# Financial Results for the Six Months Ended September 30, 2018

### Hokkaido Electric Power Co., Inc.

November 15, 2018

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Note : In this presentation, "FY(Fiscal Year)" refers to the period of April 1 through March 31 of each year. e.g. FY2019 means the period from April 1, 2018 to March 31, 2019.



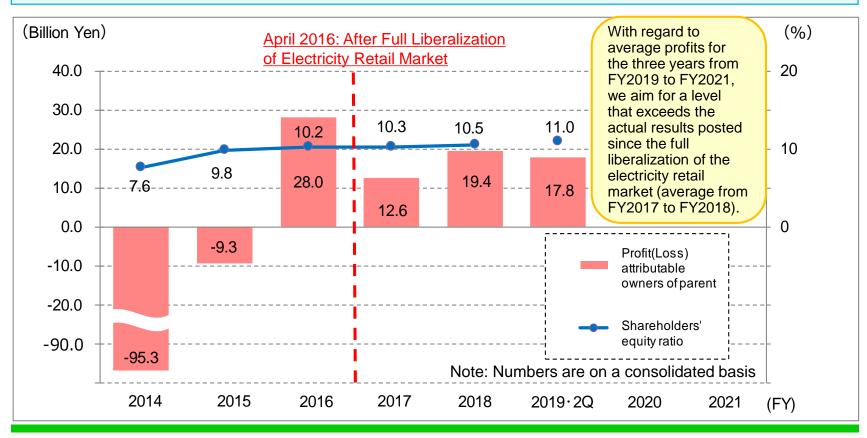
### Financial Results for the Six Months Ended September 30, 2018

- Although there was a decrease in electricity sales due to the impact of contract switching to other companies as well as the power outage caused by the Hokkaido Eastern Iburi Earthquake and cooperation to save electricity, revenue increased due to the impact of the fuel cost adjustment system implemented because of the rise in fuel prices.
- Although there was an increase in expenditure on fuel and purchased power due to both increased operation of oil-fired power plants following the earthquake and a rise in fuel prices, <u>ordinary expenses declined</u> and consolidated ordinary profit was <u>17.8 billion yen (an increase of 11.8 billion yen)</u> thanks to additional hydroelectric power generation in line with increased rainfall, earlier ongoing efficiency improvements and the achievement of further improvements in efficiency and cost reduction under the Management Infrastructure Enhancement Promotion Committee etc.
- Anticipating the impact of the earthquake on the non-consolidated financial results for the full fiscal year to be about 11 billion yen, we have reflected 8.9 billion yen in the second quarter settlement of accounts. We have posted an extraordinary loss of 4.2 billion yen, including expenses required for restoration of affected facilities.
- Non-consolidated ordinary profit was <u>16.6 billion yen</u>. Both consolidated and non-consolidated saw an increase in revenue and profit.
- The forecasts of Operating income (loss), Ordinary income (loss), and Profit (loss) are continued yet to be determined. This is because expenses such as fuel costs cannot be assessed appropriately as we must monitor the situation regarding generating capacity from this point on.



### Financial Results for the Six Months Ended Sep. 30th, 2018

- The earthquake resulted in inconveniences to our customers. Going forward, we will make all-out efforts to restore trust, and will listen earnestly to customers' opinions while promoting sales activities.
- In order to achieve the profit targets for the next three years, as a general energy company, we will strive to expand our customer base and improve earnings, and will continue to make efforts to improve efficiency and reduce costs.





#### FY 2019 Dividend forecast

Regarding the year-end dividend forecast, both the ordinary shares and the preferred stock will continue to be "undecided", as it is not possible to forecast business performance. We will promote business operations based on our dividend policy of "maintaining stable dividends" and we will notify as soon as we can predict the dividend in the future.

| [ Cash dividend | (Common | stock) | ] |
|-----------------|---------|--------|---|
|-----------------|---------|--------|---|

|        | Cash dividends per share       |           |           |  |
|--------|--------------------------------|-----------|-----------|--|
|        | Interim Year-ended Annual tota |           |           |  |
| FY2019 | _                              | Undecided | Undecided |  |
| FY2018 | _                              | ¥ 5.00    | ¥ 5.00    |  |

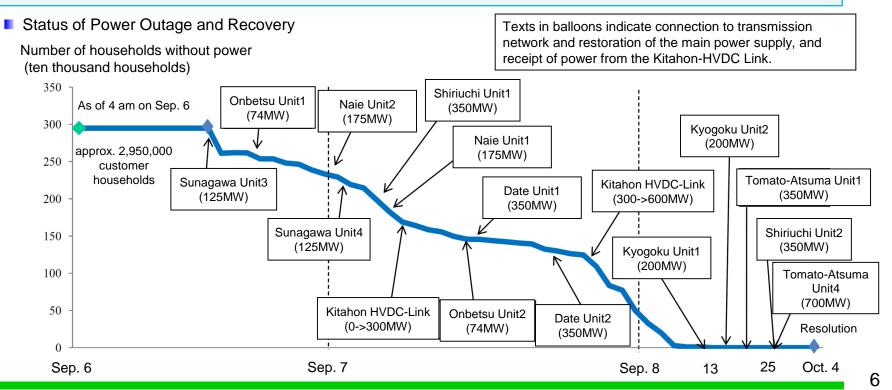


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#### 

#### **Status of Power Outage and Recovery**

- An earthquake with a maximum seismic intensity (Japanese seismic scale) of 7, magnitude 6.7 occurred in the east central region of Hokkaido's Iburi Subprefecture before dawn on September 6, 2018.
- This earthquake triggered the shutdown of not only the Tomato-Atsuma Power Station, one of the main power sources, but all of our power stations as well, interrupting service throughout Hokkaido (excluding remote islands).
- We restarted operation of the hydropower and thermal power stations that had not been damaged by the earthquake, and resolved power service interruptions by taking power from the Kitahon-HVDC Link and gaining the cooperation of the people of Hokkaido in saving power and the cooperation of customers who have power generation facilities of their own.
- Except near the epicenter and some other areas, the power outage was almost resolved by the night of September 8.





#### **Response toward restoration of the Tomato-Atsuma Power Station**

Initial anticipation

We assumed that it would be necessary to assemble and disassemble the scaffold the interior of the boiler, work that takes a long time in situations where the damage to parts such as boilers is unclear.

Actual restoration

Because the damaged sections were more limited than expected, we responded by rationalizing and shortening the work process to the extent possible.

We received tremendous support from the government, other electric power companies, manufacturers, and power plant construction companies.

[Recovery time for the Tomato-Atsuma Power Station]

| Unit              | Initial Anticipation<br>(Published September 11) | Actual restoration date | Main response to restoration                                                                                                                  |  |  |
|-------------------|--------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Unit 1<br>(350MW) | From the end of<br>September                     | September 19            | Repaired damage to 2 boiler pipes                                                                                                             |  |  |
| Unit 2<br>(600MW) | After mid October                                | October 10              | Repaired damage to 12 boiler pipes and 2 pulverized coal mills                                                                                |  |  |
| Unit 4<br>(700MW) | After November                                   | September 25            | Repaired damage to the tip of the main turbine<br>where the fire occurred, checked it and corrected<br>eccentricity in the main turbine shaft |  |  |
| $\nabla$          |                                                  |                         |                                                                                                                                               |  |  |

#### Earlier recovery than initially anticipated.

[Damage to power facilities]



Boiler pipes of unit 1



Boiler pipes of unit 2 (1)



Boiler pipes of unit 2 (2)



Unit 4: Main turbine



#### **Recovery response for other power stations**

Measures toward securing capacity to supply electric power after the earthquake

- We resumed the operation of nine 1.72 million kW thermal power plants, 1.5 days after the power outage throughout Hokkaido, excluding the Tomato-Atsuma Power Station and the inoperative unit. The hydropower stations were restored in sequence.
- Early resumption of operation of the Kyogoku Power Station [2 units @ 200 MW]
  - Unit 1: September 21 -> September 13 (Starting the waterwheel repair work early)
  - Unit 2: September 17 -> September 14 (Starting periodic inspection of generator early) (Note) Along with the resumption of operation of the Kyogoku Power Station, we canceled our request to save power in accordance with a numerical target.
- Emergency restoration due to interruption of repair work on Shiriuchi Power Station Unit 2 (October 27 -> September 25)

Ensuring power supply capacity for winter season

- Tomakomai Kyodo Karyoku Power Station Unit 3 periodic inspection will have finished (Scheduled for November 18)
- Tomakomai Power Station unit 1 periodic inspection will have finished (Scheduled for December 3)
- We will accelerate the comprehensive test operation process of Unit 1 of the Ishikariwan Shinko Power Station and keep its power supply capability in reserve in case of emergency.

We will make every effort to ensure a stable power supply even in winter, when the supply-demand balance becomes hardest to maintain.

### Response to the Hokkaido Eastern Iburi Earthquake



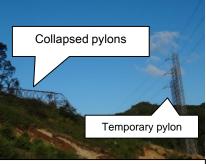
### Efforts to restore transmission and distribution facilities

- Regarding distribution facilities, there was both damage and loss, but repair of damage to facilities and equipment that was impeding the supply of electric power has been completed.
- Regarding transmission facilities, we are continuing work to rebuild pylons and prevent sediment erosion.
- Major damage to HEPCO facilities

[ Power transmission facilities ]

| Line                            | Damage to power<br>facilities     |
|---------------------------------|-----------------------------------|
| Iwachishi line (66kV)           | 2 pylons collapsed<br>(landslide) |
| Karikachi trunk line<br>(275kV) | Avalanche near<br>1 pylon         |





Iwachishi line (66kV) Status of emergency restoration of pylons



Restoration work at the point where road obstacles were eliminated (Atsuma Town)

[ Power distribution facilities ]

| Support structure (bases) |           | Power lines<br>(wires) | Transform      | ners (units) |              |         |           |
|---------------------------|-----------|------------------------|----------------|--------------|--------------|---------|-----------|
| Broken                    | Inclining | Collapsed              | Washed<br>away | Subtotal     | Broken, etc. | Damaged | Inclining |
| 44                        | 787       | 20                     | 244            | 1,095        | 161          | 57      | 1,422     |

### Response to the Hokkaido Eastern Iburi Earthquake



The Investigation Committee set up by the Organization for Cross-Regional Coordination of Transmission Operators Japan (OCCTO)

Analysis of the cause of the power failure this time is conducted, and the process to achieve a certain level of supply capability, measures to prevent the reoccurrence of a large-scale outage, etc. are verified from a technical point of view.

#### A Working Group on Electricity Resilience

The working group will aim to hold discussions on challenges in and measures for enhancing the resilience of electricity infrastructure and establishing disaster-resilient electricity supply systems that will allow Japan to conduct efforts for early recovery from electricity outage, readily share accurate information with the public, and other actions.

[Discussion (excerpt) at the Investigation Committee and the Working Group on Electricity Resilience]

• The incident that occurred this time was caused by a combination of the stoppage of Unit 1, 2 and 4 at the Tomato-Atsuma Power Station and the stoppage of hydropower stations due to accidents involving four transmission lines caused by the earthquake ([N-3]+[N-4]).

Interim report

- The preparation of a procedure manual and training in anticipation of a blackout were appropriately conducted. It was also confirmed that power restoration was performed mostly in accordance with procedure during the recovery process.
- Operating power plants according to merit order, to the extent that a stable supply of electricity is secured, is globally common and desirable in order to improve efficiency, in such ways as lowering electricity rates. So, it cannot be said that the simultaneous operation of the three units of the Tomato-Atsuma Power Station for that purpose is inappropriate.
- Regarding the accident involving the transmission line, from a security regulation perspective, it was not confirmed that any violation etc. was found in the construction and operation of the facility, and it may be said that inappropriateness was not confirmed in past facility construction.
- In HEPCO's facility construction and investment decisions, we may not be aware of inappropriateness or unreasonable delay that would increase the risk of blackout.



Measures to be taken to prevent recurrence in the immediate and medium to long term (See next page)

### Response to the Hokkaido Eastern Iburi Earthquake



#### The internal investigation committee, and measures to prevent recurrence

The internal investigation committee: Based on the verification content of the investigation committee of OCCTO, it was established that the response to large-scale outage should be verified and such verification should be utilized to ensure a stable power supply in the future. Dissemination of information and collaboration should also be done. (Chairperson: President, 3 external experts, 7 directors of HEPCO; 11 in total)

[Interim report (November 1.2018)]

- We organized a power supply system resilient against disasters by incorporating such elements as "early restoration of power following outage" and "prompt and accurate information dissemination" under the theme of countermeasures against the occurrence of outage, correspondence with related organizations, information dissemination, and post-accident restoration correspondence.
- Based on the immediate recurrence prevention measures and the mid- to long-term measures indicated in the "interim report" by OCCTO and by the Electric Resilience Working Group, we reconsidered these efforts and others.

Regarding our facility compliance

[Measures to prevent recurrence in the immediate future (this winter)]

- Regarding measures against load cutoff by Under Frequency Relays (UFR), additional setting of 350,000 kW was completed.
- Regarding the Tomato-Atsuma Power Station, for the time being, we will thoroughly implement operations based on the interim report of the verification committee of OCCTO (operation of Unit 1 and 2 at the Kyogoku Power Station, additional measures at the time of stopping one of two units at the Kyogoku Power Station, etc.).

[Medium- to long-term measures on operation and facility construction]

• As study will be proceeded with consideration by OCCTO and the government regarding whether to implement further reinforcement of the Kitahon HVDC Link and who should bear the cost, we will continue to respond properly.

[Final report (expected in late December)]

 Regarding specific issues concerning the dissemination of information etc., we will come up with concrete measures concerning each issue, and will appropriately reflect the final report at the meeting of the OCCTO investigation committee concerning facility correspondence, as well as formulate an action plan in the future.

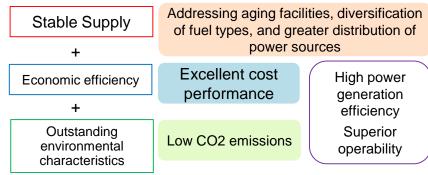
# We will firmly implement immediate measures for operation this winter and measures to be tackled in the medium to long term.

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#### Ishikariwan Shinko Power Station (LNG) Start of comprehensive test operation of power station (October 11)

- Contributes to improving the competitiveness of power supply by having excellent economics.
- Addresses the issue of our aging existing thermal power stations and the need for diversification of fuel types.
- It aligns with the movement to decentralize the power supply, and is highly responsive to fluctuating demand for electric power with excellent operability.

#### Objectives in building Ishikariwan Shinko Power Station and its distinguishing features



#### ◆ Main process until the start of commercial operation of Unit 1

#### (2018)

August 1 LNG carrier's first entry, LNG acceptance started October 5 Gas turbine first ignition October 11 Start of comprehensive test operation (note) of power station (Start of power generation) Note: Undergo test operation while raising power generation output

(2019 February) Commercial operation start (scheduled)

#### [Overview of the power station]

| Power generation method                      | Gas Turbine Combined-Cycle                                                                                                       |  |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--|
| Power generation efficiency (generating end) | Approx. 62% (Lower Heating Value)<br>(Note)Power generation efficiency of world-class level                                      |  |
| Construction progress rate                   | 92.3% (as of October 20, 2018)                                                                                                   |  |
| Commercial operation start (scheduled)       | Unit 1 (569.4MW): February 2019<br>Unit 2 (569.4MW): December 2026<br>Unit 3 (569.4MW): December 2030<br>Total output 1,708.2 MW |  |

## Measures toward Ensure Stable Supply



#### 300 MW increase of interconnection line by construction of Shin-Kitahon HVDC Link

- Secure further stable supply of electricity in the Hokkaido area; strengthen response in inspection period etc. of existing interconnection equipment.
- Contribute to expansion of introduction of renewable energy in Hokkaido and activation of power trading.
- March 2019 Scheduled to start operations. (Construction progress rate: 96.7 % [as of October 31])
- < Overview of construction for reinforcing the Kitahon HVDC Link >

| Summary of construction                                                                                                                                                                                                                                      | Features of Shin-Kitahon HVDC Link                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul> <li>Power transmission capacity: 300 MW</li> <li>Transmission voltage: 250 kV (DC)</li> <li>Route length: 122 km</li> <li>Overhead transmission line<br/>77 km on the Hokkaido side<br/>21 km on the Honshu side<br/>Underground cable 24 km</li> </ul> | <ul> <li>The AC power system of Hokkaido and Honshu is connected by DC transmission lines. Adopting Japan's first "self-commutated converter" using the latest semiconductor elements for conversion between AC and DC.</li> <li>=&gt;It is possible to convert AC and DC electric power without the power supply of AC system (power receiving side).</li> <li>Operable without being influenced by AC transmission network system =&gt;Contributing to stable operation of the transmission network system</li> <li>No need of phase modifying facility and filters =&gt;Construction cost reduction</li> </ul> |
|                                                                                                                                                                                                                                                              | <ul> <li>Voltage adjustment is possible</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |



#### Increasing customer Base and improving profit resulting from expansion of business area

- We will strive to expand our business areas by pursuing electric power sales outside Hokkaido (mainly in the Tokyo metropolitan area), wholesale sales, and the gas supply business, and we will aim to further grow and develop as a general energy company by developing total energy solution.
- In addition, for further development of business, we are also considering overseas business including domestic renewable energy power generation business and hydro/wind power generation for commercialization.



 Expansion of sales in the Tokyo metropolitan area, promotion of wholesale sales of electricity, utilizing LNG power plants in Ishikari and Fukushima
 FY2018: Contract acquisition of about 20,000 kW in the Tokyo metropolitan

Expansion of business area

area

#### Further Growth and Development as a General Energy Company

#### **Promotion of Total Energy Solution**

- Increase profit by selling electricity and gas + α, including ESP business
- Responding to requests such as BCP based on disaster

#### **Development of new business**

- Renewable energy power generation business
- Overseas business (business mainly focusing on hydroelectric power generation etc.)

Electricity business in Hokkaido (base of HEPCO Group)

Expansion of business field

#### Promotion of gas supply business

 Immediate goal: sales volume 10,000 tons/year

### Promotion of General Energy Business

#### Promotion of gas supply business

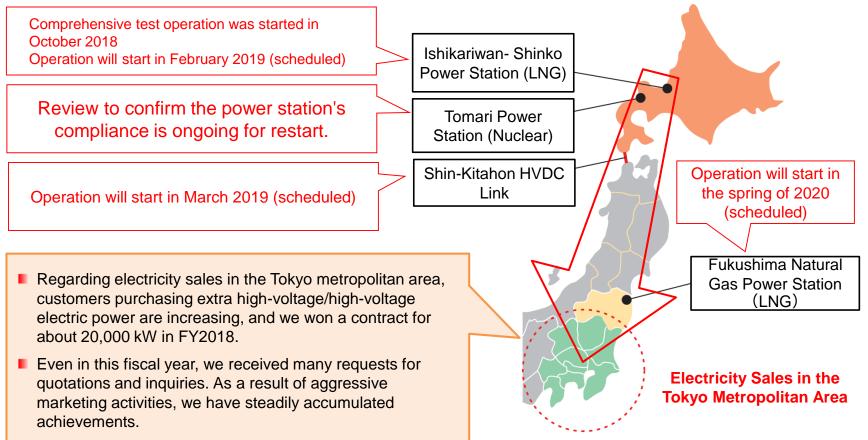
- We will develop our gas supply business as a means of expansion. We have already acquired new customers and will continue to conduct sales activities to expand contract acquisition.
- We have received a lot of inquiries so far. We aim to further increase the number of contracts and to attain the immediate target of 10,000 tons/year of sales volume.





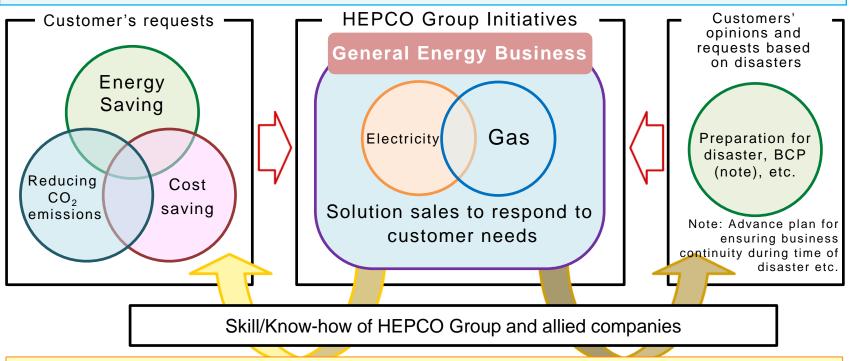
#### Further expansion of wholesale sales and electric power sales outside Hokkaido

With a view to utilizing supply power from the start of operation of the Ishikariwan Shinko Power Station and the restart of the Tomari Power Station and to utilizing the Shin-Kitahon HVDC Link, we will aim to further expand wholesale sales and electric power sales outside Hokkaido (in the Tokyo metropolitan area) by utilizing competitive electric power.



#### Promotion of total energy solutions

- We gather the skills and know-how of HEPCO's group companies and our alliance partners to provide total energy solutions that respond to customer requests such as in regard to our energy service provider (ESP) business, and we aim to improve profitability of electricity, gas, and other businesses.
- ->Regarding the ESP business, due to the evaluation of past achievements, we have received inquiries from numerous customers, and we are currently adjusting the contract details with some customers.



In order to respond to customer feedback and requests, we work with other companies—in addition to those in the HEPCO Group—with specialized skills and know-how to make timely and optimum proposals tailored to customer needs.

### Promotion of General Energy Business

#### About development of new business

- We have been promoting efforts to expand the introduction of renewable energy such as wind power and photovoltaic power, which are local resources, as an approach to the environment and ESG.
  - The amount of renewable energy connected to the grid within Hokkaido is about 3,630 MW as of the end of FY2018 (wind and photovoltaic power is about 1,720 MW).



[Business Environment Changes]

Further profits expansion

Reducing CO<sub>2</sub> emissions and global-warming countermeasures Renewable energy will become the main power source in the future

Spread of ESG

Based on changes in the business environment, we will actively engage in "renewable energy generation business in Japan and abroad" as the HEPCO Group.

Regarding overseas business, we will continue to undertake broad-based examinations to confirm the business potential, including for the hydroelectric power business, in which we have experience and know-how for technical cooperation etc.

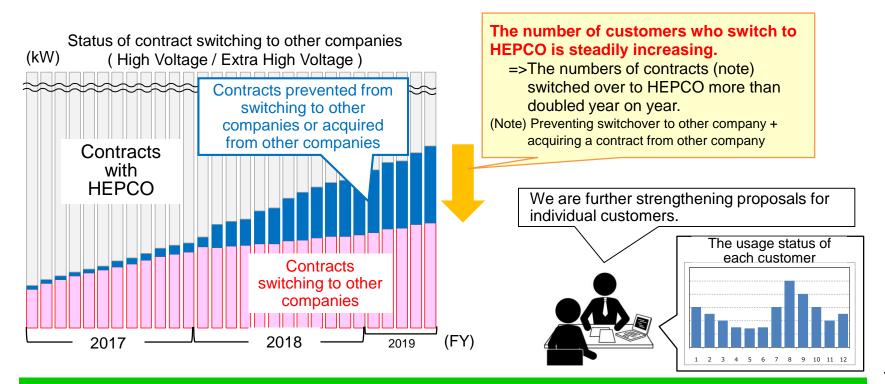
#### [Concept of business development]

- We are considering commercialization focusing on renewable energy generation such as hydropower, wind power (on land, on the sea), photovoltaic power, geothermal power, biomass, etc.
- By developing business, we aim to increase profitability as well as build up our technologies and technical skills and pass on them to the younger generation by engaging in overseas power plant construction, absorb know-how and knowledge through collaboration with other companies, and develop human resources.



#### **Strengthen sales activities**

- Based on the fiercely competitive environment that emerged following the liberalization of the electricity market, we have engaged in customized proposal activities based on customer usage etc. As a result, the number of customers who have switched to HEPCO has steadily increased.
- We will further promote sales activities targeting everyone from large customers needing extra high voltage to small customers such as low-voltage chain stores. By promoting efficient operation and cost reduction for facilities, we will continue to make optimum proposals to individual customers and strive to have our company selected by customers.
- The earthquake resulted in inconveniences caused to our customers due to outages and the push to save power. We will now do our utmost to recover trust and, at the same time, we will respond to their requests based on the viewpoint of BCP, and actively implement energy saving diagnostics etc.





### Promotion of sales activities through alliances

We will actively develop alliances with other industries in order to acquire new contracts and prevent customers from leaving.

| Types of Alliances (Purposes)                                                                               | Points to consider when deciding who to partner with                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul> <li>Point system cooperation (Service expansion)</li> <li>Set sale (service expansion) etc.</li> </ul> | <ul> <li>Abundant customer base, point of contact with customers such as face-to-face</li> <li>Utilizing the power of sales, name recognition in the region, influence</li> <li>Providing attractive products to customers, etc.</li> </ul> |

#### Preparing alliances for early deployment

• We are promoting discussions and examinations in the form and nature of alliances mainly with companies and organizations that have their management base in Hokkaido.

Telecommunications industry, energy industry, home electronics store, retail chain, real estate rental business, etc.

#### Examples of achievements of alliances

- Air Water Electricity powered by HEPCO
   [ Outline of Service ]
  - Selling a set of LP gas and HEPCO's electricity by Hokkaido Air Water Inc.

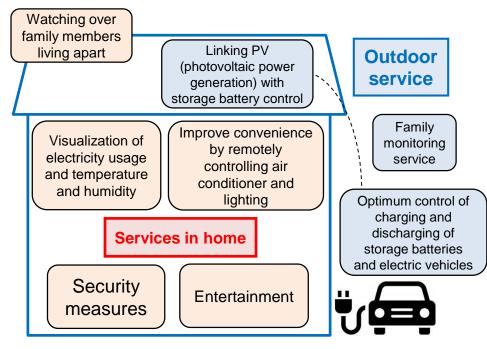
#### [Aim]

- Securing contracts combining both electricity and LP gas as well as enhancing customer loyalty
- Expansion of sales channels by utilizing its large client base and its customer contacts through its periodic gas delivery

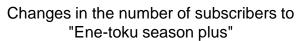
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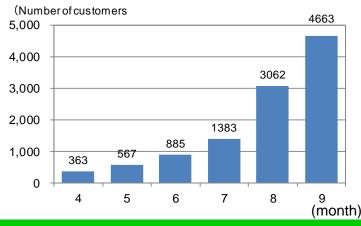
#### Expansion of demand by utilizing information technology and local characteristics

- In order to increase demand with "energy conservation, security, safety, comfort and convenience" as the key phrases, we are preparing for the early deployment of IoT services for home use that utilize information technology and combine HEMS (note), household appliance control, monitoring, security systems, etc. (Note) HEMS: Home Energy Management System
- We will implement initiatives to expand demand based on regional needs (expanding demand by promoting widespread use of air conditioners).
- Study on next-generation service utilizing information technology
  - As a new initiative, we plan to develop a home IoT service that incorporates various customer needs.



- Expanding demand for electric power through more widespread use of air-conditioners
- As Hokkaido has a low air-conditioning penetration rate in comparison with other prefectures, we have set up a new price plan for expanding demand and are promoting its spread.
- As a result of campaign implementation and tie-ins with home electronics big box stores and electricians, the number of air conditioner sales and the number of new "Ene-toku season plus" rate plan subscriptions has steadily increased.





#### Response to the main issues in the reviews

- We explain the evaluation of the potential fault in the power plant premises, and are evaluating potential earthquake ground motion from the active fault assumed northwest off the Shakotan Peninsula, toward the confirmation of the design basis seismic ground motions/reference tsunami.
- Currently, we are conducting surveys and examinations to improve the explanatory section of our evaluation on the stratigraphic age, and will explain the results at the review meeting etc.
- In parallel, we are also studying the issues of tide embankment and breakwaters, and we will explain them at the review meeting based on the results of the design basis seismic ground motion and design basis tsunami, and get an understanding.

| Issues                                                                                                                                 | Correspondence situation                                                                                                                                                                 | Main current focus of review                                        |
|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| [1]Chronological<br>evaluation of strata in<br>the premises of a power<br>plant                                                        | In order to improve the explanation of our<br>evaluation on the age of the strata, we<br>conducted surveys and studies, and<br>explain them at hearings, etc.                            | Review related to Confirmation of Ap                                |
| [2]Ground motion<br>evaluation based on<br>active fault assumed to<br>exist off the<br>northwestern coast of<br>the Shakotan Peninsula | We are advancing evaluation of potential earthquake ground motion from assumed active fault.                                                                                             | Review<br>related to<br>earthquakes<br>and<br>tsunamis<br>([1] [2]) |
| [3]Evaluation of the impact<br>on liquefaction of the<br>ground under the tide<br>embankment (seawall)<br>due to earthquake            | Regarding the tide embankment, we are studying a design change to the rocky support structure.                                                                                           | Review of plant<br>facilities([3] [4] )                             |
| [4]Evaluation of<br>the impact on plant<br>facilities when<br>breakwaters are<br>damaged by a tsunami                                  | Using analysis on movement and<br>settlement of breakwater and the results of<br>hydraulic model experiments, we are<br>advancing evaluation of the impact on<br>power plant facilities. | or license                                                          |



#### Status of recent review

| Review meeting on August 31                                                                                                                                          | Hearing on October 3                                 | On-site survey from October 11 to 12                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| <ul> <li>Explanation of geology and geological<br/>structure was given.</li> <li>We asked them to carry out a field<br/>survey and confirm the situation.</li> </ul> | <ul> <li>We explained the on-site survey.</li> </ul> | <ul> <li>We confirmed with them the geology<br/>and geological structure of the power<br/>plant site.</li> </ul> |

#### **On-site survey by the NRA (from October 11 to 12)**

- We had them confirm the properties and altitude etc. of sediments in the strata on the power station premises by observation of trench survey (note 1) and boring core (note 2), etc.
- We will continue to organize and examine the evaluation of strata division etc. and provide an explanation at the review meeting.



Trench survey



Observation of boring core

 (Note 1) Trench survey: A survey in which a trench is dug and the stratum that is revealed is examined
 (Note 2) Boring core: A rod-like sample taken by drilling (boring) into the formation

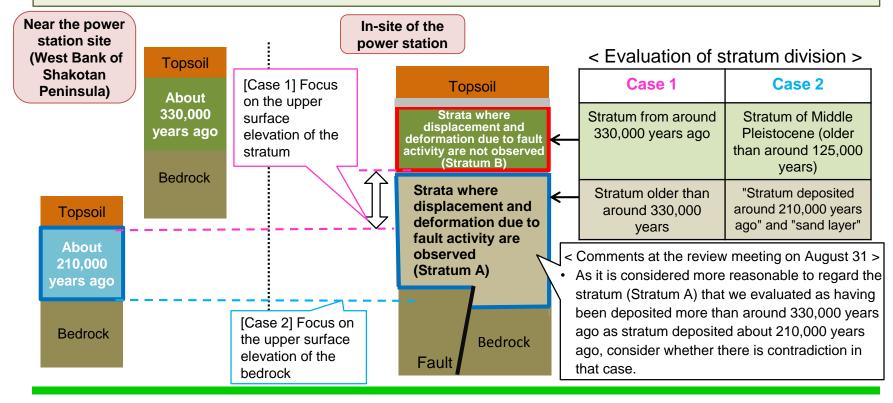
### Measures Taken to Restart the Tomari Nuclear Power Station



Regarding the issue of evaluating seismic fault activity within the site, following the comments made at the review meeting on August 31, in the field survey on October 11 to 12 we assumed the following two cases of stratum division within the site of the power station, and explained that in both cases the in-site fault of the Tomari Power Station is inactive.

For the stratum division, the following two cases are assumed.

- <Case 1> As compared with the stratum distributed on the west coast of the Shakotan Peninsula, the altitude of the upper surface of the stratum is not even etc., so we categorized "stratum A" as "strata older than around 330,000 years" and "stratum B" as "strata deposited around 330,000 years ago."
- <Case 2> Compared with the stratum distributed on the west coast of the Shakotan Peninsula, as the altitude of the upper surface of the bedrock is the same degree etc., we considered "stratum A" as divided into "strata from about 210,000 years ago" and "the sand layer," and "stratum B" as "strata from the Middle Pleistocene (older than around 125,000 years)."





#### Response to new regulatory requirement compliance review

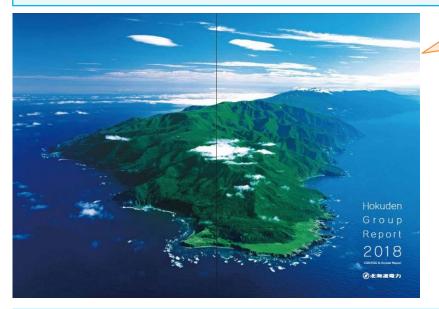
[Other issues in the reviews based on the new regulatory requirements]

As we work toward restarting the Tomari Nuclear Power Station on the premise that safety is assured, we are proceeding to respond to the review by the NRA as well as the safety measures necessary for conformity with the new regulatory conformity assessment.

| Ground motion evaluation based on active<br>fault assumed to exist off the<br>northwestern coast of the Shakotan<br>Peninsula                                                                                                         | Evaluation of the impact on liquefaction<br>of the ground under the tide<br>embankment (seawall) due to<br>earthquake                                                                                                                                                      | Evaluation of the impact on plant<br>facilities when breakwaters are damaged<br>by a tsunami                                                                               |  |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| • From the viewpoint of further<br>enhancing safety assuming active<br>faults on the northwestern coast of the<br>Shakotan Peninsula, assessments of<br>seismic motion are underway so as to<br>ensure a more conservative evaluation | <ul> <li>From the viewpoint of further enhancing<br/>the safety of the Tomari Nuclear Power<br/>Station, a review of the seawall is<br/>underway in which a design change has<br/>been made with a switch to a structure<br/>that supports the base rock layer.</li> </ul> | Using analysis on movement and<br>settlement of breakwaters and the results<br>of hydraulic model experiments, we will<br>explain the impact on power plant<br>facilities. |  |  |  |  |
| with regard to fault direction etc.<br>Shakotan Peninsula<br>Assuming active fault<br>off the northwestern<br>coast of the<br>Shakotan Peninsula<br>Tomari P.S.<br>Assumed position of active fault                                   | <pre>&lt; After change &gt;<br/>Site height</pre> Backfill soil Bedrock                                                                                                                                                                                                    | Freak water                                                                                                                                                                |  |  |  |  |



Starting in 2018, we published the "Integrated Report" for the first time to introduce our group's business activities.



We also publish financial information, details of various business activities, and non-financial information such as about expansion of introduction of renewable energy and coexistence with local communities by way of ESG/CSR efforts.



#### Creation of the "ESG & CSR Index" on our website

We also created the "ESG & CSR Index" page on our website to improve access to related information.

#### ESG/CSR Index

| Management<br>Philosophy/Management Plan | Management Philosophy and the HEPCO<br>Group Corporate Vision |  |  |  |  |  |
|------------------------------------------|---------------------------------------------------------------|--|--|--|--|--|
|                                          | Outline of the FY2019 Management Pla                          |  |  |  |  |  |
|                                          | HEPCO Group CSR Behavior Charter                              |  |  |  |  |  |
|                                          | Corporate Profile                                             |  |  |  |  |  |
|                                          | Organization                                                  |  |  |  |  |  |
|                                          | HEPCO Group Companies                                         |  |  |  |  |  |
|                                          | Financial Releases                                            |  |  |  |  |  |
|                                          | Fact Book                                                     |  |  |  |  |  |
|                                          | Investors Meeting Presentations                               |  |  |  |  |  |

| nvironment]                                           | - UEROO Oraura Environmental Palisian                                                                                           |  |  |  |  |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| invironmental Management                              | HEPCO Group Environmental Policies                                                                                              |  |  |  |  |
|                                                       | Environmental Management Framework                                                                                              |  |  |  |  |
|                                                       | Environmental Indices (performance & targets)                                                                                   |  |  |  |  |
|                                                       | Material Balance                                                                                                                |  |  |  |  |
|                                                       | Environmental Accounting                                                                                                        |  |  |  |  |
| Prevents Global Warming                               | <ul> <li>Ensuring a More Competitive and Stable Power<br/>Supply, and Contribution to Environmental<br/>Conservation</li> </ul> |  |  |  |  |
|                                                       | <ul> <li>Broader Introduction of Renewable Energy<br/>Sources</li> </ul>                                                        |  |  |  |  |
|                                                       | <ul> <li>Contributions to Energy-Saving &amp; CO<sub>2</sub> Emission<br/>Reduction</li> </ul>                                  |  |  |  |  |
| Promotion of<br>Environmental<br>Conservation         | Chemical Substance Controls                                                                                                     |  |  |  |  |
| Promotion of recycling-<br>oriented society formation | Effective Utilization of Coal Ash                                                                                               |  |  |  |  |
| Environmental Data                                    | Environmental Data                                                                                                              |  |  |  |  |

| Employment Practice | Promoting Diversity                      |  |  |  |
|---------------------|------------------------------------------|--|--|--|
|                     | Industrial Safety and Health Initiatives |  |  |  |
|                     | Human Resource Development               |  |  |  |
| Procurement         | Procurement of Materials and Equipment   |  |  |  |

#### [Governance]

| Corporate Governance             |  |  |  |  |
|----------------------------------|--|--|--|--|
| Board of Directors and Auditors  |  |  |  |  |
| Business Risk                    |  |  |  |  |
| Risk Management System           |  |  |  |  |
| Compliance Promotion Framework   |  |  |  |  |
| Compliance Promotion Initiatives |  |  |  |  |
| Compliance Hotline               |  |  |  |  |



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# Financial Results and Forecasts

# Financial Results for the Six Months Ended September 30, 2018



(Billion ven)

Points of Financial Results for the Six Months ended September 30,2018 (April 1, 2018 – September 30, 2018)

| Revenue  | <ul> <li>[Increase factors]</li> <li>The effect of the Fuel Cost Adjustment System due to higher fuel, etc.</li> <li>[Decrease factors]</li> <li>Decrease in electricity sales due to the impact of contract switching to other companies as well as the power outage caused by the Hokkaido Eastern Iburi Earthquake and cooperation to save electricity, etc.</li> </ul>                                                                                                                                                       |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Expenses | <ul> <li>[Increase factors]</li> <li>Increase in expenditure on fuel and purchased power due to both increased operation of oil-fired power plants following the earthquake and a rise in fuel prices, etc.</li> <li>[Decrease factors]</li> <li>Increase in hydroelectric power generation by abundant water.</li> <li>Earlier ongoing efficiency improvements and the achievement of further improvements in efficiency and cost reduction under the Management Infrastructure Enhancement Promotion Committee etc.</li> </ul> |
| Profit   | <ul> <li>Operating profit, ordinary profit and profit have increased</li> <li>We have posted an extraordinary loss, including expenses required for restoration of affected facilities.</li> </ul>                                                                                                                                                                                                                                                                                                                               |

|                       |                                       | Conso                                 | lidated                          |                              | Non-consolidated                      |                                       |                                  |                              |  |
|-----------------------|---------------------------------------|---------------------------------------|----------------------------------|------------------------------|---------------------------------------|---------------------------------------|----------------------------------|------------------------------|--|
|                       | April 1 –<br>Sept. 30,<br>2018<br>(A) | April 1 –<br>Sept. 30,<br>2017<br>(B) | Increase/<br>Decrease<br>(A)-(B) | Comparison<br>(A) / (B)<br>% | April 1 –<br>Sept. 30,<br>2018<br>(A) | April 1 –<br>Sept. 30,<br>2017<br>(B) | Increase/<br>Decrease<br>(A)-(B) | Comparison<br>(A) / (B)<br>% |  |
| Operating<br>Revenue  | 351.1                                 | 343.8                                 | 7.2                              | 102.1                        | 338.1                                 | 329.6                                 | 8.5                              | 102.6                        |  |
| Operating Profit      | 23.8                                  | 13.3                                  | 10.5                             | 179.4                        | 22.1                                  | 9.9                                   | 12.1                             | 222.7                        |  |
| Ordinary Profit       | 17.8                                  | 6.0                                   | 11.8                             | 295.8                        | 16.6                                  | 3.0                                   | 13.6                             | 550.0                        |  |
| Profit <sup>[*]</sup> | 9.8                                   | 5.4                                   | 4.4                              | 181.0                        | 9.1                                   | 3.9                                   | 5.2                              | 233.7                        |  |

\* "Profit" on the Consolidated Financial Results mentioned above means "Profit attributable to owners of parent" resulting from adoption of the "Accounting Standard for Business Combinations, and others"

### Statement of operations (Consolidated)



|                      |                                                          |                                |                                 |                              |                        | (Billion yen)                     |
|----------------------|----------------------------------------------------------|--------------------------------|---------------------------------|------------------------------|------------------------|-----------------------------------|
|                      |                                                          | April 1 – Sept. 30,<br>2018(A) | April 1 - Sept. 30,<br>2017 (B) | Increase/Decrease<br>(A)-(B) | Comparison<br>(A)/(B)% | April 1, 2017 –<br>March 31, 2018 |
|                      | Operating Revenues                                       | 351.1                          | 343.8                           | 7.2                          | 102.1                  | 733.0                             |
| Rev                  | Electricity                                              | 337.1                          | 328.6                           | 8.5                          | 102.6                  | 701.5                             |
| Ordinary<br>Revenues | Others                                                   | 13.9                           | 15.1                            | (1.2)                        | 91.7                   | 31.5                              |
| ary                  | Non-operating Income                                     | 1.0                            | 0.9                             | 0.0                          | 109.2                  | 2.2                               |
| ••                   | Subtotal                                                 | 352.1                          | 344.8                           | 7.3                          | 102.1                  | 735.2                             |
| _                    | Operating Expenses                                       | 327.2                          | 330.5                           | (3.2)                        | 99.0                   | 699.3                             |
| E O O                | Electricity                                              | 314.8                          | 317.3                           | (2.4)                        | 99.2                   | 671.8                             |
| Ordinary<br>Expenses | Others                                                   | 12.3                           | 13.2                            | (0.8)                        | 93.6                   | 27.4                              |
| ary<br>ses           | Non-operating Expenses                                   | 7.0                            | 8.2                             | (1.1)                        | 85.6                   | 16.5                              |
|                      | Subtotal                                                 | 334.3                          | 338.7                           | (4.4)                        | 98.7                   | 715.8                             |
|                      | rating Profit]                                           | [23.8]                         | [13.3]                          | [(10.5)]                     | [179.4]                | [33.7]                            |
|                      | nary Profit                                              | 17.8                           | 6.0                             | 11.8                         | 295.8                  | 19.4                              |
|                      | sion or reversal of reserve for<br>ation in water levels | 1.2                            | (1.1)                           | 2.4                          | _                      | (0.9)                             |
| Extra                | ordinary loss                                            | 4.1                            | _                               | 4.1                          | —                      | _                                 |
| Profit               | before income taxes                                      | 12.4                           | 7.2                             | 5.2                          | 172.3                  | 20.3                              |
| Incor                | ne taxes                                                 | 2.6                            | 1.6                             | 1.0                          | 165.5                  | 3.1                               |
| Profi                | t                                                        | 9.7                            | 5.6                             | 4.1                          | 174.3                  | 17.1                              |
|                      | t (Loss) attributable to<br>controlling interests        | (0.0)                          | 0.1                             | (0.2)                        | _                      | 0.6                               |
| Profi                | t attributable to owners of parent                       | 9.8                            | 5.4                             | 4.4                          | 181.0                  | 16.5                              |



Total electricity sales have decreased by 7.6% compared to the same term last year

• Total electricity sales decreased by 7.6% compared to the same term last year (decrease of 865 GWh) due to the impact of customers switching to other suppliers, as well as the impact of the power outage following the Hokkaido Eastern Iburi Earthquake and the cooperation of the people of Hokkaido in reducing their power consumption, and other factors.

|                                                  | April 1 – Sept. 30,<br>2018(A) | April 1 – Sept. 30,<br>2017(B) | Increase/Decrease<br>(A)-(B) | Comparison<br>(A)/(B)% | April 1, 2017–<br>March 31, 2018 |
|--------------------------------------------------|--------------------------------|--------------------------------|------------------------------|------------------------|----------------------------------|
| Low-voltage customers                            |                                |                                |                              |                        |                                  |
| Residential                                      | 4,311                          | 4,592                          | (281)                        | 93.9                   | 10,229                           |
| Commercial and industrial                        | 724                            | 774                            | (50)                         | 93.4                   | 2,399                            |
| Subtoral                                         | 5,035                          | 5,366                          | (331)                        | 93.8                   | 12,628                           |
| High-voltage and<br>Extra High-voltage customers | 5,498                          | 6,032                          | (534)                        | 91.2                   | 12,178                           |
| Total                                            | 10,533                         | 11,398                         | (865)                        | 92.4                   | 24,806                           |

|                        |              | Mar. | Apr. | Мау   | Jun. | Jul.  | Aug.  | Sep. |
|------------------------|--------------|------|------|-------|------|-------|-------|------|
| Average                | actual       | 1.9  | 7.3  | 12.4  | 15.7 | 20.4  | 20.3  | 18.0 |
| temperature<br>in 2018 | year-on-year | 1.1  | 0.5  | (0.9) | 0.6  | (1.6) | (0.3) | 1.0  |
|                        | deviation    | 1.8  | 1.1  | 1.0   | 0.0  | 1.0   | (0.9) | 0.6  |

(GWh)

### Power Supply

- All Hokkaido power plants excluding those on remote islands were suspended due to the Hokkaido Eastern Iburi Earthquake. However, in addition to the cooperation of our customers who maintain power generation facilities of their own, electric power received from other companies, and electricity supplied through the Kitahon HVDC Link, because we made efforts to restore the power plant early, we were able to shore up and secure our capability to provide a stable supply of electric power during September.
- Higher water flow rate, 119.0%.

[Reasons for the increase/decrease from the previous term]

(Hokkaido Electric Power)

•Hydroelectric power; Higher water flow rate, 119.0% and others

- •Fossil Fuel; Increase in hydroelectric power generation by abundant water, decrease in electricity sales volume, and decrease in operation due to earthquake.
- Nuclear; Shutdown of all units at the Tomari Power Station.

(Purchased and interchanged power)

Decrease in thermal power generation of other supplier and others.

(GWh)

|                               |                             | April 1 – Sept. 30,<br>2018(A) | April 1 – Sept. 30,<br>2017(B) | Increase/Decrease<br>(A)-(B) | Comparison<br>(A)/(B)% | April 1, 2017 –<br>March 31, 2018 |  |  |  |
|-------------------------------|-----------------------------|--------------------------------|--------------------------------|------------------------------|------------------------|-----------------------------------|--|--|--|
| Н                             | [Water flow rate %]         | [119.0%]                       | [89.5%]                        | [29.5%]                      |                        | [94.9%]                           |  |  |  |
| okk                           | Hydroelectric               | 2,620                          | 1,840                          | 780                          | 142.4                  | 3,279                             |  |  |  |
| Hokkaido<br>Cc                | Fossil Fuel                 | 7,569                          | 8,517                          | (948)                        | 88.9                   | 21,029                            |  |  |  |
| Electric                      | [Nuclear capacity ratio %]  | [-]                            | [-]                            | [—]                          |                        | [-]                               |  |  |  |
| nc.                           | Nuclear                     | —                              | —                              | —                            | -                      | —                                 |  |  |  |
| Power                         | Renewable                   | 62                             | 63                             | (1)                          | 98.2                   | 148                               |  |  |  |
| ver                           | Subtotal                    | 10,251                         | 10,420                         | (169)                        | 98.4                   | 24,456                            |  |  |  |
| inter                         | chased and<br>changed power | 1,549                          | 2,036                          | (487)                        | 76.1                   | 3,517                             |  |  |  |
| Power used for pumped storage |                             | (133)                          | (109)                          | (24)                         | 121.7                  | (239)                             |  |  |  |
|                               | Total                       | 11,667                         | 12,347                         | (680)                        | 94.5                   | 27,734                            |  |  |  |



(Billion yen)

|     |                              | April 1 – Sept.<br>30, 2018<br>(A)April 1 – Sept.<br>30, 2017<br>(B)Increase/<br>Decrease<br>(A)-(B) |       | Major factors for increase/decrease |                                                                                                          |
|-----|------------------------------|------------------------------------------------------------------------------------------------------|-------|-------------------------------------|----------------------------------------------------------------------------------------------------------|
|     | Operating<br>Revenue         | 338.1                                                                                                | 329.6 | 8.5                                 | [Factors for increase/decrease                                                                           |
|     | Residential                  | 122.1                                                                                                | 125.7 | (3.5)                               | in Operating Revenue] <ul> <li>The influence of the Hokkaido Eastern Iburi</li> </ul>                    |
|     | Commercial<br>and Industrial | 133.3                                                                                                | 140.0 | (6.6)                               | Earthquake:(0.9)                                                                                         |
|     | Others                       | 82.5                                                                                                 | 63.8  | 18.7                                | <ul> <li>Decrease in electricity sales; (6.7)</li> <li>The effect of the Fuel Cost Adjustment</li> </ul> |
|     | n-operating<br>come          | 1.3                                                                                                  | 1.1   | 0.1                                 | System due to higher fuel prices; 10.3                                                                   |
| Ore | dinary Revenue               | 339.4                                                                                                | 330.7 | 8.6                                 |                                                                                                          |

### **Statement of Operations** (Non-consolidated Expenses and Income)



(Billion yen)

|                                                                  | April 1 – Sept. 30,<br>2018<br>(A) | April 1 – Sept. 30,<br>2017<br>(B) | Increase /<br>Decrease<br>(A) - (B) | Major factors for increase/decrease                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------|------------------------------------|------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personnel                                                        | 27.0                               | 26.5                               | 0.5                                 | $\cdot$ Increase in retirement allowance expenses and others                                                                                                                                                                                                                                                                                               |
| Fuel and Purchased Power                                         | 124.2                              | 122.1                              | 2.1                                 | Increase in hydroelectric power generation; (12.0)                                                                                                                                                                                                                                                                                                         |
| Fuel [included in "Fuel and<br>Purchased Power"]                 | 55.0                               | 56.4                               | (1.3)                               | <ul> <li>Improve efficiency by promotion of measures to<br/>strengthen management; (1.7)</li> <li>The influence of the Hokkaido Eastern Iburi</li> </ul>                                                                                                                                                                                                   |
| Purchased Power [included in<br>"Fuel and Purchased Power"]      | 69.2                               | 65.7                               | 3.5                                 | <ul> <li>Earthquake; 3.8</li> <li>[Increase in firing of oil-fired power plants etc.]</li> <li>Higher fuel prices; 12.4</li> <li>Decrease in electricity sales; (5.6)</li> <li>[Excluding the impact of Hokkaido Eastern Iburi</li> <li>Earthquake]</li> <li>Others; 5.2 [Wholesale power trading with increased firing due to increased sales]</li> </ul> |
| Maintenance                                                      | 34.2                               | 37.4                               | (3.1)                               | <ul> <li>Improve efficiency by promotion of measures<br/>to strengthen management; (1.9)</li> <li>Difference in periodic inspection schedule for<br/>power generation facilities; (0.5)</li> </ul>                                                                                                                                                         |
| Depreciation                                                     | 37.7                               | 37.8                               | (0.0)                               |                                                                                                                                                                                                                                                                                                                                                            |
| Interest Expenses                                                | 6.2                                | 7.4                                | (1.2)                               | Decline in interest rates, etc.                                                                                                                                                                                                                                                                                                                            |
| Other Expenses                                                   | 93.2                               | 96.4                               | (3.1)                               | <ul> <li>Improve efficiency by promotion of measures<br/>to strengthen management; (1.3)</li> <li>Decrease in fixed asset retirement cost; (1.1)</li> </ul>                                                                                                                                                                                                |
| Total                                                            | 322.8                              | 327.7                              | (4.9)                               |                                                                                                                                                                                                                                                                                                                                                            |
| [Operating Income]<br>Ordinary Income                            | [22.1]<br>16.6                     | [9.9]<br>3.0                       | [12.1]<br>13.6                      |                                                                                                                                                                                                                                                                                                                                                            |
| Provision or reversal of reserve for fluctuation in water levels | 1.2                                | (1.1)                              | 2.4                                 |                                                                                                                                                                                                                                                                                                                                                            |
| Extraordinary loss                                               | 4.2                                | _                                  | 4.2                                 | <ul> <li>Restoration expenses etc. of facilities due to the<br/>Hokkaido Eastern Iburi Earthquake</li> </ul>                                                                                                                                                                                                                                               |
| Profit before income taxes                                       | 11.1                               | 4.2                                | 6.9                                 |                                                                                                                                                                                                                                                                                                                                                            |
| Income taxes                                                     | 1.9                                | 0.2                                | 1.6                                 |                                                                                                                                                                                                                                                                                                                                                            |
| Profit                                                           | 9.1                                | 3.9                                | 5.2                                 | 34                                                                                                                                                                                                                                                                                                                                                         |

- The impact of the Hokkaido Eastern Iburi Earthquake on the company's income and expenditure is attributable to the decrease in income due to the cooperation of the people of Hokkaido in reducing their power consumption and the cost of increasing the operation of oil-fired power plants etc. due to the suspension of the Tomato-Atsuma Power Station. The expenses required for restoration of the Tomato-Atsuma Power Station and transmission and distribution equipment are currently estimated to be approximately 11 billion yen. Both expenses are recorded as extraordinary losses and the breakdown is as follows.
- Impact on our Non-consolidated income and expenditure

April 1, 2017– March 31, 2018 **Forecasts** Major factors April 1 – Sept. 30, 2018 Ordinary Reduction in income due to cooperation regarding power (9) Approx. (2.0) consumption etc. Revenues (A) the cost of increasing the operation of oil-fired power Ordinary 3.8 plants etc. due to the suspension of the Tomato-Atsuma Approx. 5.0 Expenses (B) Power Station, etc. Restoration expenses etc. of facilities due to the Hokkaido Extraordinary loss Eastern Iburi Earthquake 4.2 4.2 (C)· Expenses related to transportation of equipment and materials, etc. Impact on our income and (8.9)Approx. (11.0) expenditure (A-B-C)

(Billion yen)





### Ordinary Profit for the Six Months Ended September 30, 2017: 3.0 billion yen

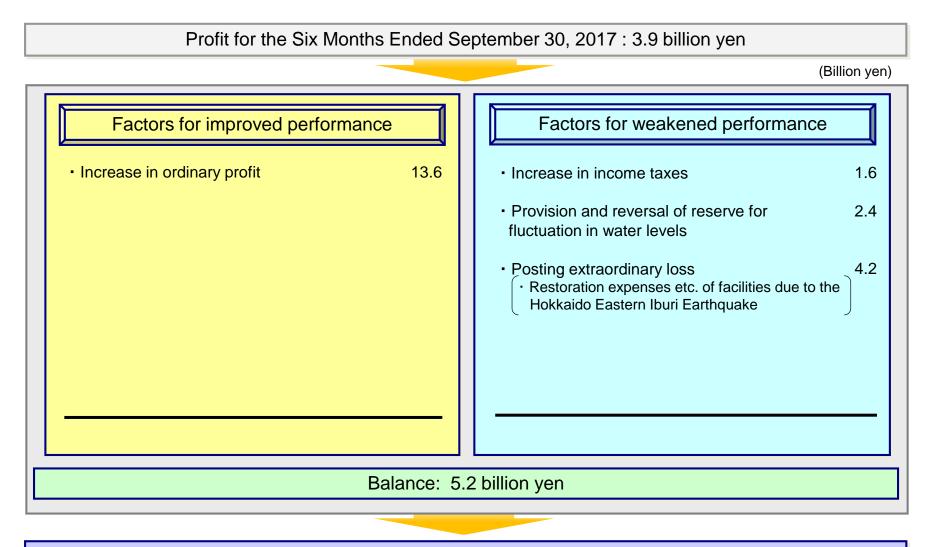
(Billion yen)

| Factors for improved performance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                           | Factors for weakened performance                                                                                                                                                                                                                                                                                                                                                                 |                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| <ul> <li>Decrease in fuel costs through increase<br/>in hydroelectric power generation</li> <li>Improve efficiency by promotion of measures<br/>to strengthen management</li> <li>Reduction of procurement cost of equipment and materials.</li> <li>Review of construction process by creative ingenuity.</li> <li>Increase in electricity sales by the effect of<br/>the fuel adjustment system due to higher<br/>fuel prices</li> <li>Decrease in fuel costs through decrease<br/>in electricity sales</li> <li>Decline in interest rates</li> <li>Others</li> <li>Difference in periodic inspection schedule for power generation<br/>Decrease in cost of retirement of noncurrent assets</li> </ul> | 12.0<br>4.9<br>10.3<br>5.6<br>1.2<br>3.4<br>offacilities. | <ul> <li>The influence of the Hokkaido Eastern Iburi Earthquake <ul> <li>Reduction in income due to cooperation regarding power consumption etc</li> <li>Increase in firing of oil-fired power plants etc.</li> </ul> </li> <li>Increase in fuel costs through decrease in hydroelectric power generation</li> <li>Decrease in operating revenue due to decrease in electricity sales</li> </ul> | 4.7<br>0.9<br>3.8<br>12.4<br>6.7 |
| Balar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | nce: 1                                                    | 3.6 billion yen                                                                                                                                                                                                                                                                                                                                                                                  |                                  |

## Ordinary Profit for the Six Months Ended September 30, 2018 : 16.6. billion yen

Decrease in fuel costs through decrease in electricity sales and decrease in operating revenue due to decrease in electricity sales are Excluded the impact of Hokkaido Eastern Iburi Earthquake.





Profit for the Six Months Ended September 30, 2018 : 9.1 billion yen

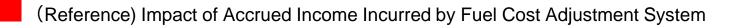


| (  | Ril | lion | yen) |
|----|-----|------|------|
| U. | ווכ | IIOH | yen, |

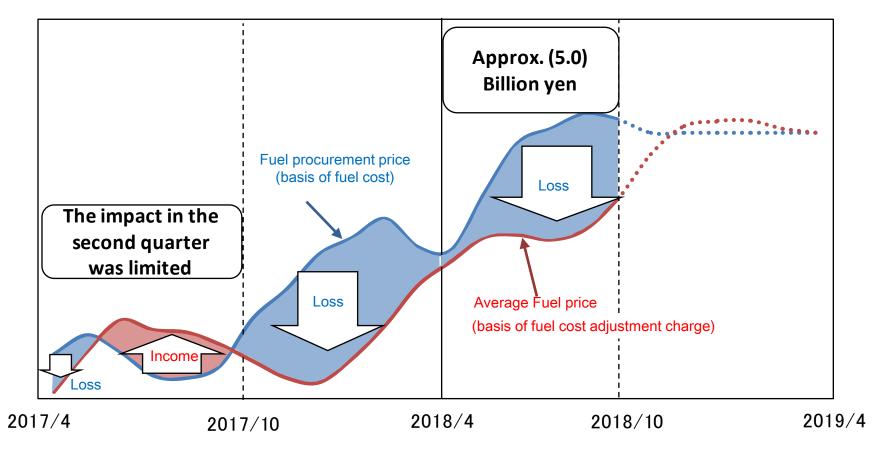
|             |                  |         | As of March<br>31, 2018(B) | Increase/<br>Decrease<br>(A)-(B) | Major factors for increase/decrease<br>(non-consolidated)     |
|-------------|------------------|---------|----------------------------|----------------------------------|---------------------------------------------------------------|
| Assets      | Consolidated     | 1,898.7 | 1,915.9                    | (17.1)                           | <ul> <li>Decrease in cash and deposits; (52.7)</li> </ul>     |
| A33613      | Non-consolidated | 1,827.0 | 1,854.2                    | (27.2)                           | <ul> <li>Capital expenditure; 41.4</li> </ul>                 |
| Liabilities | Consolidated     | 1,678.9 | 1,702.9                    | (23.9)                           | <ul> <li>Decrease in interest-bearing debt; (26.3)</li> </ul> |
| Liabilities | Non-consolidated | 1,650.6 | 1,684.0                    | (33.4)                           | Decrease in interest-bearing debt, (20.3)                     |
| Not Accoto  | Consolidated [1] | 208.4   | 201.4                      | 6.9                              | <ul> <li>Posting an interim profit; 9.1</li> </ul>            |
| Net Assets  | Non-consolidated | 176.4   | 170.2                      | 6.1                              | <ul> <li>Year-ended dividends for FY2018; (2.8)</li> </ul>    |

1. Consolidated data of Net Assets exclude non-controlling interests.

| Interest-bearing                  | Consolidated         | 1,402.7 | 1,426.8 | (24.0) |
|-----------------------------------|----------------------|---------|---------|--------|
| Debt Outstanding<br>(Billion yen) | Non-<br>consolidated | 1,403.2 | 1,429.5 | (26.3) |
| Shareholders'                     | Consolidated         | 11.0    | 10.5    | 0.5    |
| Equity Ratio (%)                  | Non-<br>consolidated | 9.7     | 9.2     | 0.5    |







Fluctuation in fuel prices causes time lag between payment of fuel cost and reception of fuel cost adjustment charges, resulting in temporary increase or decrease in profits. Time Lag Effect above is this temporary increase or decrease, assuming that time lag does not take place.



# Forecasts of Financial Results for the Year Ending March 31, 2019

Forecasts of Financial Results for the Year Ending March 31, 2019 (Consolidated/Non-consolidated)



(Billion von T\M/h)

### Electricity sales, Operating revenue

| Electricity | <ul> <li>Although it was impacted by the Hokkaido Eastern Iburi Earthquake, it has not<br/>changed from 23.3 TWh as it is generally in line with the plan in the second quarter</li> </ul> |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sales       | consolidated cumulative period.                                                                                                                                                            |

It is expected to increase by approx. 4,000 million yen compared with the previous forecast as a result of the effect of the fuel cost adjustment system implemented due to higher fuel prices etc., with consolidated to be about 759,000 million yen, and non-consolidated about 727,000 million yen.

|                                  |                         | April 1, 2018            | 3- March 31, 201                            | April 1, 2017 –                  | Increase/             |                                              |  |
|----------------------------------|-------------------------|--------------------------|---------------------------------------------|----------------------------------|-----------------------|----------------------------------------------|--|
|                                  |                         | Revised<br>forecasts (A) | Forecasts<br>announced in<br>July, 2018 (B) | Increase/<br>Decrease<br>(A)-(B) | March 31, 2018<br>(C) | Decrease<br>from last fiscal<br>year (A)-(C) |  |
| Operating                        | Consolidated            | Approx. 759.0            | Approx. 755.0                               | 4.0                              | 733.0                 | Approx. 26.0                                 |  |
| revenue                          | evenue Non-consolidated |                          | Approx. 723.0                               | 4.0                              | 703.1                 | Approx. 24.0                                 |  |
| [Comparison to last fiscal year] |                         | [Approx. (6.0%)]         | [Approx. (6.0%)]                            |                                  |                       |                                              |  |
| Electricity sale                 | es                      | Approx. 23.3             | Approx. 23.3                                | Same lebel                       | 24.8                  | Approx. (1.5)                                |  |

#### **Key Factors**

| Foreign Exchange Rate (yen/\$)  | Approx. 110 | Approx. 110 | Same lebel | 111  | Approx. (1) |
|---------------------------------|-------------|-------------|------------|------|-------------|
| CIF Crude Oil Price (\$/barrel) | Approx. 74  | Approx. 70  | Approx. 4  | 57.0 | Approx. 17  |

Note: We assume the foreign exchange rate and CIF crude oil price in the second half of this fiscal year will be 110 yen/\$ and 75 \$/barrel in this forecast.

- Operating Income (loss), Ordinary Income (loss), Profit (loss)
- The forecasts of Operating income (loss), Ordinary income (loss), and Profit (loss) are yet to be determined at this point. This is because expenses such as fuel costs cannot be assessed appropriately as we must monitor the situation regarding generating capacity from this point on.
- These forecasts will be promptly released as soon as they are determined.





## [Financial Results]

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## Personnel

(Billion yen)

|           | April 1 – Sept.<br>30, 2018 (A) | April 1 – Sept.<br>30, 2017 (B) | Increase/<br>Decrease<br>(A)-(B) | Major factors for increase/decrease                                          |
|-----------|---------------------------------|---------------------------------|----------------------------------|------------------------------------------------------------------------------|
| Personnel | 27.0                            | 26.5                            | 0.5                              | <ul> <li>Increase in retirement allowance expenses<br/>and others</li> </ul> |

#### [Amortization of actuarial gains and losses]

\*Actuarial gains and losses are being amortized in the following 5 years in which the gains or losses are recognized by the straight-line method.

\*A half of the annual depreciation expense was posted in the current midterm.

| FY of accrual of | Amount  | Amortization         |              | April 1, 2018 – Ma     | rch 31, 2019                  |
|------------------|---------|----------------------|--------------|------------------------|-------------------------------|
| the income       | accrued | of the previous year | Amortization | Unamortized<br>Balance | Ending FY<br>[remaining year] |
| 2013             | (8.9)   | (1.8)                | —            | —                      | _                             |
| 2014             | (12.8)  | (2.6)                | (2.6)        | _                      | 2019 [1 years]                |
| 2015             | 6.9     | 1.4                  | 1.4          | 1.4                    | 2020 [2 years]                |
| 2016             | 5.0     | 1.0                  | 1.0          | 2.0                    | 2021 [3 years]                |
| 2017             | 1.4     | 0.3                  | 0.3          | 0.8                    | 2022 [4 years]                |
| 2018             | (0.6)   | _                    | (0.1)        | (0.5)                  | 2023 [5 years]                |
| Total            |         | (1.7)                | (0.0)        | 3.7                    |                               |

# Fuel and Purchased Power

(Billion yen)

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|               |                    | April 1 – Sept.<br>30, 2018 (A) | April 1 – Sept.<br>30, 2017 (B) | Increase/<br>Decrease<br>(A)-(B) | Major factors for increase/decrease                                                                                                                                                                                                                                     |
|---------------|--------------------|---------------------------------|---------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fuel and      | d Purchased Power  | nased Power 124.2 122.1 2.7     |                                 | 2.1                              | <ul> <li>Increase in hydroelectric power<br/>generation; (12.0)</li> <li>Improve efficiency by promotion of<br/>measures to strengthen<br/>management; (1.7)</li> </ul>                                                                                                 |
| Break<br>down | Fuel               | 55.0                            | 56.4                            | (1.3)                            | <ul> <li>The influence of the Hokkaido</li> <li>Eastern Iburi Earthquake; 3.8</li> <li>[Increase in firing of oil-fired power plants etc.]</li> </ul>                                                                                                                   |
|               | Purchased<br>Power | 69.2                            | 65.7                            | 3.5                              | <ul> <li>Higher fuel prices; 12.4</li> <li>Decrease in electricity sales; (5.6)<br/>[Excluding the impact of Hokkaido</li> <li>Eastern Iburi Earthquake]</li> <li>Others; 5.2 [Wholesale power<br/>trading with increased firing due to<br/>increased sales]</li> </ul> |

## **Key Factors**

|                                 | April 1 – Sept.<br>30, 2018 (A) | April 1 – Sept.<br>30, 2017 (B) | Increase/<br>Decrease<br>(A)-(B) |
|---------------------------------|---------------------------------|---------------------------------|----------------------------------|
| Foreign Exchange Rate (yen/\$)  | 110                             | 111                             | (0.1)                            |
| CIF Crude Oil Price (\$/barrel) | 73.8                            | 51.4                            | 22.4                             |
| CIF Coal Price (\$/t)           | 118.3                           | 98.1                            | 20.2                             |

# Maintenance

(Billion yen)

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|               |                     | April 1 – Sept.<br>30, 2018 (A) | April 1 – Sept.<br>30, 2017 (B) | Increase/<br>Decrease<br>(A)-(B) | Major factors for increase/decrease                                                                              |  |  |
|---------------|---------------------|---------------------------------|---------------------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------|--|--|
| Maintenance   |                     | 34.2                            | 37.4                            | (3.1)                            | ·Improve efficiency by promotion of                                                                              |  |  |
| Break<br>down | Generation          | 19.4                            | 20.5                            | (1.1)                            | <ul> <li>measures</li> <li>to strengthen management; (1.9)</li> <li>Difference in periodic inspection</li> </ul> |  |  |
|               | Power- distribution | 14.2                            | 16.2                            | (1.9)                            | schedule for<br>power generation facilities; (0.5)                                                               |  |  |
|               | Others              | 0.5                             | 0.5                             | (0.0)                            |                                                                                                                  |  |  |

# Depreciation

|               |                     | April 1 – Sept.<br>30, 2018 (A) | April 1 – Sept.<br>30, 2017 (B) | Increase/<br>Decrease<br>(A)-(B) | Major factors for increase/decrease |
|---------------|---------------------|---------------------------------|---------------------------------|----------------------------------|-------------------------------------|
| Depreciation  |                     | 37.7                            | 37.8                            | (0.0)                            |                                     |
| Break<br>Down | Generation          | 20.9                            | 21.3                            | (0.4)                            |                                     |
|               | Power- distribution | 14.4                            | 14.2                            | 0.1                              |                                     |
|               | Others              | 2.3                             | 2.1                             | 0.1                              |                                     |

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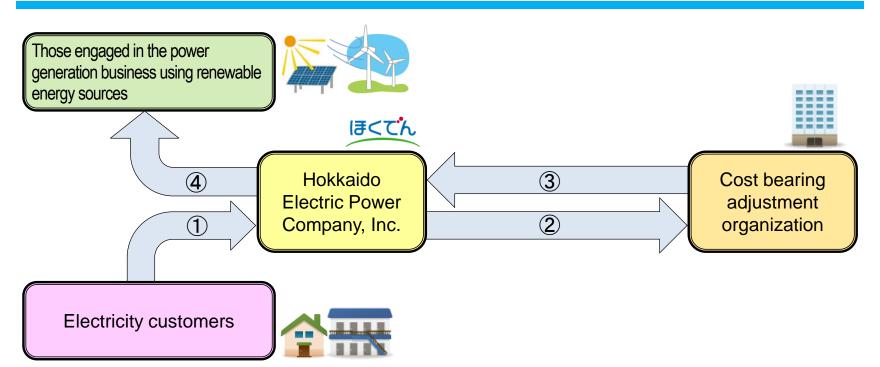
# Interest Expenses

(Billion yen)

|                         | April 1 – Sept.<br>30, 2018 (A) | April 1 – Sept.<br>30, 2017 (B) | Increase/<br>Decrease<br>(A)-(B) | Major factors for increase/decrease |
|-------------------------|---------------------------------|---------------------------------|----------------------------------|-------------------------------------|
| [Interest(on average)%] | [0.87]                          | [1.05]                          | [(0.18)]                         | •Decline in interest rates; (1.2)   |
| Interest Expenses       | 6.2                             | 7.4                             | (1.2)                            |                                     |

# Other Expenses

|                | April 1 – Sept.<br>30, 2018 (A) | April 1 – Sept.<br>30, 2017 (B) | Increase/<br>Decrease<br>(A)-(B) | Major factors for increase/decrease                                                                                                                                 |
|----------------|---------------------------------|---------------------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other Expenses | 93.2                            | 96.4                            | (3.1)                            | <ul> <li>Improve efficiency by promotion of<br/>measures<br/>to strengthen management; (1.3)</li> <li>Decrease in fixed asset retirement<br/>cost; (1.1)</li> </ul> |



Effect of the feed-in-tariff scheme for renewable energy [Details of the 2<sup>nd</sup> half of FY 2019]

(Billion yen)

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| ① Surcharge for renewable energy 27.1                                                                                       | <ul> <li>2 Levy under Act on Purchase of<br/>Renewable Energy Sourced Electricity 27.1</li> </ul> |
|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Collection of surcharge together with the electricity charge                                                                | Submission of the collected surcharge                                                             |
| ③ Grant under Act on Purchase of<br>Renewable Energy Sourced Electricity35.0                                                | Cost of Purchased power     49.0                                                                  |
| Deliver of purchase cost excluding saved fuel cost and others made by purchasing electricity from renewable energy sources. | Purchase of electricity at a fixed price for a government guaranteed period                       |



|                      |                                 |                    |       |       |             | (Billion yen)         |
|----------------------|---------------------------------|--------------------|-------|-------|-------------|-----------------------|
|                      |                                 | Reportable segment | Other | Total | Adjustments | Consolidated<br>total |
|                      |                                 | Electric           | Other |       |             |                       |
|                      | April 1 – Sept. 30,<br>2018 (A) | 337.8              | 52.2  | 390.0 | (38.9)      | 351.1                 |
| Operating<br>Revenue | April 1 – Sept. 30,<br>2017 (B) | 329.3              | 58.9  | 388.3 | (44.4)      | 343.8                 |
|                      | Increase/Decrease<br>(A)-(B)    | 8.5                | (6.7) | 1.7   | 5.4         | 7.2                   |
|                      | April 1 – Sept. 30,<br>2018 (A) | 22.0               | 1.2   | 23.3  | 0.5         | 23.8                  |
| Operating Income     | April 1 – Sept. 30,<br>2017 (B) | 10.1               | 2.7   | 12.8  | 0.4         | 13.3                  |
|                      | Increase/Decrease<br>(A)-(B)    | 11.9               | (1.5) | 10.4  | 0.0         | 10.5                  |

| Electric | Supply of electricity                                                                                                                                                         |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other    | Electric/telecommunications works, overall management of buildings, civil engineering and construction, periodic inspection/maintenance/repair works at the power plant, etc. |



# Consolidated Statements of Comprehensive Income

|                                                                                                     | April 1 – Sept. 30,<br>2018(A) | April 1 – Sept. 30,<br>2017 (B) | Increase/<br>Decrease<br>(A)-(B) |
|-----------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------|----------------------------------|
| Profit                                                                                              | 9.7                            | 5.6                             | 4.1                              |
| Other Comprehensive Income                                                                          | 0.5                            | (1.2)                           | 1.8                              |
| Valuation difference on available-for-sale securities [included in "Other Comprehensive Income"]    | 0.5                            | (0.9)                           | 1.4                              |
| Remeasurements of defined benefit plans<br>[included in "Other Comprehensive Income"]               | 0.0                            | (0.3)                           | 0.3                              |
| Comprehensive Income                                                                                | 10.3                           | 4.3                             | 6.0                              |
| Comprehensive income attributable to owners of parent [included in "Comprehensive Income"]          | 10.4                           | 4.1                             | 6.2                              |
| Comprehensive income attributable to non-controlling interests [included in "Comprehensive Income"] | (0.0)                          | 0.1                             | (0.1)                            |



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