

ESG Data 2025 - Environmental Data

Updated August 2025

TEPCO HD and core operating companies (Tokyo Electric Power Company Holdings, Inc., TEPCO Fuel & Power, Inc., TEPCO Power Grid, Inc., TEPCO Energy Partner, Inc., and TEPCO Renewable Power, Inc.)						
GRI	UM	FY2021	FY2022	FY2023	FY2024	
Coverage						
Operating revenues	(billion JPY)	5,310	8,112	6,918	6,810	
Electric power operating revenues	(billion JPY)	4,842	7,446	6,330	6,218	
Other operating revenues	(billion JPY)	468	667	589	593	
TEPCO HD and core operating companies / TEPCO HD and all of consolidated subsidiary companies	(%)	91	92	91	91	
GRI	UM	FY2021	FY2022	FY2023	FY2024	
Key figures						
Installed capacity by energy source						*1
Total net electrical capacity	(MW)	18,200	18,122	18,116	18,119	
Thermal net capacity	(MW)	58	58	58	58	
Coal	(MW)	0	0	0	0	
LNG	(MW)	0	0	0	0	
Oil	(MW)	58	58	58	58	
Nuclear net capacity	(MW)	8,212	8,212	8,212	8,212	
Renewable net capacity	(MW)	9,930	9,852	9,845	9,849	
Hydroelectric	(MW)	9,879	9,801	9,794	9,798	*2
Solar	(MW)	30	30	30	30	
Wind	(MW)	21	21	21	21	
Geothermal	(MW)	0	0	0	0	
Biomass and cogeneration	(MW)	0	0	0	0	
Net energy production by energy source						*1
Total net electrical production (energy consumption)	(GWh)	13,106	11,706	10,507	10,185	
Thermal net production (energy consumption)	(GWh)	157	156	155	159	
Coal	(GWh)	0	0	0	0	
LNG	(GWh)	0	0	0	0	
Oil	(GWh)	157	156	155	159	
Nuclear net production (energy consumption)	(GWh)	0	0	0	0	
Renewable net production (energy consumption)	(GWh)	12,948	11,550	10,353	10,026	
Hydroelectric	(GWh)	12,882	11,489	10,296	9,961	*2
Solar	(GWh)	29	24	22	33	
Wind	(GWh)	37	36	35	32	
Geothermal	(GWh)	0	0	0	0	
Biomass and cogeneration	(GWh)	0	0	0	0	
Efficiency						
Thermal power plant	(%)	-	-	-	-	
Development						
Development of renewable power generation facilities	(MW)	192	326	325	335	
Availability						
Nuclear power plant	(%)	0	0	0	0	
Network						
Electricity network						
Total transmission network	(km)	40,966	41,037	40,999	41,145	
- of which aerial line	(km)	28,453	28,480	28,410	28,453	
- of which underground cable	(km)	12,513	12,557	12,589	12,692	
Total distribution network	(km)	383,415	384,544	385,624	386,591	
- of which aerial line	(km)	344,208	345,095	345,883	346,620	
- of which underground cable	(km)	39,207	39,449	39,741	39,971	
Transmission and distribution loss						
Extra high voltage	(%)	1.3	1.3	1.3	1.3	*3
High voltage	(%)	3.9	3.7	3.7	3.7	*3
Low voltage	(%)	6.6	6.9	6.9	6.9	*3
Average	(%)	4.5	3.8	4.7	3.9	
Supply reliability						
System Average Interruption Duration Index (SAIDI)	(hours)	0.12	0.08	0.08	0.1	
Interruption time (min.) / year (min.)	(%)	0.001	0.001	0.001	0.001	

	Smart meter					
	Number of installations	(10,000 units)	2,840	2,840	2,840	2,840 *4
	Installation rate	(%)	100	100	100	100 *4
	Sales					
	Electricity volumes	(GWh)	177,118	173,089	192,125	185,172 *5
305-4	CO ₂ related electricity sales					
	Adjusted emissions intensity	(kg-CO ₂ /kWh)	0.451	0.376	0.408	0.421 *6
	Basic emissions intensity	(kg-CO ₂ /kWh)	-	-	-	0.421
	Unadjusted emissions intensity	(kg-CO ₂ /kWh)	0.457	0.457	0.475	0.485
	Adjusted emissions	(1,000 t-CO ₂)	79,900	65,100	78,400	78,000 *7
	Basic emissions	(1,000 t-CO ₂)	-	-	-	78,000
	Unadjusted emissions	(1,000 t-CO ₂)	80,900	79,100	91,300	89,800
	Gas volumes	(1,000 m ³)	1,230,253	1,378,263	1,284,810	1,350,041 *8
	Adjusted emissions intensity	(kg-CO ₂ /m ³)	-	-	2.05	2.05 *9
	Basic emissions intensity	(kg-CO ₂ /m ³)	-	-	2.05	2.05
	Adjusted emissions	(1,000 t-CO ₂)	-	-	2,634	2,768 *9
	Basic emissions	(1,000 t-CO ₂)	-	-	2,634	2,768
	Leakage rate (Transportation)	(%)	0	0	0	0
	Leakage rate (Distribution)	(%)	0	0	0	0
	Leakage rate (Storage)	(%)	0	0	0	0
2-27	Environmental compliance					
	Total monetary value of significant fines	(million JPY)	0	0	0	0
	Total number of non-monetary sanctions	(cases)	0	0	0	0
	Significant spill					
	Total number of significant spill	(cases)	0	0	0	0
GRI		UM	FY2021	FY2022	FY2023	FY2024
Emissions						
305-1	Direct greenhouse gas emissions (Scope 1)					*10
	Total direct emissions (Scope 1)	(1,000 t-CO ₂ eq)	192	193	194 ★	200 *11
	CO ₂ emissions from electricity production and other activities	(1,000 t-CO ₂)	118	119	121	121
	CO ₂ emissions from vehicles (gasoline and diesel)	(1,000 t-CO ₂)	7	6	6	6
	Total other CO ₂ eq emissions	(1,000 t-CO ₂ eq)	67	68	67	73
	N ₂ O	(1,000 t-CO ₂ eq)	1	1	1	1
	HFCs	(1,000 t-CO ₂ eq)	3	6	3	8 *12
	SF ₆	(1,000 t-CO ₂ eq)	63	61	63	64 *12
	Other emissions volume					
	N ₂ O	(t)	3	3	4	4
	SF ₆	(t)	2.8	2.7	2.7	2.7 *12
	SF ₆ recovery rate					
	In equipment inspections	(%)	99	>99.5	>99.5	99
	In equipment removal	(%)	99	99	>99.5	>99.5
	Fluorocarbon emissions					
	Leaked volumes based on the act on rational use and proper management of fluorocarbon	(1,000 t-CO ₂ eq)	6	9	5	13
305-2	Indirect greenhouse gas emissions (Scope 2)					*13
	Total of Scope2,market based	(1,000 t-CO ₂ eq)	5,753	4,917	5,918 ★	4,939 *14
	Total of Scope2,location based	(1,000 t-CO ₂ eq)	5,744	4,896	5,961 ★	4,931 *15
	Civil uses, hydroelectric and thermal electric plants					
	Related to energy purchased from the grid (Scope 2, market based)	(ktCO ₂ eq)	465	490	427	479 *14
	Related to energy purchased from the grid (Scope 2, location based)	(ktCO ₂ eq)	456	469	470	472 *15
	Related to technical losses from distribution and transmission network	(ktCO ₂ eq)	5,288	4,427	5,491	4,459 *16

GRI		UM	FY2021	FY2022	FY2023	FY2024
	Water					
303-3	Water withdrawal in “water stressed” areas					
	Total	(1,000 m ³)	0	0	0	0
303-3	Water withdrawal by source					
	Total withdrawal from scarce sources	(1,000 m ³)	49,463,282	47,263,796	37,129,334	37,665,148
	Surface water (wetlands, lakes, rivers)	(1,000 m ³)	49,462,537	47,263,067	37,128,590	37,664,373
	Ground water (from wells)	(1,000 m ³)	27	24	31	34
	Water from municipal water supplies	(1,000 m ³)	719	705	714	741
	Water withdrawal by uses					
	Total	(1,000 m ³)	49,463,282	47,263,796	37,129,334	37,665,148
	River water for hydroelectric plants	(1,000 m ³)	49,462,389	47,262,577	37,128,052	37,663,915
	Industrial water	(1,000 m ³)	73	384	422	344
	Municipal water	(1,000 m ³)	794	811	831	855
	Groundwater	(1,000 m ³)	27	24	31	34
	Water intensity for electricity generation activities					
	Total	(m ³ /kWh)	5.7	5.5	5.2	5.3
303-4	Water discharge by destination					
	Total	(1,000 m ³)	49,463,282	47,263,796	37,129,331	37,665,148
	Surface water (wetlands, lakes, rivers)	(1,000 m ³)	49,462,389	47,262,577	37,128,057	37,663,921
	Groundwater	(1,000 m ³)	0	0	0	0
	Sea (in industrial treatment plants)	(1,000 m ³)	335	668	715	638
	Third party water (municipal treatment plants)	(1,000 m ³)	558	551	559	589
303-5	Freshwater consumption					
	Total	(1,000 m ³)	<1	<1	3	<1
	Water treatment					
	Volume of waste water treatment in power plants	(1,000 m ³)	-	-	-	-
	COD emissions from power plants	(t)	-	-	-	-
	Annual accumulated ALPS treated water discharge volume	(1,000 m ³)	-	-	31	55
	Business Impacts of Water Related Incidents	(million JPY)	-	-	0	0
GRI		UM	FY2021	FY2022	FY2023	FY2024
	Waste					
	Industrial waste by disposal method					
306-3	Total generated	(1,000 t)	148	140	156	158
306-4	Recycled volume	(1,000 t)	148	140	156	158
306-5	Landfill treatment volume	(1,000 t)	0.486	0.055	0.093	0.078
	Recycling rate	(%)	99.6	99.9	99.9	99.8
	Hazardous waste					
	Waste volume containing PCB	(1,000 t)	27	18	21	23
	Insulating oil (inadvertently contaminated)	(ML)	4	4	6	5
	Ash management					
	Total generated	(1,000 t)	0	0	0	0
	Recycled volume	(1,000 t)	0	0	0	0
	Landfill treatment volume	(1,000 t)	0	0	0	0
	Recycling rate	(%)	-	-	-	-
GRI		UM	FY2021	FY2022	FY2023	FY2024
	Other					
	Electric vehicle					
	Number of EV or PHEV	(vehicles)	656	720	915	1,350
	Rate of EV or PHEV fleets	(%)	18	21	27	40
	Green procurement					
	Green procurement rate in office supplies (monetary value based)	(%)	99.9	99.9	>99.9	>99.9
	Paper bought for printers/ photocopiers					
	Number of sheets (equivalent A4 sheets)	(million A4eq)	170	171	171	160
	Weight	(t)	678	681	684	638

TEPCO HD and all of consolidated subsidiary companies						
GRI	KPI	UM	FY2021	FY2022	FY2023	FY2024
Key figures						
Installed capacity by energy source						
	Total net electrical capacity	(MW)	18,354	18,269	18,310	18,321
	Thermal net capacity	(MW)	58	58	58	58
	Coal	(MW)	0	0	0	0
	LNG	(MW)	0	0	0	0
	Oil	(MW)	58	58	58	58
	Nuclear net capacity	(MW)	8,212	8,212	8,212	8,212
	Renewable net capacity	(MW)	10,084	9,998	10,039	10,051
	Hydroelectric	(MW)	10,021	9,945	9,985	9,989
	Solar	(MW)	39	30	30	31
	Wind	(MW)	21	21	21	21
	Geothermal	(MW)	0	0	0	0
	Biomass and cogeneration	(MW)	3	3	3	9
Net energy production by energy source						
	Total net electrical production	(GWh)	13,698	12,248	11,225	10,893
	Thermal net production	(GWh)	157	156	155	159
	Coal	(GWh)	0	0	0	0
	LNG	(GWh)	0	0	0	0
	Oil	(GWh)	157	156	155	159
	Nuclear net production	(GWh)	0	0	0	0
	Renewable net production	(GWh)	13,541	12,092	11,070	10,734
	Hydroelectric	(GWh)	13,458	12,016	10,992	10,638
	Solar	(GWh)	31	25	22	33
	Wind	(GWh)	37	36	35	32
	Geothermal	(GWh)	0	0	0	0
	Biomass and cogeneration	(GWh)	16	16	21	30
Sales						
	Electricity volumes	(GWh)	233,812	242,784	228,745	228,621
2-27	Environmental compliance					
	Total monetary value of significant fines	(million JPY)	0	0	0	0
	Total number of non-monetary sanctions	(cases)	0	0	0	0
	Significant spill					
	Total number of significant spill	(cases)	0	0	0	0
ISO 14001						
	Certificated offices	(offices)	19	20	21	22
GRI		UM	FY2021	FY2022	FY2023	FY2024
Emissions						
305-1	Direct greenhouse gas emissions (Scope 1)					
	Total direct emissions (Scope 1)	(1,000 t-CO ₂ eq)	203	205	215	221
	CO ₂ emissions from electricity production and other activities	(1,000 t-CO ₂)	123	125	132	136
	CO ₂ emissions from vehicles (gasoline and diesel)	(1,000 t-CO ₂)	11	10	13	11
	Total other CO ₂ eq emissions	(1,000 t-CO ₂ eq)	69	69	69	74
305-2	Indirect greenhouse gas emissions (Scope 2)					
	Total of Scope2,market based	(1,000 t-CO ₂ eq)	5,777	4,934	5,937	4,957
	Total of Scope2,location based	(1,000 t-CO ₂ eq)	5,773	4,913	5,981	4,950
	Civil uses, hydroelectric and thermal electric plants					
	Related to energy purchased from the grid (Scope 2, market based)	(1,000 t-CO ₂ eq)	489	507	446	498
	Related to energy purchased from the grid (Scope 2, location based)	(1,000 t-CO ₂ eq)	485	485	490	491
	Related to technical losses from distribution and transmission network	(1,000 t-CO ₂ eq)	5,288	4,427	5,491	4,459
	Scope 1 and 2					
	Market based	(1,000 t-CO ₂ eq)	5,980	5,139	6,152	5,179
	Location based	(1,000 t-CO ₂ eq)	5,976	5,118	6,196	5,171

302-2 305-3	Other indirect greenhouse gas emissions (Scope 3, per GHG protocol)					
	Total of Scope 3	(1,000 t-CO ₂ eq)	-	106,401	115,464	102,816 *24
	Category 1 Purchased goods and services	(1,000 t-CO ₂ eq)	-	-	3,895	4,786
	Category 2 Capital goods	(1,000 t-CO ₂ eq)	-	-	2,533	2,874
	Category 3 Fuel- and energy-related activities (not included in Scope 1 or Scope 2)	(1,000 t-CO ₂ eq)	-	-	102,046	88,292
	Category 4 Upstream transportation and distribution	(1,000 t-CO ₂ eq)	-	-	26	23
	Category 5 Waste generated in operations	(1,000 t-CO ₂ eq)	-	-	6	10
	Category 6 Business travel	(1,000 t-CO ₂ eq)	-	-	5	5
	Category 7 Employee commuting	(1,000 t-CO ₂ eq)	-	-	13	13
	Category 8 Upstream leased assets	(1,000 t-CO ₂ eq)	-	-	1	2
	Other (upstream)	(1,000 t-CO ₂ eq)	-	-	0	0
	Category 9 Downstream transportation and distribution	(1,000 t-CO ₂ eq)	-	-	0	0.4
	Category 10 Processing of sold products	(1,000 t-CO ₂ eq)	-	-	0	0
	Category 11 Use of sold products	(1,000 t-CO ₂ eq)	-	-	6,934	6,807
	Category 12 End-of-life treatment of sold products	(1,000 t-CO ₂ eq)	-	-	0	0
	Category 13 Downstream leased assets	(1,000 t-CO ₂ eq)	-	-	5	4
	Category 14 Franchises	(1,000 t-CO ₂ eq)	-	-	0	0
	Category 15 Investments	(1,000 t-CO ₂ eq)	-	-	0	0
	Other (downstream)	(1,000 t-CO ₂ eq)	-	-	0	0
GRI		UM	FY2021	FY2022	FY2023	FY2024
Energy						
302-1 302-4	Energy consumption					
	Total	(GJ)	13,122,744	13,135,128	11,756,069	12,214,629
	Electricity production and other activities	(GJ)	1,787,910	1,823,146	1,929,388	2,002,320
	Vehicles (gasoline and diesel)	(GJ)	155,338	158,534	142,014	161,084
	Electricity, heat and steam (civil uses, hydroelectric and thermal electric plants)	(GJ)	11,179,495	11,153,448	9,684,667	10,051,225
GRI		UM	FY2021	FY2022	FY2023	FY2024
Water						
303-3	Water withdrawal by uses					
	Total	(1,000 m ³)	52,787,101	50,621,370	41,352,728	41,543,159
	River water for hydroelectric plants	(1,000 m ³)	52,786,057	50,619,971	41,351,172	41,541,566
	Industrial water for thermal electric plants	(1,000 m ³)	73	384	422	408
	Municipal water	(1,000 m ³)	944	991	1,104	1,151
	Groundwater	(1,000 m ³)	27	25	31	34
GRI		UM	FY2021	FY2022	FY2023	FY2024
Waste						
Industrial waste by disposal method						
306-3	Total generated	(1,000 t-CO ₂)	212	152	171	192
306-4	Recycled volume	(1,000 t-CO ₂)	212	152	171	190
306-5	Landfill treatment volume	(1,000 t-CO ₂)	<1	<1	<1	2
	Recycling rate	(%)	99.6	99.7	99.7	99
GRI		UM	FY2021	FY2022	FY2023	FY2024
Other						
	Electric vehicle					
	Number of EV or PHEV	(vehicles)	690	754	938	1,386
	Green procurement					
	Green procurement rate in office supplies (monetary value based)	(%)	95.3	94.8	85.9	99.1
	Paper bought for printers/ photocopiers					
	Number of sheets (equivalent A4 sheets)	(million A4eq)	247	249	246	232
	Weight	(t)	985	993	982	928

- Figures which are marked with ★ have been externally assured by KPMG AZSA Sustainability Co.,Ltd.
- Totals may not be match due to significant digits or rounding.
- The values are for the fiscal year (from 1 April to 31 March) or as of the end of the fiscal year (31 March) unless otherwise specified.
- *1 Source: "Surveys and Statistics of Electricity (the Agency for Natural Resources and Energy)"
- *2 Including pumped-storage power generation
- *3 The transmission and distribution loss rate by voltage is the transmission and distribution loss rate by voltage stated in the General Provisions for Wheeling Service announced at the beginning of the fiscal year.
- *4 The installation was completed in all households by FY2020 except for some places where installation works are technically difficult.
- *5 Excluding wholesale electricity
- *6 Adjusted emissions intensity refers to the CO2 emission intensity after reflecting adjustments related to the allocation of surplus non-fossil value of the feed-in tariff scheme for renewable energy and the purchase of non-fossil certificates, based on the "Act on Promotion of Global Warming Countermeasures."
- *7 Adjusted emissions refer to the CO2 emission after reflecting adjustments related to the allocation of surplus non-fossil value of the feed-in tariff scheme for renewable energy and the purchase of non-fossil certificates, based on the "Act on Promotion of Global Warming Countermeasures."
- *8 Excluding wholesale gas
- *9 CO2 emissions intensity and CO2 emissions are calculated and published from FY2023 results in accordance with the revision of the Act on Promotion of Global Warming Countermeasures and other related laws and regulations. Adjusted emissions intensity and adjusted emissions refer to the values after reflecting adjustments of domestic and overseas certified emission reductions based on the Act on Promotion of Global Warming Countermeasures.
- *10 Scope 1 emissions refer to GHG emissions released directly into the atmosphere from emission sources within organizational boundaries. In principle, these emissions are calculated using the emission intensity listed in the Ministry of the Environment's Calculation Methods and Emission Coefficients in the Calculation, Reporting, and Disclosure System. This is based on Japanese laws: the Act on the Rational Use of Energy and the Act on Promotion of Global Warming Countermeasures. In addition, CO2 emissions from vehicles are also included in Scope 1 emissions.
- *11 Scope 1 emissions do not include the amount of fluorocarbon leakage based on the Fluorocarbon Emissions Control Act.
- *12 The value for calendar year (from January 1 to December 31)
- *13 Scope 2 emissions refer to emissions due to the use of electricity, heat and steam supplied by others.
- *14 "Market based" emissions are emissions which are calculated based on the emissions intensity of each retail company. Calculated by using the adjusted emissions intensity for each retail company
- *15 "Location based" emissions reflect the average emissions intensity of grids.
- *16 The emissions are calculated by multiplying the transmission and distribution (T&D) loss electricity by the TSO's emission intensity. The T&D loss electricity is calculated by multiplying the amount of electricity TEPCO Power Grid transmitted at the transmission end by the T&D loss rate. The TSO's emission intensity is converted to the value at the transmission end.
- *17 Scope 3 emissions refer to indirect emissions (not included in scope 2)
 Approach to calculation: calculated according to the guidelines below.
 "Corporate Value Chain (Scope 3) Accounting and Reporting Standard (GHG protocol)"
 "Basic Guidelines for Calculating Greenhouse Gas Emissions through Supply Chains (Ministry of Economy, Trade and Industry, Ministry of the Environment)"
 Calculation method for each of the categories
 Category 1: A hybrid of the following two
 A. Calculated by multiplying the procurement amount for each product/service purchased by the emissions intensity
 B. If the supplier publishes corporate emissions and sales on their websites, etc., calculate using the published values and our procurement amount.
 Category 2: Calculated by multiplying the amount of annual capital investment in financial report by the emission factor
 Category 3: The sum of the following two values;
 A. Emissions from resource extraction, production and transportation
 Calculated by multiplying amount of electricity procured by emission factors
 B. Emissions of energy consumption by other companies related to the amount of electricity sold
 Calculated by multiplying the amount of electricity procured from other companies by the emission factor
 Category 4: Calculated by multiplying transportation volume or transportation charges by the emission factor from FY2023 results
 Category 5: Calculated by multiplying the volume of industrial waste by the emission factor for each type of waste treatment method
 Category 6: Calculated by multiplying the number of employees by the emission factor
 Category 7: Calculated by multiplying the number of employees by the number of business days and the emission factor for each location type of office
 Category 8: No applicable emissions due to our type of business
 Category 9: Calculated by multiplying transportation volume or transportation charges by the emission factor from FY2024 results
 Category 10: No applicable emissions due to our type of business
 Category 11: Calculated by multiplying the volume of gas sales by the emission factor
 Category 12: No applicable emissions due to our type of business
 Category 13: No applicable emissions due to our type of business
 Category 14: No applicable emissions due to our type of business
 Category 15: No applicable emissions due to our type of business

- * 18 From FY2022 results, the scope of aggregation has been expanded to include all purchased products and services.
- * 19 Total transmission emissions.
 - Emissions from resource extraction, production and transport of input fuels for power generation: calculated by multiplying the amount of electricity procured by the emission intensity of the fuel procurement. Emissions intensity is based on the “Emissions intensity database for determining greenhouse gas emission transfers of organisations through the supply chain”.
 - Emissions associated with electricity sold: These emissions are calculated by multiplying the amount of electricity sold by the emissions intensity (not adjusted) such as that of TEPCO Energy Partner, while excluding any overlap with Scope 1 and Scope 2 emissions.
- * 20 From FY2023 results, calculated by multiplying transportation volume or transportation charges by the emissions intensity.
- * 21 Emissions associated with the use of city gas we sell: Calculated by multiplying the city gas sold (in calorific value) by the emissions intensity specified in the GHG Emissions Accounting, Reporting, and Disclosure System administered by Japan's Ministry of the Environment.
- * 22 VOC emissions based on the emission standards of the Air Pollution Control Act, which is a regulatory law of Japan, are zero.
- * 23 Until FY2022 results, calculated using 9.97 (GJ/MWh) as the primary energy equivalent of electricity. From FY2023 results, calculated using 8.64 (GJ/MWh) as the primary energy equivalent of electricity.
- * 24 From FY2022 results, the scope of aggregation is expanded to include all consolidated subsidiaries, and from FY2023 results is published by category.