

# TCFD

## TCFD Governance

The Board of Directors recognizes that responding to climate change over the mid to long-term is an important key management issue for the TEPCO Group, which is responsible for providing energy. Just like predicting future climate change, it is also difficult to accurately predict potential social changes and the impact that they will have on the business environment of the TEPCO Group. However, even though there is a high degree of uncertainty in regards to these matters, society demands that we strive to avoid or mitigate future loss through highly accurate risk assessment/analysis, identify new business opportunities through this process, and achieve sustainable company operations.

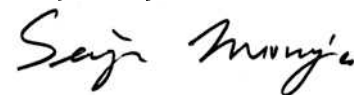
Analyzing future scenarios for 2050 based upon TCFD recommendations is very important for discussions by the Board of Directors. Even in Japan, which has extremely low energy self-sufficiency rates and is highly dependent on fossil fuels, the movement towards carbon neutrality is intensifying and we are assessing whether or not the current direction of our midterm business plan will enable future business developments to be resilient in the long-term.

In 2021, we set a new target of “reducing CO<sub>2</sub> emissions originating from the supply of energy to basically

zero by 2050” in addition to our objective of “reducing CO<sub>2</sub> emissions originating from the sale of power by 50% of FY2013 levels by 2030.” The trend towards carbon neutrality provides an opportunity to promote electrification of energy demand. “Metrics and Targets” explains the direction of the TEPCO Group’s business that will contribute to achieving a carbon neutral society, as well as the maximum ¥3 trillion that we plan to invest in carbon neutral initiatives by FY2030.

The role of governance in responding to climate change, for which a long-term outlook is indispensable, is to promote the optimization of our future business portfolio based on suitable assessments of risk and opportunity, and lead operation so that our business is sustainable. As a member of the Board and upper management, I am facing these important management decisions head on.

**Seiji Moriya**

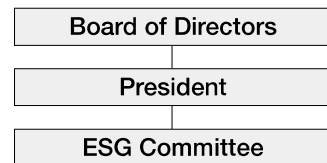


**Director, Representative Executive Officer,  
Executive Vice President, CFO**

### TEPCO Group Governance as it Pertains to Climate Change

We perceive ESG issues, including responding to climate change, to be key management issues, and the Board of Directors has selected an officer to be in charge of ESG. This officer gives quarterly reports to the Board on the status of policy execution, and the Board supervises strategies, action plans and performance targets, as well as revisions to such. Similarly, climate change -related risks/opportunities and budgets are also supervised by the Board of Directors.

### Tokyo Electric Power Company Holdings



Chair: Representative Executive Officer and President  
 Vice chair: Executive Vice President (CFO) ESG Officer  
 Committee member: President of each key business company, etc.

### Discussions by the Board of Directors

At the 96th annual shareholders’ meeting (FY2019), the fourth item on the agenda was a shareholder proposal requesting that the company charter be partially changed to stipulate a “withdrawal from coal thermal power generation.” The Board of Directors expressed opposition to this proposal for the following reasons, and the proposal was rejected at the annual shareholders’ meeting.

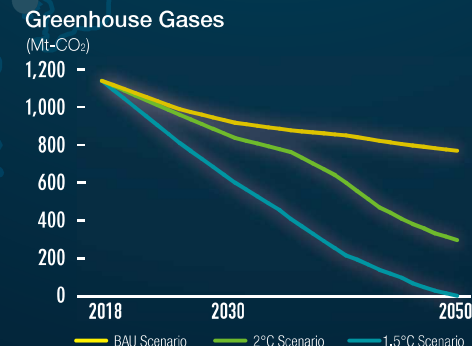
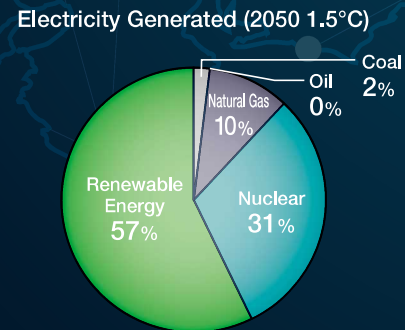
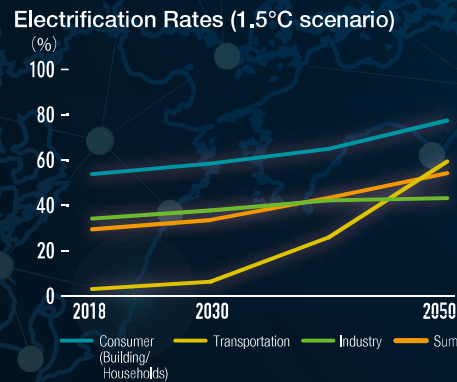
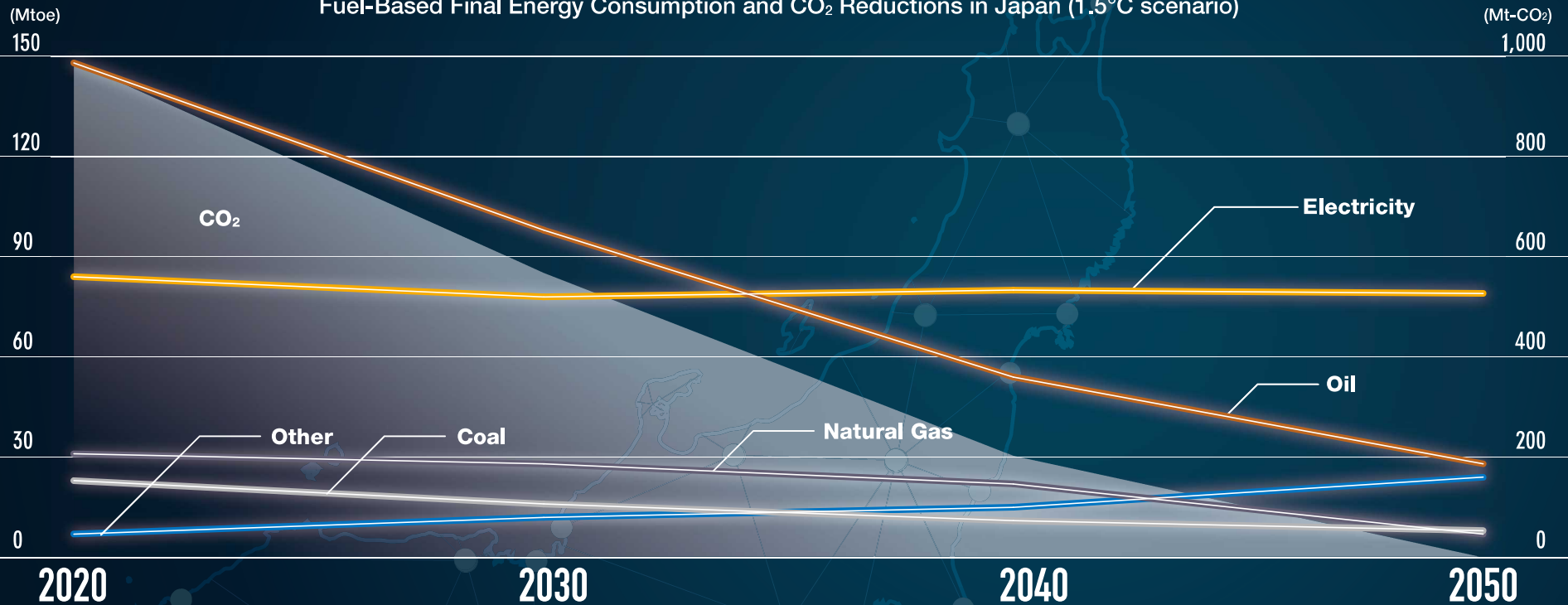
The proposal pertains to the business and affairs of the corporation and is not something that should be stipulated in the company charter. Furthermore, although it is important to reduce CO<sub>2</sub> emissions in order to combat climate change, it is also important is that we, as an electric operator, fulfill our responsibility to provide a stable supply of electricity at low-cost, and for this reason we believe that highly efficient coal thermal power generation, which is superior in terms of fuel supply stability and economic feasibility, should be used effectively in combination with other power sources.

The Board of Directors will supervise and support JERA initiatives to make thermal power production even more efficient, as well as initiatives to turn renewable energies into primary power sources, and the development of business strategies, such as promoting nuclear power with the precondition that safety is guaranteed, in order to create a sustainable society.



You can see that electricity will play a more important role than ever in achieving carbon neutrality. The TEPCO Group will play a leading role in creating a sustainable society and leverage this business opportunity to increase earnings.

Fuel-Based Final Energy Consumption and CO<sub>2</sub> Reductions in Japan (1.5°C scenario)



\* This scenario analysis references scenarios in the IEA's World Energy Outlook 2019. These scenarios were intentionally created to look at phenomena that can only occur in the distant future as possibilities that can be thought of by the company, and do not intend to forecast the results for each scenario.

# TCFD Risk Management

The TEPCO Group's Risk Management Committee strives to avoid the manifestation of serious climate-related risks, and minimize any impact on company operation through quick and suitable response in the event that such risks were to manifest. Furthermore, risk assessments are leveraged when making decisions, such as decisions on key management issues, and discussed by/reported to the Board of Directors.

## The TEPCO Group's Risks and Opportunities

		Risks		Opportunities	
		Mid-term (~2030)	Long-term (~2050)	Mid-term (~2030)	Long-term (~2050)
Transition Risks	Policy and Legal	Increased costs caused by stricter regulations		Resource efficiency	Increase the use of electric vehicles Reusing, spreading, and increasing the use of storage batteries
	Technology	Decrease in the quality of power in conjunction with the large-scale introduction of renewable energies	Decrease in the superiority of large-scale power sources in conjunction with the spread of distributed power sources	Energy source	Using nuclear power Developing and expanding the use of renewable energy technologies
	Market			Products and Services	Increased desire by customers to have CO <sub>2</sub> -free energy Electrification is progressing
	Reputation	There is a tendency for TEPCO be thought of as passive regards to climate change countermeasures	Less acceptance of nuclear power by society	Market	Switch to carbon neutral societies in developing nations Increased desire for Green Bonds, etc.
Physical Risks	Acute	Damage to power supply facilities by typhoons		Resilience	Increased social needs pertaining to disaster prevention
	Chronic		Decreasing the amount of hydroelectric energy produced due to fluctuations in the amount of precipitation		

\*The severity of risks is examined by the Risk Management Committee

## Risk Management Structure



## Financial Impact of Climate-Related Risks and Opportunities

Cost of purchasing 100 GWh of non-fossil certificates	Impact on annual profit/loss from the operation of one nuclear reactor	Damages from typhoons (2019)	Profits from higher flow rates (1%)	Profits from renewable energy-based power generation	Investment in carbon neutral initiatives
<b>¥90 million</b>	<b>¥50 billion</b>	<b>¥20.8 billion</b>	<b>¥1 billion</b>	<b>¥100 billion</b>	<b>¥3 trillion</b>

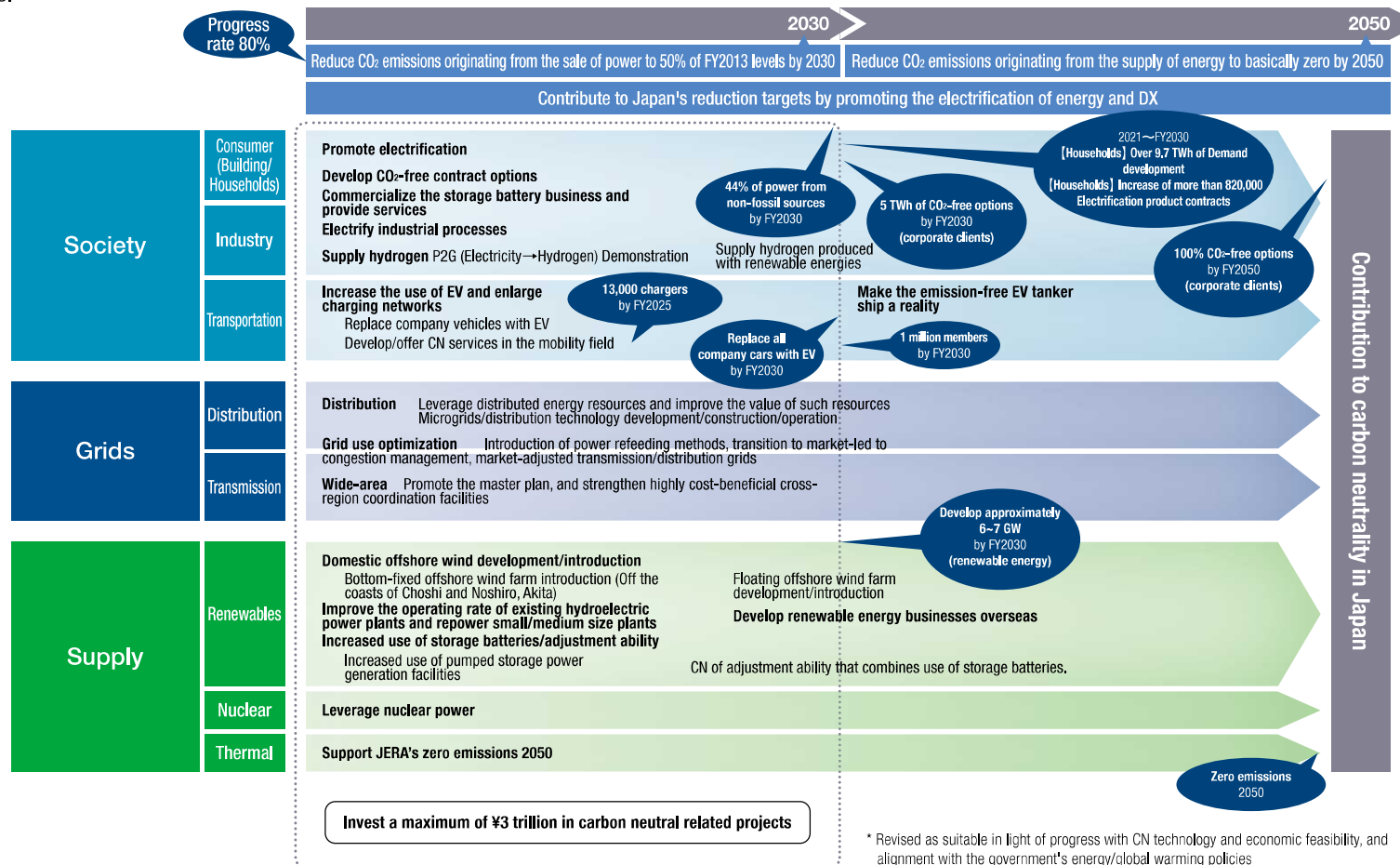
# TCFD Metrics and Targets

In light of the Paris Agreement, the TEPCO Group has set a goal of reducing CO<sub>2</sub> emissions originating from the sale of power to 50% of FY2013 levels by 2030. The group also aims to reduce CO<sub>2</sub> emissions originating from the supply of energy to basically zero by 2050 through achieving a “best mix” of power sources that considers both stable supply and economic feasibility, and innovation.

We consider the trend towards carbon neutrality to be a new business opportunity and aim to grow in a sustainable manner along with society through further electrification spurred on by providing new carbon neutral-based value to our customers.

## GHG Emissions in FY2020 (Mt-CO<sub>2</sub>)

Scope 1	Scope 2	Scope 3
0.2	5.23	109.91

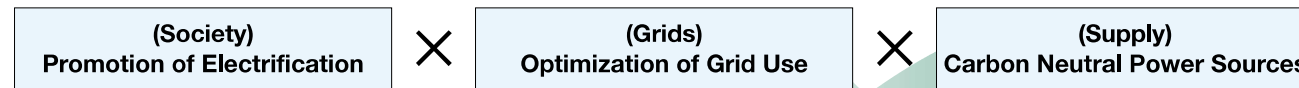


\* Revised as suitable in light of progress with CN technology and economic feasibility, and alignment with the government's energy/global warming policies

# Creating a Carbon Neutral Society by 2050

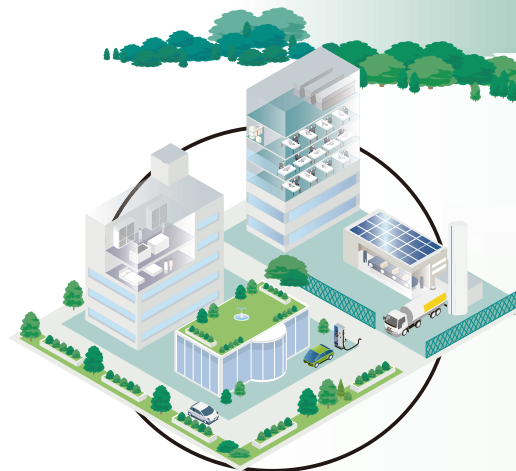
~Expand the Use of Renewable Energies and Electric Vehicles to Create a Safer and More Comfortable Society~

The TEPCO Group Provides Value that Exceeds the Expectations of each and Every One of our Customers



## <Buildings>

We shall expand the use of renewable energies and use energy in a more efficient manner through electrification and energy-saving buildings/equipment. Furthermore, by perfectly mixing power with advanced IoT we shall improve comfort during times of normalcy and resilience during times of emergency.

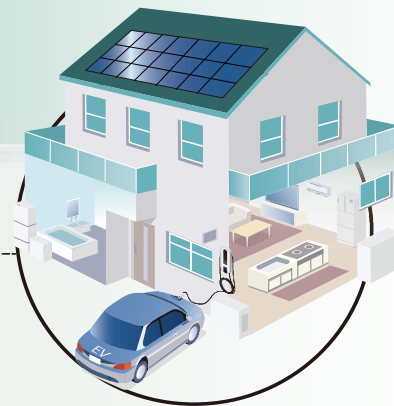
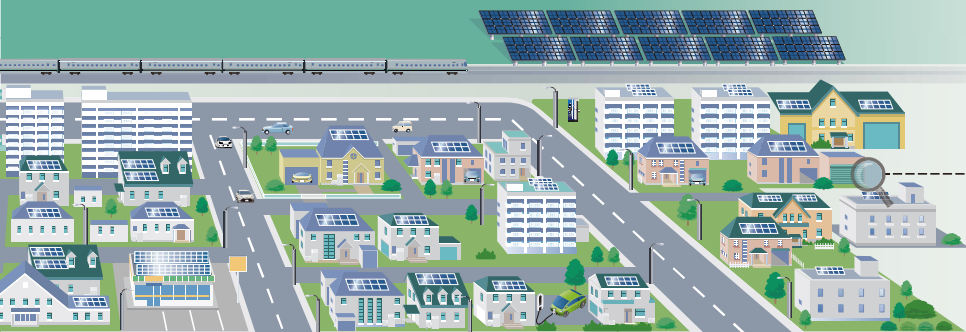


## <Industry>

We will enable energy to be used in a more efficient manner, expand the use of renewable energies, and improve resilience by introducing energy-saving measures at, and electrifying, factories, and spreading the use of distributed power sources, such as solar power and storage batteries.

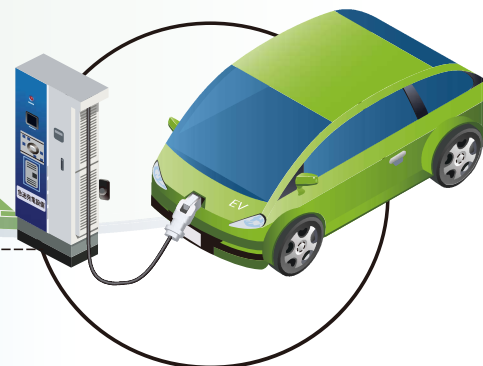
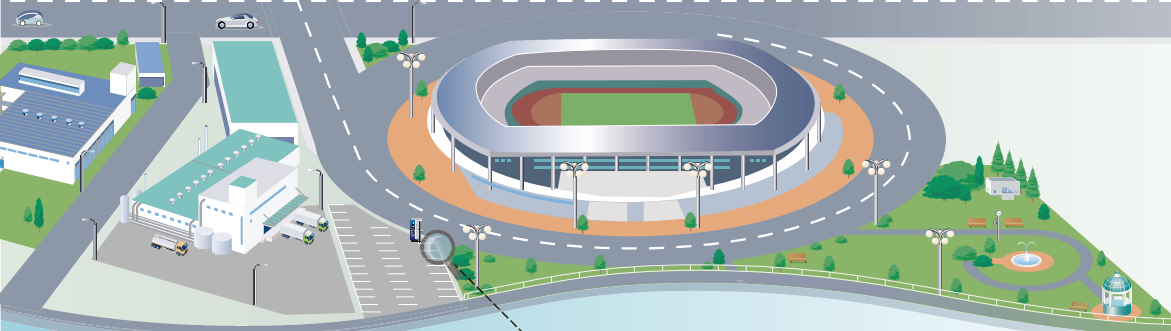
Furthermore, we shall achieve carbon neutrality by electrifying-temperature production processes and developing/introducing clean hydrogen produced through the electrolysis of water.





#### <Household>

Along with spreading the use of solar power we shall move forward with the electrification of air-conditioners, water heaters and heating equipment thereby using energy in a more efficient manner and increasing the use of renewable energies. Furthermore, we will offer contracting options that are easier to use by households, such as subscription-based power contracts. And, the power supplied by household electric vehicles during times of emergency will help to improve resilience.



#### <Transportation>

In conjunction with the electrification of vehicles and shipping vessels, social infrastructure, such as charging facilities in towns and commercial centers, will grow thereby increasing the use of renewable energies. Since electric vehicles can be used as mobile power sources during times of emergency providing new added value to urban development.

