</td>
<td>12.77</td>
<td>22.57</td>
</tr>
<tr>
<td>Related companies</td>
<td>Subsidiaries</td>
<td>Affiliated companies</td>
</tr>
<tr>
<td></td>
<td>2 companies*⁹</td>
<td>4 companies*¹¹</td>
</tr>
<tr>
<td></td>
<td>6 companies*¹⁰</td>
<td>4 companies*¹²</td>
</tr>
</tbody>
</table>

*¹ Shin-Nagoya, Yokkaichi, Chita, Taketoyo, Nishi-Nagoya, Atsumi, Chita Daini, Kawagoe, Hekinan, Joetsu
*² Futtsu, 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 Futtsu LNG Terminal, Higashi-Ogishima LNG Terminal
*⁸ Sodegaura LNG Joint Terminal, Negishi LNG Joint Terminal
*⁹ Chita LNG Co., Ltd., Chita Berth Co., Inc.
*¹¹ Central LNG Marine Fuel Japan Co., Inc., Central LNG Shipping Japan Co., Inc.
*¹² Joban Joint Power Co., Ltd.
(Only equity method affiliated companies)
Optimum portfolio is created using the world’s largest procurement scale and trading, and fuel procurement that can flexibly respond to changes in the business environment in the future is realized.

Creation of optimum portfolio of LNG

- Procurement with short-term and spot contracts
- Procurement with long-term contracts

Combining various contracts to form the optimum portfolio*

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

As of July, 2016

<table>
<thead>
<tr>
<th>FY 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term and spot contract</td>
</tr>
<tr>
<td>5 MTPA</td>
</tr>
<tr>
<td>Long-term contract (Existing contract)</td>
</tr>
<tr>
<td>35 MTPA</td>
</tr>
<tr>
<td>Long-term contract (Existing contract)</td>
</tr>
<tr>
<td>15 MTPA</td>
</tr>
</tbody>
</table>

**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.**

| Oct, 2017 | LNG Conclusion of LNG Sales and Purchase HOA with Malaysia LNG |
| --- |
| July, 2018 | LNG Signing of binding agreements to form an LNG optimization and trading joint venture |
| Aug, 2018 | LNG Conclusion of LNG Sales and Purchase MOA with ADNOC 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.**

| Oct, 2017 | Participation in Linden Gas Thermal IPP |
| --- |
| Aug, 2018 | Participation in Natural Gas-fired Thermal Power Generation in the Northeastern United States |
| Dec, 2018 | Participation in Wind Power Project |

**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.**

**JERA will actively participate in energy projects situated in its portfolio regions to ultimately become a key player in energy markets in those regions. JERA will also seek to benefit from gaining knowledge of NYISO, one of the most advanced US power markets.**

**Agreement about acquisition of equity interest regarding wind power project in two countries. Through its participation in advanced markets, JERA will gain knowledge and experience in operation of the offshore wind power generation and leverage this to move forward with projects in Japan and abroad.**
Strengthening Our Business Base for Growth and Achieving Sustainable Growth

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.

**Chubu Electric Power’s management resources and knowhow**
- Integrated development solutions for building production equipment with customers
- Online services with rich content
- Electric power sales performance and knowhow in the Tokyo metropolitan area

**Osaka Gas’ management resources and knowhow**
- Visualization and improvement proposals using IoT technology
- Solutions to improve productivity through custom development, including industrial burners
- New services and preventive maintenance using big data analysis for gas equipment
- Energy saving through cogeneration and remote control
- Gas safety knowhow delivering safety and peace of mind

**Characteristic of electricity business**
Stably deliver electricity widely to every corner of an area, regardless of demand density

**Characteristic of gas business**
Ensure safety by providing equipment and services through close contact with customers

**Integrated development solutions for building production equipment with customers**
- Through close contact with customers, we will create “new value” useful in living and business by leveraging electrification technology and combustion technology.

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

**[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

**[Topics]**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 29, 2018</td>
<td>Conclusion on absorption-type split agreement</td>
</tr>
<tr>
<td>May 30, 2018</td>
<td>Publication of alliance with Tokyu Power Supply</td>
</tr>
<tr>
<td>June 12, 2018</td>
<td>Beginning of tariff menu application</td>
</tr>
<tr>
<td>Aug. 1, 2018</td>
<td>Beginning of power and gas supply</td>
</tr>
</tbody>
</table>

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Strengthening Our Business Base for Growth and Achieving Sustainable Growth

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

Expand data through service provision

Data platform

Expand data through service provision

Service using data accumulated in our data platform

Data use and service provision by companies besides us

Individuals

Individuals

Services to improve quality of life

Provide various “new forms of community”

- 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

Community services based on connecting and evolving multiple kinds of social infrastructure

- Understanding movement information of residents at important points in the city
- Checking the situation at home while away
- Effective use of renewable energy
- Economical use of storage batteries/EVs
- On-demand transportation by car/EVs connecting important points in the city

Evolving energy infrastructure into two-way “community support infrastructure” connected to multiple kinds of social infrastructure and customers’ equipment

Data provision

Data use and service provision by companies besides us

Individuals

Individuals

Services that lead to solutions to community issues

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]

[Composition of Electric Power Output]

*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 (FY)</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</td>
<td>Nishi-Nagoya No.7 started operation</td>
</tr>
<tr>
<td>2017</td>
<td>Taketoyo No.5 start operation</td>
</tr>
</tbody>
</table>

Target emission intensity 0.37kg-CO₂/kWh (FY2030)
Establishing a Business Structure/Management Base that can Respond Instantly to Environmental Changes

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

<table>
<thead>
<tr>
<th>Output (at the generation end)</th>
<th>2,376 MW (1,188 MW × 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal efficiency</td>
<td>Approx. 62% (LHV basis)</td>
</tr>
<tr>
<td>Fuel</td>
<td>LNG</td>
</tr>
<tr>
<td>operation started</td>
<td>Sep. 2017 (Unit 7-1) Mar. 2018 (Unit 7-2)</td>
</tr>
</tbody>
</table>

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 (*)

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

<table>
<thead>
<tr>
<th>TOPICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲LNG consumptions Reduce 0.5 million tons per year</td>
</tr>
<tr>
<td>▲CO₂ emissions Reduce 1.4 million tons per year</td>
</tr>
</tbody>
</table>

Unit 7-1 having been granted with recognition as the world's most efficient combined cycle power plant.

<table>
<thead>
<tr>
<th>[Construction progress of Taketoyo Thermal Power Plant ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2017</td>
</tr>
<tr>
<td>▼Jan. 2018 : preparatory works started</td>
</tr>
<tr>
<td>▼Mar. 2018 : construction plan notified</td>
</tr>
<tr>
<td>▲Apr. 2018 : construction started</td>
</tr>
<tr>
<td>△July 2021 : first firing</td>
</tr>
<tr>
<td>▽Mar. 2022 : operation to start</td>
</tr>
</tbody>
</table>

Chubu 10 EPCos Total

Effect due to start of operation
- LNG consumptions Reduce 0.5 million tons per year
- CO₂ emissions Reduce 1.4 million tons per year

(Note) "10 EPCos Total" values are based on "Environmental Action Plan by the Japanese Electric Utility Industry" published by The Federation of Electric Power Companies of Japan (FEPC)

Change of total thermal efficiency (LHV basis)

<table>
<thead>
<tr>
<th>[Outline of development of Nishi-Nagoya Thermal Power Plant Unit No.7]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output (at the generation end) 1,070 MW</td>
</tr>
<tr>
<td>Thermal efficiency (LHV basis) 46% (LHV basis)</td>
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<td>Fuel Coal, Wood biomass</td>
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One of Japan's largest biomass generation output (*)

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

Unit 7-1 having been granted with recognition as the world's most efficient combined cycle power plant.

[Outline of development of Taketoyo Thermal Power Plant Unit No.5]
### Carrying out ESG management (E: Promotion of Renewable Energy)

(As of the end of December, 2018)

<table>
<thead>
<tr>
<th></th>
<th>Chubu Electric</th>
<th>(Reference) Chubu Electric Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydro operating</td>
<td>197 Site: 5,459MW</td>
<td>Akiyama: 0.29MW (FY2016) Sakoe: 0.38MW (FY2018)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kurokawadaira: 0.17MW (FY2021) Ichishiro: 0.16MW (FY2021) Seinaiji: 5.6MW (FY2022) Abekawa: 7.1MW (FY2022) Amazake: 0.53MW (FY2018) Hidasunouchi: 0.82MW (FY2020)</td>
</tr>
<tr>
<td>Wind operating</td>
<td>Omaezaki: 22MW</td>
<td>150MW</td>
</tr>
<tr>
<td></td>
<td>Atsumi (tentative name): 7.4MW</td>
<td>—</td>
</tr>
<tr>
<td>Solar operating</td>
<td>Mega Solar Iida: 1.0MW</td>
<td>241MW</td>
</tr>
<tr>
<td></td>
<td>Mega Solar Shimizu: 8.0MW</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Mega Solar Kawagoe: 7.5MW</td>
<td>7 Site: 131MW (FY2019)</td>
</tr>
<tr>
<td>Biomass operating</td>
<td>mixture of wooden chip</td>
<td>Taki bio power: 6.75MW (FY2016)</td>
</tr>
<tr>
<td></td>
<td>mixture of fuel from carbonized sewage sludge</td>
<td>—</td>
</tr>
<tr>
<td>Total Operating</td>
<td>5,497.5MW</td>
<td>5,896.39MW</td>
</tr>
<tr>
<td>Plan</td>
<td>85.78MW</td>
<td>436.56MW</td>
</tr>
</tbody>
</table>

*Joint businesses are recorded by equity interest.*

### Development locations of hydroelectric power station
- Conventional hydro
- Generation with minimum water level

Parentheses denote the commercial operation start year.

### Biomass Power Generation
**Investment in the Woody Biomass Electric Power Plant in Yonago-shi (joint business)**

**[Summary of Project]**
- Site: Yonago City, Tottori Prefecture
- Wadahama Industrial Park
- Power output: 54.5MW
- Power generation: Approx. 390 million kWh/year
- Type of fuel: Wooden pellet, Palm coconut shell
- Investing companies:
  - Chubu Electric Power Co., Inc.
  - Tokyu Land Corporation
  - Mitsubishi UFJ Lease & Finance Company Limited
  - New Energy Development Co., Ltd.

- [Site map]
- Reference: GSI

**Power generation output of renewable energy**

*Increase 20% by 2030*

Note: Renewable energy developed by JERA Co., Inc. is excluded.
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.

**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.

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![Graphs showing solar and wind power generation](image)

**[Introduction of renewable energy in Chubu region]**

- **Solar Power Generation**
  - Amount of electricity flowing in transmission lines (current)

- **Wind Power Generation**
  - Operation capacity (N-1)
  - Available capacity
  - Maximum current (anticipated)
  - Capacity set aside for emergencies
  - Anticipated current

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