Business Plan FY 2025 of Organization for Cross-regional Coordination of Transmission Operators, Japan

The Organization for Cross-regional Coordination of Transmission Operators, Japan (hereinafter, "the Organization") will carry out the following business with the aim of achieving the objectives specified in Article 28-4 of the Electricity Business Act (Act number 107 of 1968).

1. Accurate management of nationwide supply and demand

Toward the achievement of carbon neutrality by 2050, it becomes increasingly more important to secure electricity supply efficiently and securely by broadly grasping and evaluating the nationwide supply and demand balance for the medium-to-long-term and the short-term by promoting the securing of supply capacities and balancing capacities and managing and coordinating the supply and demand, while taking into account the uncertainty and the trend of supply and demand for the medium-to-long term. To this end, the Organization will study and engage in the following initiatives while we coordinate each business of compiling the supply plans of electric power companies, enhancing initiatives to promote the securing of supply capacities including the capacity market scheme and the long-term decarbonized capacity auction, improvement of supply-demand balancing market scheme, streamlining of response to supply and demand in cross-regional areas, and advancement of management method of supply capacities and balancing capacities.

1-1. Grasping of supply-demand trend for the medium-to-long-term

(1) Management of supply and demand through supply plans

We will grasp the basic information on domestic supply and demand through the aggregation of supply plans submitted by each electric power company to the Minister of Economy, Trade and Industry (hereinafter, METI) in accordance with the Electricity Business Act; verify the suitability of the development, suspension, and decommissioning of power generators as well as the suitability of the maintenance and update of transmission lines; and evaluate the supply-demand balance and the supply reliability.

After that, we will submit a report on matters that should be appropriately addressed by the national government along with our opinions from the standpoint of stable supply, including the securing of supply capacities to the METI, and we will also collaborate and

cooperate with the national government according to the necessity.
Since demand forecasts constitute information that serves as a starting point for evaluations of the supply-demand balance, evaluations of supply reliability, calculations of target procurement amounts under the capacity market scheme, and business planning, we will keep improving the accuracy of the forecasts so as to take into account the changes in socioeconomic structures or individual events that have a significant influence on demand, such as new establishment and expansion of data centers and semiconductor plants more accurately, then we will publish the forecasts before actual works of supply plans.
As for supply capacities, we will keep verifying the transition of the new establishment, expansion, suspension, and decommissioning of power generators so as not to impar supply-demand balance in the medium-to-long-term by taking the aggregated supply plans and the results of auctions under the capacity market scheme into account. In addition, we will gain more detailed information on the maintenance plans of each individual power generator in the supply plans for advancement of the management method of supply capacities. We will adjust the maintenance schedule according to necessity while we also evaluate the influence of any trouble with the power generators on supply capacities by identifying the constrained capacity of networks as a new category in the supply plans for fiscal year 2025.

(2) Instructions to members when supply and demand situations become worse

To secure the supply capacities necessary for the stable supply while taking the uncertainty and trend of supply and demand for the medium-to-long-term into account toward the achievement of carbon neutrality by 2050, planned investment in power generators that considers the lead times for construction of power generators is essential. As we were instructed by the National Council that it is essential to prepare long-term forecasts of supply and demand of electricity that can cover longer than 10 years and serve as a basis for such planned investment, we newly established a study group on future electricity supply-demand scenarios in November 2023, and now we are examining the forecasts of supply and demand capacities that become a basis of the scenario study related to supply-demand balance.
Based on the above, we will carry out the following initiatives in fiscal year 2025.

- Based on the examination of the forecasts of supply and demand capacities up to fiscal year 2024, we will draw-up and publish multiple scenarios as of fiscal years 2040 and 2050.
- In the scenarios to be drawn-up, we will show the balance of electric power (kW) and electric

energy (kWh) in the supply and demand for electricity and present the sufficient amount and the shortage amount of supply capacity relative to demand for each scenario.

- Scenarios to be drawn-up are expected to be referred to, if necessary, by relevant parties, such as the national government and companies, as a reference for planned development of power generators by electric power companies or for smooth auction for long-term decarbonized capacity and will be utilized for initiatives for relevant issues implemented by the Organization according to the necessity.
- After drawing-up the scenarios mentioned above, we will organize elements that should be paid close attention to and proceed with the preparation for regular and continuous follow-up of the scenarios inclusive of verification of the existence of notable changes in the respective elements from the situation expected at the time of drawing-up of the scenarios.

1-2. Initiatives to promote securing of supply capacity

(1) Capacity market scheme, long-term decarbonized capacity auction

It is important to operate the capacity market scheme properly in order to promote the effective and steady securing of the supply capacities required for a stable electricity supply. To this end, in addition to the main auction held four years before the actual supply and demand operation, an incremental auction held one year before the actual supply and demand operation and a long-term decarbonized capacity auction, it is necessary to keep a series of processes smoothly, surely, and stably, such as the operations preceding the actual supply and demand operation, including the capacity verification test and coordination of capacity maintenance plans, and the operations during actual supply and demand operation, including the assessment of requirements and invoice and grant of subsidies. In addition to that, it is important to keep carrying out inspections of system designs and initiatives to make an alignment with revisions of other relevant systems.

Based on the above, we will carry out the following initiatives in fiscal year 2025.

- We will verify comprehensively whether the capacity market scheme is efficiently functioning from the long-term perspective based on the situations of the implementation of the main auctions and incremental auctions held before and their results, as well as the situation of the respective operations preceding and during the actual supply and demand operation. For such verification, we will study the verification methods while making a reference to precedent cases in foreign countries where the scheme has been introduced. Based on the result of such verification, we will review the system designs and the operation designs, if necessary.
- We will hold each auction scheduled to be held during this fiscal year and smoothly

and surely conduct operations preceding and during the actual supply and demand operation. In addition, we will review and reinforce the management structure, including utilization of outer resources, and make the business operation more efficient because businesses, such as those related to auctions held during several years, contract management operation, and operations during the actual supply and demand operation, will be accumulated. Furthermore, we will properly manage risks related to abnormal events.

- As for the long-term decarbonized capacity auction, we will study the detailed operation designing and system organization toward implementation of operations prior to and during the period of system application.
- We will add the functions of various systems and tools, such as capacity market system and agreement processing tools, based on changes in market rules, improvement of methods of business operation, and other factors.
- As for the capacity market scheme, we will keep power generation companies, retail electric companies, and general transmission and distribution companies informed and promote an understanding of the details of the scheme and response required from the respective companies. We will also disseminate information to the general public through a detailed explanation of the significance and necessity of the scheme.

(2) Study and operation of the scheme for strategic reserve power generators (power supply bidding, etc.)

We will proceed with the study of and operate properly a scheme for strategic reserve power generators that maintains suspended power generators that can be rebooted within a certain period of time based on the result of the first bidding held in fiscal year 2024, as the main entity implementing the processes of procurement in coordination with the national government toward the second bidding so that the necessary supply capacities are secured at the time of an emergency, including major disasters as well. We will also proceed with the preparation of a method of confirmation of the repair of secured reserved power generators or the state of continuous suspension, and a particular method of invoicing of contributions and granting of compensations for power supply bidding in coordination with the national government.

With respect to power supply bidding etc. as a safety net that ultimately secures the supply capacity, we will determine the commencement of study based on the result of aggregation of supply plans and will conduct the necessary study based on the situation of the capacity market scheme during actual supply and demand operations and the securing of supply capacities by the national government.

1-3. Initiatives to secure balancing capacity, etc.

(1) Study of the proper securing of necessary reserve capacity and balancing capacity

While it is necessary to secure balancing capacity for an appropriate supply reserve capacity or frequency control (including balancing capacity for frequency control, inertial power, synchronizing capacity, and voltage balancing capacity) to ensure a stable electricity supply on a daily basis, it is important to reduce both electricity rates and the risk of blackouts by securing the proper volume of such balancing capacities. Proper amounts of balancing capacities are calculated on the basis of an analysis of the present state of operations of the power generators, as well as changes in the situation stemmed from reinforcement of networks and a review of systems.

In addition, in order to make renewable energy a primary energy source, it is important to proceed with the study toward more sophisticated methods of management and procurement of the supply reserve capacity and the balancing capacity, while supposing those capacities to be required in the future.

Based on the above, we will carry out the following initiatives in fiscal year 2025.

- As for the proper securing of the supply reserve capacity, we will proceed with the study of calculation methods of more proper amounts of the supply reserve capacity to be secured based on supply plans of fiscal year 2024, results of auctions under the capacity market scheme toward fiscal year 2028, trends of supply and demand, and other matters.
- We will investigate and study the trends of technologies in foreign countries and will proceed with the establishment of evaluation tools by aiming at the establishment of an evaluation method for supply reliability on the assumption of grid congestion.
- As for the proper securing of balancing capacity, we will verify the state of securing based on the system where general transmission and distribution companies procure balancing capacities under the supply-demand balancing capacity scheme for supply areas other than the area of the Okinawa Electric Power Company and will review the necessary amount of public calls and verify the state of securing of the balancing capacity for the supply area of the Okinawa Electric Power Company where the public calls for balancing capacities will continue.
- We will try to optimize the state of sufficient balancing capacities for the medium-to-long term period by carrying out the study for improvement in the accuracy of the calculation methods for the necessary amounts of balancing capacities and the number of facilities to be secured for the medium-to-long term period based on an increase in renewable energy and the trend of the suspension and decommission of thermal power

generators.

- With respect to the various issues related to the cross-regional reserve margin that became apparent in fiscal year 2024, we will study to determine what kind of signals should be given toward stakeholders, such as power generation companies, retail companies, and general consumers, in order to maintain a stable electricity supply as a starting point, then will proceed with the study including review of the systems related to measures for additional supply capacities or related to any imbalance.
- As for the proper securing of inertial power, we will proceed with the refinement of calculation method of necessary amount of inertial power and the study of management method of the current state of securing and other matters based on the estimated results of future state of securing of the inertial power and other factors.

(2) Study of the supply-demand balancing capacity scheme

As for the secure procurement and the effective operation of the necessary balancing capacities, while we pay attention to initiatives to widen the areas, improve transparency through the adoption of market mechanisms, and establish a competitive environment that promotes the new entry of demand response (DR) companies so as to provide advantages for all companies and consumers who utilize the electric network system, we proceeded with the phased preparation for the supply-demand balancing market scheme and started procurement and operation of all commodities from fiscal year 2024.

Since there are various problems in the bidding amount and price, it is necessary to proceed with the review and improvement according to the necessity toward more efficient and secure operation of the supply-demand balancing market scheme.

Based on the above, we will carry out the following initiatives in fiscal year 2025.

- As a measure for the continuous lack of bids in the supply-demand balancing market scheme, we will proceed with measures toward normalization of market trading inclusive of the study of inductive measures as the main entity in cooperation with the national government and the markets of electric supply-demand balancing capacities to respond to bidding barriers that require technical responses, such as mitigation of requirement penalties or easing of requirements.
- We will proceed with the study regarding a review of the necessary rules depending on the trading conditions under the supply-demand balancing market scheme. In addition, we will proceed with the study toward optimization of the necessary amounts of balancing capacities inclusive of a reduction in procurement amounts through improvement of the accuracy of weather forecasts and changes in procurement

methods.

- We will proceed with the study of measures that can procure the necessary balancing capacities securely from the demand supply balancing market scheme in the actual demand and supply operation by considering the grid congestion occurrence in future.

(3) Study of the simultaneous market scheme

Although balancing capacity (ΔkW) is traded under the supply-demand balancing market scheme and electric energy (kWh) is traded under the wholesale market scheme at present, it is expected that the optimization of the start and stop of power generators and the proper recovery of costs under both market schemes will become even more important along with the expansion of the integration of variable renewable energy for the medium-to-long term period. Because of the above, it is important to continuously proceed with the technical and practical study of the simultaneous market scheme that can procure balancing capacity and electric energy simultaneously with a view to future introduction, while we pay close attention to consistency with multiple systems and actual operations of the wholesale electricity market, supply-demand balancing market scheme, and submission of power generation sales plans by aiming at a more stable and sustainable supply and demand operation and market systems.

Based on the above, we will carry out the following initiatives in fiscal year 2025.

- As a study of the structure of simultaneous market scheme as a whole, we will organize the condition of power generators under the day-ahead market scheme (day-ahead simultaneous market) and the market scheme after that (intraday simultaneous market), scheme of payment settlement, and handling of variable renewable energy, congestion management, etc.
- As for the logics of the start of power generators and output allocation, we will evaluate feasibility and validity of them under the third-party verification system that shall include experts because advanced calculations become necessary.
- We will compare and verify multiple calculation methods of price that includes the price that takes marginal cost, average cost, and ΔkW of electricity into account to confirm the average market price and volatility under the simultaneous market scheme.

1-4. Monitoring of supply and demand, and actualization of securing of stable supply

(1) Verification and confirmation of supply and demand of electricity in summer and winter times

We will verify the supply and demand of electricity in summer and winter that will

become the basis of decisions on the national measures for supply and demand and will compile and publish the results as a report on verification of supply and demand. We will verify the adequacy of the evaluation of supply capacity upon verification of supply and demand by using the actual value of supply and demand of electricity so as to contribute to the study of more advanced evaluation method with respect to the variable renewable energy which is expected to be integrated further more.

We will collect information in cooperation with relevant organizations regarding not only the insufficient energy supply due to disasters, problems with power generators, and other reasons, but also the possibility of insufficient electric energy supply due to insufficient fuel inventories and other reasons, and we will encourage the relevant parties to prepare and address properly by providing clear information on results of kW (supply capacity) monitoring, kWh (supply energy) monitoring, and kWh (supply energy) reserve margin (management by fuel stock). In addition, we will conduct the review necessary to make an alignment with revisions to the calculation method of cross-regional reserve margin and changes in other relevant systems.

Considering the recent situations, the tightness of the supply-demand balance has not always occurred during high demand periods but also occurred from the temporary increase in demand overlapping with the suspension of power generators due to accidents or maintenance work; therefore, we will confirm the risk of the tightness of the supply-demand balance during transitional periods as well, then we will proceed with the establishment of particular procedures with general transmission and distribution companies and will also proceed with the study of system development that includes system establishment so that we can quickly carry out measures for supply capacity, such as additional coordination of scheduled outage plans according to the necessity.

(2) Monitoring and management related to supply-demand situation of members

We will operate a twenty-four-hour-a-day, 365-day-a-year system for the monitoring and management of the forecasts of supply and demand and the cross-regional reserve margin based on various plans submitted by members, the state of demand on the day of operations, the state of operations of key power plants, and the state of operation of interconnection lines connecting supply areas to one another.

In addition to that, we will confirm that various plans are submitted with correct contents in light of the Network Codes of the Organization (revised in April 2025), and if the plans are not submitted with the correct contents, we will instruct the electric power companies as needed, inclusive of calling for attention or improvement.

(3) Instructions to members when supply and demand situations become worse

To realize the securing of a stable supply for the actual supply and demand without fail, it is necessary to forecast supply and demand accurately based on the nationwide monitoring of supply and demand, swiftly determine the necessity of improvement of supply-demand situation, and quickly respond to the instruction for the accommodation of electricity. From fiscal year 2024, supply-demand management based on the cross-regional reserve margin has been conducted in a full-fledged manner, and the cross-regional procurement of all commodities under the supply-demand balancing market scheme, the operations based on an agreement for the utilization of reserved energy, and the operations during actual supply and demand operations under the capacity market scheme have started.

Based on the performance in fiscal year 2024, the publication of the cross-regional reserve margin, and an additional study on various issues related to supply-demand management, we will carry out the following initiatives in fiscal year 2025.

- Based on the cross-regional reserve margin, we will manage supply and demand on a nationwide scale to ensure the stable electricity supply both during normal times and in the event of an emergency and will quickly issue instructions for the accommodation of electricity if it is necessary for the improvement of supply-demand situation.
- We will calculate and publish accurately and smoothly the cross-regional reserve margin including the plan for two days later whose points to be published will be changed to 48 from 2 points.
- As an operation during the actual supply and demand operation under the capacity market scheme, we will encourage companies who have executed capacity contracts to act as soon as possible to contribute to the equilibrium between supply and demand by issuing a notice for preparation for provision of supply capacities in the case of a decrease in the cross-regional reserve margin or a notice for the provision of supply capacities along with a decrease in the cross-regional reserve margin to the companies as well as by assessing fulfilment of requirements and imposing a penalty for failure of fulfilment by such companies.
- We will proceed with the further study and improvement toward advancement of supply-demand management while we pay attention to the state of procurement from markets and of the fulfilment of requirements under the capacity market scheme by companies by taking into account the trend of the cross-regional reserve margin and imbalanced charges.
- We will carry out drills in an organized way in cooperation with general transmission and distribution companies to address the operation of supply and demand.
- If there is a surplus of supply capacity relative to demand in a supply area because of

low-demand, the increased output of variable renewable energy or other reasons, we will coordinate the supply energy and the supply duration for long-cycle, cross-regional frequency control across the supply regions. If there is still a surplus even after such a measure and the ability to reduce the power supply might be insufficient, we will issue an instruction to compensate the insufficient ability to reduce the power supply.

- We will study the operation method and start operation sequentially of measures leading to the suppression of the output control volume in terms of demand (such as grid-scale battery), supply (such as a decrease in output from thermal power generators in other areas that have not been reserved as balancing capacities beforehand), and network reinforcement based on the comprehensive package toward suppression of output control for renewable energy organized by the national government.

(4) Verification at the time of suppression of output of renewable energy

Regarding the suppression of output of renewable energy implemented by general transmission and distribution companies to maintain the supply and demand balance, it is important to secure the validity of the ordinance and fairness of implementation of such suppression.

We will verify the validity based on the Operational Rules (revised on April 2025) in light of the Regulation for Enforcement of the Act on Special Measures Concerning the Promotion of Electricity from Renewable Energy Sources (Ordinance of the Ministry of Economy, Trade and Industry, No. 46, 2012) and the Network Codes, and publish the results of such verification by the last date of the following month of the month in which the output control was conducted or the last day of the following quarter by compiling the results of verification of output control quarterly.

We will also verify fairness based on the Operational Rules in light of the Guidelines for Ensuring the Fairness of Output Controls (revised in April 2022) and the Network Codes and publish the results of such verification after the end of fiscal year.

2. Initiatives toward realization of next-generation networks

With respect to the electric network system, which is a critical infrastructure combining the whole electricity system, it is important to proceed with initiatives proactively and systematically that contribute to the expansion of utilization of de-carbonized power generators and stable and less-expensive energy supply based on the forecast of supply and

demand for the medium-to-long term toward the achievement of carbon neutrality by 2050. In particular, we will engage in the following initiatives by coordinating each business for the promotion of cross-regional electric network development plans, promotion of updating of aging facilities, effective utilization of existing network facilities of the Japanese version of Connect & Manage and the establishment of proper rules for the expansion of the integration of renewable energy based on the second long-term policy for a cross-reginal electric network (master plan of cross-regional interconnection of networks) (drawn-up in March 2023, hereinafter "second long-term policy for a cross-regional electric network") with the aim of establishing next-generation networks that will help make renewable energy a primary energy source and boost the resilience of electric power.

2-1. Promotion of cross-regional electric network development

(1) Commencement of the study toward drawing-up of the third long-term policy for a cross-reginal electric network

As for the long-term policy for a cross-reginal electric network, which is reviewed once in five years, we will start the study to draw up the third long-term policy. First, with respect to the long-term perspective for cross-regional network development shown in the second long-term policy for a cross-regional electric network, we will verify the situation of integration and the features of power sources (renewable energy, nuclear energy, etc.), as well as the differences in the preconditions that include the forecast of locations of large-scale demand and the situation to lead a large-scale demand to a location and will consider the necessity of a revision based on the Seventh Strategic Energy Plan (decided by Cabinet on February 2025) and recent supply plans, while we pay attention to the trend and uncertainty of supply and demand for the medium-to-long term, lead times required for network development, and environmental changes inclusive of the study of simultaneous market schemes.

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(2) Promotion of cross-regional electric network development plans

Based on the long-term perspective regarding the cross-regional network development shown in the second long-term policy for a cross-regional electric network, we will engage in the following initiatives regarding expansion of cross-regional trading, stable supply of electricity, drawing-up of cross-regional electric network development plans that will help make renewable energy a primary energy source, steady promotion of the plans, and verification of the plans under the implementation phase.

・With respect to the Hokkaido-Honshu interconnection facilities (Sea of Japan route) and

Chugoku-Kyushu interconnection facilities, we will steadily evaluate implementation plans by aiming at drawing up cross-regional electric network development plans as soon as possible in coordination with the national government and relevant parties.

- We will periodically check the state of construction progress of the cross-regional electric network development plans currently under the implementation phase (Hokkaido-Honshu interconnection facilities, Tohoku-Tokyo interconnection lines, Tokyo-Chubu interconnection facilities, and Chubu-Kansai interconnection lines) and will verify the construction cost of cross-regional electric network development under the implementation phase that includes the perspective of reducing the allocated cost on the public associated with network development.

(3) Improvement of business environment important for electric network development

Upon electric network development based on cross-regional electric network development plans by companies, it is important to improve the business environment that includes streamlining of funding toward achievement of the plans since the development needs a large amount of funds and is accompanied by considerable risk.

The Organization grants subsidies for electric network installation based on the Act on Special Measures Concerning the Promotion of the Utilization of Electricity from Renewable Energy Sources (Act No. 108, 2011) and for cross-regional electric network development based on the Electricity Business Act. Furthermore, from fiscal year 2024, it has become possible for us to grant subsidies for specified electric network installations, which are available from the start of construction, and to make a loan using profits from price difference as capital to companies who drew-up a development plan as a plan on the development or update of electric facilities that are especially important from the perspective of the ensuring of stable electricity supply and that are specified in the cross-regional electric network development plans based on the Act for Partial Revision of the Electricity Business Act and Other Acts for Establishing Electricity Supply Systems for Realizing a Decarbonized Society (Act No. 44 of 2023), submitted the plans to METI, and received authorization from the Minister. We will start full-scale operation to grant subsidies from fiscal year 2025 on the condition of an application for each type of subsidy from operating companies while we proceed with the examination of necessary practices and development of a system that includes the examination of the scope of nationwide coordination scheme of cost allocation for network enhancement or replacement and the additional support measures, in coordination with the discussion regarding operation of national systems.

(4) Update of aging facilities

In order to upgrade the "guidelines for updating aging facilities" (established in December 2021) aiming at the maintenance of credibility of supply from transmission and distribution facilities and the minimization of the social costs, we will continuously expand the scope of facilities subject to the risk calculation and consider the refinement of risk calculation.

In addition, we will start the study of a scheme to smoothly promote the establishment of facilities inclusive of updating of facilities, such as existing interconnection lines, while we maintain consistency with long-term perspective regarding cross-regional electric network development shown in the second long-term policy for a cross-regional electric network as a measure against the aging of cross-regional interconnection electric networks.

2-2. Network usage and advancement of operation

(1) Management of interconnection lines between regions

To precisely manage the interconnection lines between regions and main networks that constitute the core of cross-regional electricity network operation, the Organization will carry out the following businesses related to the calculation and publication of total transfer capacity and margin of the interconnection lines between regions, reception and examination of applications for approved power sources, management of plans for transitional measures, and publication of information on electric networks.

- We will engage in the advancement of the analysis of power flows using the network analysis tools and perform management with high operational quality and reliability for evaluation and verification of stableness and other matters of electric networks upon the setting up of the transfer capacity of interconnection lines between regions.
- We will continuously proceed with the study of particular operation method and transfer capacity after reinforcement of the Central Region AC Loop and Tohoku-Tokyo interconnection lines based on the second long-term policy for a cross-regional electric network.
- We will calculate and publicly announce the limit of interconnection lines between regions operable after ensuring supply reliability and the margin values needed to supply electricity and procure cross-regional balancing capacity in the event of abnormalities, including the events of accidents of interconnection lines between regions or unplanned maintenance work.
- We will proceed with the study regarding the validity of the transfer capacity of interconnection lines between regions and electrical networks in regions, guarantee of

transparency, early identification of issues, approaches to countermeasures, and other matters at the Working Group on Future Transmission Capacity and Related Matters established in fiscal year 2024.

- We will accept and periodically examine new and changed applications for approved power sources in response to the reviews of the rules related to the use of interconnection lines conducted for the realization of cross-regional merit orders (introduction of implicit auction scheme). Likewise, with respect to plans for transitional measures that have been introduced as provisional measures up to fiscal year 2025, we will monitor companies subject to such transitional measures related to operations, such as acceptance and management of applications for the delisting of issues and bidding activities.
- We will disclose information on interconnection lines between regions and nationwide electricity supply and demand in accordance with the Guidelines on Network Information Disclosure (revised in December 2024) as defined by the national government.

(2) Coordination of scheduled outage plans

While the long-term scheduled maintenance work is expected to increase because of the systematic update of existing transmission and distribution facilities, it is important to promote the coordination among companies as quickly as possible and realize overall optimal maintenance work coordination to strike a balance between the proper maintenance of transmission and distribution facilities and power supply facilities and the securing of the power supply capacity.

To this end, we will coordinate and publicly announce the scheduled outage plans of electric facilities that will affect the transfer capacity of interconnection lines between regions with consideration of an alignment with maintenance plans that will be drawn-up two years before the actual supply and demand operations, changes in supply structure due to increases in renewable energy, and risks of the tightness of the supply-demand balance during transitional periods upon the aggregation of plans regarding the maintenance plans of the cross-regional interconnection of networks in yearly, monthly, unplanned, and emergency contexts. ・We will proceed with the study regarding development of rules in the case of grid congestion on the side of forward power flow along with grid connections of a grid-scale battery in order to promote further integration of a grid-scale battery for which the number of applications for the system impact study is rapidly increasing.

(3) Advancement of network usage

We will engage in the following initiatives related to the Japanese version of Connect & Manage, which is a scheme for early interconnection of new power sources, such as renewable energy and utilization of the existing network facilities.

- We will study for the refinement of medium-to-long term forecast of grid congestion as preparation for grid congestion that may occur in normal times other than times of maintenance work along with an increase in power sources integrated by non-firm connections and will study the method to evaluate influence of the grid congestion on supply capacity and coordination capacity.
- When general transmission and distribution companies control the output of renewable energy to mitigate grid congestion on the trunk networks and local networks during normal times, we will verify the validity of such control based on the Operational Rules and publish the result in terms of the fact whether the output control has been conducted in the predetermined output control order (a certain order) of redispatch system in light of the Network Codes.
- When power generation is curtailed promptly by a protective relay in the event of N-1 contingency in connection with expansion of total transfer capacities during normal times along with the introduction of the N-1 inter trip, we will study the validity of such curtailment based on the Operational Rules in terms of the settlement of expenses in light of the Network Codes.
- We will proceed with the study regarding development of rules for connections and use of electric networks inclusive of the side of forward power flows (charger side) of a grid-scale battery in order to promote further integration of a grid-scale battery for which the number of applications for the system impact study is rapidly increasing.

(4) Efficient access operations

As for an application for access study received by the Organization, we will respond without delay through proper confirmation of validity from a professional viewpoint. In addition, we will ensure smooth implementation of the network reinforcement process requested by applicants for congestion mitigation of which the operation has started from fiscal year 2024 by precisely explaining and informing companies who consider requesting the reinforcement based on the start of acceptance of applications for non-firm connections for local networks.

(5) Reviewing grid codes

Proper development of the grid codes that include technical requirements of network interconnection, which are a series of regulations related to network interconnection of

power sources, is important to make renewable energy the main power source as well. Therefore, with respect to the technical requirements (phase 3) that become necessary when the integration rate of renewable energy is assumed to be 50% to 60%, which is a reference value, toward the achievement of carbon neutrality, we will prioritize the review of the facilities that will significantly affect the electrical networks, such as batteries and quick chargers for electric vehicles of which integration is expected to expand rapidly, and the inverter power supply that might be suspended across wide areas in the event of severe accidents as phase 2' by advancing the schedule to mandate the requirements at the early stage with the aim of completion by around 2030.
Furthermore, we will proceed with the study of technical requirements that take into account the types of power sources and new technologies and systems where the introduction is assumed to be expanded (phase 4) after examining the feasibility and the necessity to mandate the requirements by setting the timing to mandate the requirements.

(6) Disaster coordination plan and mutual aid systems

To reinforce the coordination system between general transmission and distribution companies through disaster coordination plan, we will study from the nationwide perspective upon changes in disaster coordination plan for general transmission and distribution companies, and will submit the plan with opinions, if any, to the Minister of Economy, Trade and Industry.
In addition, as the main operator of the mutual aid system that allocates the costs across the nation for early temporary restoration from disaster, we will properly carry out operations for the acceptance of applications from transmission and distribution companies and make decisions on the amounts of subsidies and the granting of subsidies. Furthermore, we will operate the plan flexibly in the event of major disaster based on the Mutual Assistance Operation Guideline for Disaster Recovery Funds (revised on April 2024) and will review the total amount of contributions and the amount of funding requirement after fiscal year 2026, if necessary, based on the performance after the commencement of the system.

3. Promotion of integration of renewable energy and network operation and integration into electricity market

To promote de-carbonization of power sources, it is important to proceed with network operation and integration into electricity market toward the achievement of carbon

neutrality by 2050 by taking the uncertainty and trend of supply and demand for the medium-to-long term into account with ensuring of stable electricity supply as a major premise.

Especially with respect to renewable energy, it is necessary to proceed with the integration as much as possible to make renewable energy the main power source while focusing on reducing the allocated cost to the public to benefit the community. To this end, it is necessary to implement the FIT/FIP system inclusive of an auction and the funding system properly and effectively and to manage a large amount of funds for a long period of time properly.

It is also important to strike a balance with the necessary initiatives for stable electricity supply, such as a countermeasure for insufficient ability to reduce the power supply accompanied by an increase in variable renewable energy, and proper output control in the predetermined order.

Based on the above, as for the systems based on the Renewable Energy Act, we will engage in the following initiatives in fiscal year 2025 while we take the Seventh Energy Strategic Plan into account.

- Based on the fact that the business to support the integration of renewable energy through FIT/FIP bidding, the grant of subsidies, and collection of contributions has a significant influence on the business operations of authorized business operators, purchase obligor, and retail electricity companies, and that charges as capital of the business are funded by the public, we will implement proper and efficient business operations in accordance with relevant laws, guidance, and regulations. Especially with respect to the calculation of subsidies, we will accurately calculate by properly reflecting the system revisions that include the idea to charge the cost on the power generator side, on-site solar power generators, and enhanced support for the FIP power source. In addition, as for the bidding operations, we will continuously implement fair and proper operations inclusive of payment and reimbursement of bidding deposits in accordance with the relevant laws, guidance, and regulations under strict information control.
- As for the business related to reserve funds for the disposal of facilities, system revisions are scheduled, which includes a scheme that will start from 2025 to accumulate the required amount of funds for a period up to the end of accumulation period when a long-term, stable, and qualified solar power generation company expands or updates its solar panels; therefore, we will properly operate such revised systems. Furthermore, since the system revision is planned to include the wind-power generation facilities within the scope of reserve funds for disposal, we will proceed with the necessary preparation inclusive of system development in coordination with the

national government toward secure operation of the added business.

- We will continuously carry out securely and smoothly the operation of management of reserved fund equivalent to the amount of subsidies to temporarily withhold the payment of subsidies against authorized business operators who are confirmed to be in breach of business plans based on an ordinance of the Minister of Economy, Trade and Industry, which started from fiscal year 2024 to enhance the business discipline of authorized business operators.
- Since we manage a large amount of funds for the renewable energy account for a long period of time, we will prepare an estimate of income and expenditures and a financial plan based on the careful management of the actual financial performance of each month and the evaluation of financial risk, and we will continuously manage the fund properly and steadily. The income and expenditure will be offset in several years in this account for the purpose of the Renewable Energy Act, and the Electricity Business Act regulates the borrowing of funds, bond issuance, utilization of government guarantees, and other conduct by the Organization. Based on such regulations, we borrowed money for any insufficient funds in fiscal year 2023 and 2024 in coordination with the national government. We will properly handle reimbursement, funding, and other operations in coordination with the national government while we continuously accurately grasp the trend of income and expenditures and other situations.
- We will respond accurately to inquiries from many companies regarding business related to renewable energy and will provide information that is easy to understand by fulfilling our website and FAQ contents.

4. Development and stable operation of systems

It is imperative to proceed with the development and to ensure stable long-standing operation of information system which is a basis of secure and effective business conduct by the Organization and improves convenience of users of electricity such as member companies. Therefore, while we maintain stable operation of aging systems, we will update the necessary hardware and software for a medium-to-long term in a safe and effective manner. In addition, we will design, develop, and implement systematically the additional functions in response to various system revisions and the improvement contributing to effective operation in comprehensive coordination with the medium-to-long-term prospects, then will ensure thorough efficient preservation and management for stable operation of the systems.

To advance the quality, cost, deadline management, and ability to explain system development, updating, and other matters, we will utilize the knowledge of such experts as

CIO advisers and proceed with reinforcement of project management, such as OCCTO-PMO activities.

(1) Addition of features and ensuring of stable operation of cross-regional organization system

It is important to proceed systematically and steadily with development, preservation, and management of the cross-regional organization system to promote cross-regional operation by making the most of the reinforcement of nationwide electric networks and system improvement toward the effective use of electricity in cooperation with electric power companies, such as general transmission and distribution companies, and the markets for stable system coordination while accurately responding to various system revisions. Based on the above, we will carry out the following initiatives in fiscal year 2025.

- We will steadily proceed with development and release that responds to the system revisions, such as changes into fence flow management of transfer capacity and scheduled power flow between three supply areas along with development of the Central Area AC Loop, and day-ahead procurement of all commodities under the supply-demand coordination market scheme toward the start of operation from fiscal year 2026.
- Furthermore, we will start development without delay to respond to reinforcement of the Hokkaido-Honshu interconnection facilities toward the start of operation in fiscal year 2027.
- As for preservation, management, and maintenance of current cross-regional organization system (hereinafter "current system"), we will systematically proceed with the update of equipment as the minimum necessary countermeasures against the end of service life of hardware while we also take the replacement timing of the current system into account and will take every precaution to ensure normal and stable operation.
- We review original schedules of the replacement of current system at the end of fiscal year 2030 and the start of full-scale development in fiscal year 2025, and we are also proceeding with a study and coordination with respect to the coordination and division of functions with the reform of the next-term central load dispatching system (hereinafter "integrated central load-dispatching system") jointly implemented by nine interconnected general transmission and distribution companies on the premise of the temporary life extension of the current system. Also, in fiscal year 2025, we will continue proceeding with the necessary study and coordination to avoid unnecessary duplicate investments, pursue mitigation of social costs by overall optimization among systems, and thoroughly prepare for risks in connection and transition between systems, while we also pay attention to the discussion regarding systems such as simultaneous market scheme.
- Although the current system is operated across regions in coordination with the central

load dispatching system of nine companies, it is necessary to pay close attention to changes in the connection destination and implementation of interoperability testing with integrated central load-dispatching system which is scheduled to be established after 2028. While we comprehensively take the above into account, we will proceed with the review of the structure of future cross-regional organization system from both the soft and hard aspects, as well as with the technical evaluation of feasibility and stable transition of the system.

(2) Capacity market scheme, business related to renewable energy, switching support system, etc.

In order to operate properly and effectively the businesses related to capacity market scheme, renewable energy, support for smooth switching of retail electric companies by consumers, it is imperative to add and improve functions and to maintain the stable operation of each system.

Based on the above, we will carry out the following initiatives in fiscal year 2025.

- As for the capacity market scheme, we will set up the adjusting coefficient of power supply dispatched by an order of which the system will be changed from the actual supply and demand operation period in fiscal year 2026 and will develop systems necessary for proper and effective business operation during the actual supply and demand operation period and operation of long-term de-carbonized capacity auction.
- As for the system related to renewable energy, we will respond to the system revisions, operate business properly and effectively, and develop a system to update and streamline the relative systems with respect to the scheme of reserve funds for disposal by long-term stable qualified solar power generation companies, enhancement of support for on-site solar power generators and FIP power sources, and other matters.
- We will proceed with the overall designing, procurement, and establishment of the OA system, inclusive of the study for utilization and insourcing of cloud service, if necessary, toward the replacement in fiscal year 2026 due to the end of service life of the system.
- In addition to the above, we will improve, operate, and conduct maintenance, if necessary, for the switching support system, cross-regional reserve margin Web publication system, publication system of power generation performance of each unit, member information management system, and accounting system, etc.

(3) Security measures for information system

We will improve measures for information security and cybersecurity of each system that is the business foundation of the Organization and that is responsible for stable

electricity supply, and will maintain zero security incidents that lead to major power outages.
In fiscal year 2025, while we continuously reinforce the preparations against cyberattacks, monitor security logs, and audit information security, we will proceed with the initiatives to reinforce measures to prevent security incidents, conduct drills in preparation for the occurrence of security incidents, raise awareness of security among the personnel of the Organization, and self-inspect for user companies of systems in coordination with the national government.

5. Development of infrastructure which support the business, and reinforcement of organizational management and governance

We will respond to changes in environment surrounding the electrical systems and system expansion and will focus especially on the three reinforcements that are 1) reinforcement of organizational management and governance, 2) reinforcement of securing and training of human resources, and 3) reinforcement of functions to collect and disseminate information when one of the urgent issues is development of systems to support our business that expands and becomes increasingly more complicated and diversified. In addition to that, we will handle cross-sectional issues inclusive of reinforcement of disaster response systematically and quickly and will reinforce the foundation of organizational management.

5-1. Reinforcement of organizational management and governance

(1) Continuous review of organizational management structure

Based on the Action Plan for the Organizational Structure (drawn-up in June 2021), we will attempt to disseminate the Management Philosophy (missions, visions, and values) enacted and published in fiscal year 2023 and will continuously engage in strategic planned organizational management with a medium-to-long term perspective, ensuring of efficient and effective business conduct and reinforcement of multi-layered governance and risk management throughout the whole business.
We will quickly review, expand, and streamline the business and develop and change the organizational structure in accordance with the necessity by taking into account the changes in environment surrounding electrical systems and the study on system revisions at the National Council inclusive of the Seventh Energy Strategic Plan.

(2) Budget and financial management

Operation of the Organization basically consists of a membership fee and a special membership fee of members as electricity companies, and the effective and efficient business operation and budget management are desired more strongly when the scope of our business is expanding because of new system and political needs.
Because of the above, we will examine the needs, efficiencies, and priorities of a budget when we prepare the budget and will keep trying to reduce expenditures as much as possible by selecting proper measures that include bidding as a basic measure upon procurement and fulfill accountability for respective stakeholders, including Japanese public.
In addition, we will be sure to execute a budget efficiently, and upon settlement, we will compile financial results in financial statements through a strict and accurate accounting process that will utilize a financial accounting system in compliance with corporate accounting standards as generally recognized as fair and reasonable and will publish the statements with a business report to secure transparency after internal and external audits.
Furthermore, we will manage funds and finance properly and develop systems further by considering the compliance with corporate accounting standards and the introduction of external audits because we will need not only to operate surplus funds and to procure funds through borrowing from financial institutions but also to lend funds for cross-regional network development along with increase and diversification of funds that we handle.

(3) Introduction of accounting audit by an audit corporation

Given the recent expansion of the business and the increase of funds that we handle, we introduce an accounting audit by an audit corporation from the settlement in fiscal year 2024 based on the study result of Verification Working Group of the Organization for Cross-regional Coordination of Transmission Operators. In addition, we revise our accounting rules to change the accounting arrangement that show our operating results more properly and proceed with the initiative to properly establish practices and systems in order to improve transparency of accounting process, while we comply with corporate accounting standards as generally recognized as fair and reasonable. In fiscal year 2025, we will continuously proceed with the reinforcement of systems and schemes toward more steady governance based also on the result of external accounting audit.

(4) Audit and monitoring

The Organization has established a governance system that conducts multilayered checks

through regulations and authorization by the government based on the Electricity Business Act, discussions at the national council, deliberation and resolution at the general meeting, board of directors, board of councilors, and committees based on the same Act, articles of incorporation and other rules, audits by an auditor, and internal audits.

An internal audit by the audit office is conducted in terms of the conduct of business, financial reporting, document management, information management, information security, and others to confirm whether the business of the Organization is conducted in a proper, neutral, and fair manner.

In particular, with respect to a financial report, we conduct an audit focusing on the evaluation of internal control related to the business that handles the management of huge amounts of funds, and on monitoring of appropriateness of accounting process and fund management.

With respect to information security, we will conduct an objective audit that uses third-party expertise and internal monitoring in tandem for more thorough information management from the perspective of neutrality and fairness.

Since an accounting audit by an audit corporation is introduced in addition to the audit by an auditor and internal audits by the audit office, we will further improve the effectiveness of governance by establishing the structure to coordinate such three-way audits. In addition, we will properly operate the whistleblowing system that has been introduced voluntarily from fiscal year 2024.

5-2. Reinforcement of securing and training of human resources

It is necessary even more to secure personnel with various high skills regardless of whether they are proper personnel or loaned employees because our business has expanded and become more complicated and diversified.

In particular, even though neutrality and fairness in business are fully secured in terms of both systems and business operation, it is undesirable to depend on loaned personnel; therefore, qualitative and quantitative securing and training of proper personnel are issues of top priority when we take into account our organizational missions as a neutral professional organization that pursues the maximization of public benefit, continuity of business, and existence of departments that handle individual company information. In fiscal year 2025 as well, we will continuously focus on reinforcement and training of new graduates and mid-career recruitment.

With respect to the training of personnels, we will adopt stratified training corresponding to the growth of personnel that has been introduced from fiscal year 2024, in addition to

the training at the time of recruitment, training for new graduates, site visit, and joint training with appointed persons of the national electricity sector. We also continuously hold a voluntary study session in which all personnel can participate, twice a month or so, with a different theme at every session. In addition, we will review, if necessary, and implement properly an employee welfare program that includes flexible handling of employees corresponding to diversification of career paths, abilities, and performance of personnel, skill-up support, health checkups, and childcare support.
We achieved the target to reduce the ratio of loaned employees from major electricity companies to under 50% by fiscal year 2025 earlier than original scheduled. While we continuously work on securing of the loaned employees as work-ready personnel to deal with the expansion and complication of our business, we will aim at further improvement of the proper personnel ratio.

5-3. Reinforcement of functions to collect and disseminate information

We will reinforce information dissemination and publications that include a website that is easy to understand not only for member companies and experts but also for the public, as well as proactive press response regarding the importance of cross-regional operation of the electric business, our roles, business, and operation with various stakeholders in mind. Since it is extremely important to disseminate accurate and quick information, especially with respect to the tight balance of supply and demand, we will engage in the relative initiatives inclusive of preparations for emergency responses in coordination with the national government and general transmission and distribution companies.
Furthermore, we will prepare and publish an annual report on the supply and demand of electricity, state of electric network system, grid access business, forecasts and issues related to supply and demand of electricity for the next fiscal year and the medium-to-long term period, evaluation and verification of reserve capacity and balancing capacity, and other matters. Furthermore, we will disseminate and share discussed matters related to each system operation at our committee and study group with experts and practitioners.
We will reinforce the cooperative relationship with relative organizations in foreign countries through international academic conferences, technical discussions, and oversea study, disseminate information on initiatives in Japan to foreign countries as well, and proceed with the study toward accumulation and utilization of organizational knowledge about overseas trends.

5-4. Other necessary initiatives

(1) Response to disasters, etc.

In an emergency, such as disasters, we will reinforce cooperation with the national government and general transmission and distribution companies under the response system in accordance with the Operational Rules and the Disaster Preparedness Plan (revised in August 2024) and will secure supply and demand promptly and flexibly.
During normal times, we will develop a response system and conduct disaster-response drills, and we will engage in initiatives to fortify our ability to respond to disaster inclusive of response drills at our backup operations base in western Japan to ensure that we will be able to carry out prioritized continuous operations in accordance with a business continuity plan in the event that damage is incurred by our offices or any of our members.
Furthermore, we will continuously prepare for contingencies as we are a designated public corporation based on the Basic Act on Disaster Management (Act No. 223 of 1961), Act on Special Measures Concerning Novel Influenza Virus (Act no. 31, 2012), and Act concerning the Measures for Protection of the People in Armed Attack Situations (Act no. 112, 2004).

(2) Handling of complaints or inquiries and dispute resolution

When we receive complaints or inquiries concerning the business related to the transmission and distribution of electricity from electricity supply companies or other companies, we will hear facts and claims from both sides on the matter fairly and precisely, organize the points in dispute and examine comprehensively from both institutional and practical aspects, and then endeavor to promptly resolve the matters by responding without delay. In accordance with the necessity, we will explain and implement alternative disputes resolving procedures (mediation and arbitration) and issue guidance or recommendations to the electricity supply companies
Furthermore, we will periodically compile, publish, and widely disseminate the requests and consultations tied to complaints so as to contribute to improvement of the business of electricity supply companies.

(3) Development of rules such as the Network Codes

We will properly develop, publicly announce, and disseminate rules inclusive of revision of the Articles of Incorporation, Operational Rules, Network Codes, and other regulations related to the Organization to address the various system revisions considered by the national council and other matters in an appropriate manner.