Environmental Data

Updated August 2021

	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	KPI	UM	FY2017	FY2018	FY2019	FY2020	
	Coverage						
	Employees						
	TEPCO HD and core operating companies	(no.)	32,546	31,718	30,999	30,574	
	TEPCO HD and all of consolidated subsidiary companies	(no.)	41,525	41,086	37,892	37,891	
	TEPCO HD and core operating companies / TEPCO HD and all of consolidated subsidiary companies	(%)	78	77	82	81	
GRI	KPI	UM	FY2017	FY2018	FY2019	FY2020	
	Key figures						
	Installed capacity by energy source						* 1
	Total net electrical capacity	(MW)	63,691	63,697	18,194	18,199	
	Thermal net capacity	(MW)	41,155	41,161	57	58	
	Coal	(MW)	3,200	3,200	0	0	
	LNG	(MW)	29,251	29,251	0	0	
	Oil	(MW)	8,704	8,710	57	58	
	Nuclear net capacity	(MW)	12,612	12,612	8,212	8,212	
	Renewable net capacity	(MW)	9,924	9,924	9,925	9,929	
	Hydroelectric	(MW)	9,872	9,873	9,874	9,878	* 2
	Solar	(MW)	30	30	30	30	
	Wind	(MW)	18	21	21	21	
	Geothermal	(MW)	3	0	0	0	
	Biomass and cogeneration	(MW)	0	0	0	0	
	Net energy production by energy source						* 1
	Total net electrical production	(GWh)	196,668	190,752	10,966	11,937	
	Thermal net production	(GWh)	184,384	179,610	160	159	
	Coal	(GWh)	24,069	23,888	0	0	
	LNG	(GWh)	156,393	153,517	0	0	
	Oil	(GWh)	3,923	2,204	160	159	
	Nuclear net production	(GWh)	0	0	0	0	
	Renewable net production	(GWh)	12,428	11,535	10,806	11,778	
	Hydroelectric	(GWh)	12,212	11,071	10,743	11,722	* 2
	Solar	(GWh)	33	32	31	29	
	Wind	(GWh)	30	35	32	26	
	Geothermal	(GWh)	9	4	0	0	
	Biomass and cogeneration	(GWh)	[144]	[393]	0	0	* 3
	Efficiency						
	Thermal power plant	(%)	49.6	49.7	-	-	
	Development						
	Development of renewable power generation facilities	(MW)	-	-	30	138	
	Availability						
	Nuclear power plant	(%)	0	0	0	0	

	Network						
	Electricity network						
	Total transmission network	(km)	40,665	40,663	40,804	41,059	
	- of which aerial line	(km)	28,333	28,314	28,391	28,585	
	- of which underground cable	(km)	12,332	12,349	12,413	12,474	
	Total distribution network	(km)	378,370	379,724	381,028	382,290	
	- of which aerial line	(km)	340,134	341,184	342,222	343,257	
	- of which underground cable	(km)	38,236	38,540	38,806	39,033	
	Transmission and distribution loss						
	Extra high voltage	(%)	1.4	1.4	1.3	-	* 4
	High voltage	(%)	3.8	3.9	3.9	-	* 4
	Low voltage	(%)	5.9	6.4	6.6	-	* 4
	Average	(%)	3.8	4.2	4.3	4.0	
	Supply reliability						
	System Average Interruption Duration Index (SAIDI)	(min.)	6	19	200	7	
	Interruption time (min.) / year (min.)	(%)	0.001	0.004	0.038	0.038	
	Smart meter						
	Number of installations	(10k units)	1,602	2,152	2,533	2,840	
	Instalation rate	(%)	55.3	74.1	87.2	100	* 5
	Sales						
	Electricity volumes	(GWh)	233,123	219,448	209,707	192,866	
	CO_2 related electricty sales						
	Adjusted emissions intensity	(kg-CO_2/kWh)	0.462	0.455	0.441	0.434	* 6, 20
	Basic emissions intensity	(kg-CO_2/kWh)	0.475	0.468	0.457	0.441	* 20
	Adjusted emissions	($ktCO_2$)	107,700	99,700	92,400	83,600	* 7, 20
	Basic emissions	($ktCO_2$)	110,800	102,700	95,800	85,000	* 20
	Gas volumes	(kt)	1,830	1,770	2,170	2,100	
	Leakege rate (Transportation)	(%)	0	0	0	0	
	Leakege rate (Distribution)	(%)	0	0	0	0	
	Leakege rate (Strage)	(%)	0	0	0	0	
307-1	**Environmental compliance**						
	Total monetary value of significant fines	(mil. JPY)	0	0	0	0	
	Total number of non-monetary sanctions	(no.)	0	0	0	0	
	Significant spill						
	Total number of significant spill	(no.)	0	0	0	0	

GRI	KPI	UM	FY2017	FY2018	FY2019	FY2020	
	Emissions						
305-1	**Direct greenhouse gas emissions (Scope 1)**						* 8
	Total direct emissions (Scope 1)	($ktCO_2eq$)	84,328	81,604	191	190	
	CO_2 emissions from electricity production and other activities	($ktCO_2$)	84,193	81,470	120	120	
	CO2 emissions from vehicles (gasoline and diesel)	($ktCO_2$)	9	8	8	7	
	Total other CO_2eq emissions	($ktCO_2eq$)	126	126	63	63	
	N_2O	($ktCO_2eq$)	60	59	1	1	
	HFCs	($ktCO_2eq$)	5	6	3	3	* 9
	SF_6	($ktCO_2eq$)	61	61	59	59	* 9
	Other emissions volume						
	N_2O	(t)	201	198	3	3	
	SF_6	(t)	2.7	2.7	2.6	2.6	* 9
	SF_6 recovery rate						
	In equipment inspections	(%)	>99.5	>99.5	>99.5	>99.5	
	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	($ktCO_2eq$)	11	13	9	5	
305-2	**Indirect greenhouse gas emissions (Scope 2)**						* 10
	Related to energy purchased from the grid (Scope 2, market based)						* 11
	Civil uses, hydroelectric and thermal electric plants	($ktCO_2eq$)	576	532	492	469	
	Related to energy purchased from the grid (Scope 2, location based)						* 12
	Civil uses, hydroelectric and thermal electric plants	($ktCO_2eq$)	618	564	497	471	
	Related to technical losses from distribution and transmission network		-	-	5,395	4,736	* 13
305-3	**Other indirect greenhouse gas emissions (Scope 3)**						* 14
	Total of Scope 3	($ktCO_2eq$)	46,378	42,355	121,390	109,909	* 15
	Category 1 Purchased goods and services	($ktCO_2eq$)	12	14	13	12	* 15
	Category 2 Capital goods	($ktCO_2eq$)	1,909	2,034	1,664	1,906	* 15
	Category 3 Fuel- and energy-related activities (not included in Scope 1 or Scope 2)	($ktCO_2eq$)	39,449	35,469	113,809	102,554	* 15
	Category 4 Upstream transportation and distribution	($ktCO_2eq$)	0	0	0	0	
	Category 5 Waste generated in operations	($ktCO_2eq$)	30	30	2	2	
	Category 6 Business travel	($ktCO_2eq$)	4	4	4	4	
	Category 7 Employee commuting	($ktCO_2eq$)	11	11	11	11	
	Category 8 Upstream leased assets	($ktCO_2eq$)	0	0	0	0	
	Category 9 Downstream transportation and distribution	($ktCO_2eq$)	0	0	0	0	
	Category 10 Processing of sold products	($ktCO_2eq$)	0	0	0	0	
	Category 11 Use of sold products	($ktCO_2eq$)	4,962	4,793	5,888	5,420	
	Category 12 End-of-life treatment of sold products	($ktCO_2eq$)	0	0	0	0	
	Category 13 Downstream leased assets	($ktCO_2eq$)	0	0	0	0	
	Category 14 Franchises	($ktCO_2eq$)	0	0	0	0	
	Category 15 Investments	($ktCO_2eq$)	0	0	0	0	
	Scope 1 and 2						
	Market based	($ktCO_2eq$)	84,904	82,136	6,078	5,395	
	Location based	($ktCO_2eq$)	84,946	82,168	6,083	5,397	
	Scope 1, 2 and 3						
	Market based	($ktCO_2eq$)	131,282	124,491	127,468	115,304	* 15
	Location based	($ktCO_2eq$)	131,324	124,523	127,474	115,306	* 15

GRI	KPI	UM	FY2017	FY2018	FY2019	FY2020	
305-7	**Other atmospheric emission**						
	NO_X emissions	(kt)	18	18	2	2	
	SO_X emissions	(kt)	7	6	<1	<1	
	Dust emissions	(kt)	-	-	<0.1	<0.1	
	Direct mercury emissions	(kt)	-	-	0	0	* 16
GRI	**KPI**	**UM**	**FY2017**	**FY2018**	**FY2019**	**FY2020**	
	Energy						
302-1	**Energy comsumption**						
	Total	(GJ)	1,516,012,323	1,471,624,333	12,574,384	12,376,989	* 15
	Electricity production and other activities	(GJ)	1,504,001,449	1,460,169,097	1,733,333	1,738,099	
	Vehicles (gasoline and diesel)	(GJ)	131,441	123,256	121,574	106,536	
	Electricity, heat and steam (civil uses, hydroelectric and thermal electric plants)	(GJ)	11,879,433	11,331,979	10,719,477	10,532,354	* 15
302-3	**Energy consumption intensity in buildings**						
	Per total floor space of office (headquarters, branch offices, etc.)	(MJ/m^2)	1,400	1,410	1,407	1,397	* 15
	Costs						
	Total costs of energy consumption	(mil. JPY)	1,340,000	1,570,000	3,380	2,948	
	Renewable energy (in-house power generation)						
	Installed buildings	(kW)	-	-	17	17	* 15
	Installed capacity	(kW)	-	-	229	229	* 15
	Net energy production	(MWh)	-	-	237	227	* 15
GRI	**KPI**	**UM**	**FY2017**	**FY2018**	**FY2019**	**FY2020**	
	Raw materials						
301-1	**Fuel comsumption**						
	from non-renewable sources						
	Coal	(kt)	8,306	8,145	<1	<1	
	Heavy oil, crude oil, etc.	(ML)	982	558	44	44	* 15
	Gas (LNG, LPG)	(kt)	20,978	20,785	<1	<1	
	City Gas	(mil m^3)	2,355	2,090	<1	<1	
	Fuel for nuclear power plants	(t)	0	0	0	0	
	from renewable sources						
	Biomass	(kt)	74	200	0	0	
GRI	**KPI**	**UM**	**FY2017**	**FY2018**	**FY2019**	**FY2020**	
	Water						
303-3	**Water withdrawal in "water stressed" areas**						
	Total	(kilo m^3)	0	0	0	0	
303-3	**Water withdrawal by source**						
	Total withdrawal from scarce sources	(kilo m^3)	55,301,022	49,135,474	46,015,329	47,420,244	
	Surface water (wetlands, lakes, rivers)	(kilo m^3)	55,299,479	49,133,813	46,014,462	47,419,391	
	Ground water (from wells)	(kilo m^3)	39	39	42	25	
	Water from municipal water supplies	(kilo m^3)	1,504	1,622	825	828	
	Water withdrawal by uses						
	Total	(kilo m^3)	55,301,022	49,135,474	46,015,329	47,420,244	* 15
	River water for hydroelectric power plants	(kilo m^3)	55,290,179	49,124,416	46,014,244	47,419,231	
	Industrial water	(kilo m^3)	9,634	9,939	138	67	* 15
	Municipal water	(kilo m^3)	1,190	1,102	905	921	* 15
	Groundwater	(kilo m^3)	19	18	42	25	* 15

303-4	**Water discharge by destination**							
	Total	(	kilo m^3	)	55,291,388	49,125,535	46,015,326	47,420,242	* 15
	Surface water (wetlands, lakes, rivers)	(	kilo m^3	)	55,290,179	49,124,416	46,014,244	47,419,231	
	Groundwater	(	kilo m^3	)	19	18	0	0	
	Sea (industrial treatment facilities)	(	kilo m^3	)	1,190	1,102	432	352	
	Third party water (to municipal treatment facilities)	(	kilo m^3	)	0	0	650	660	
303-5	**Freshwater consumption**							
	Total	(	kilo m^3	)	9,634	9,939	3	2	* 15
	Water treatment							
	Volume of waste water treatment in power plants	(	kilo m^3	)	4,690	4,012	-	-	
	COD emissions from power plants	(	t	)	15	14	-	-	

GRI	KPI	UM	FY2017	FY2018	FY2019	FY2020	
	Waste						
	Industrial waste by disposal method						
306-3	Total generated	(kt)	1,093	1,084	146	144	
306-4	Recycled volume	(kt)	1,089	1,081	146	144	
306-5	Landfill treatment volume	(kt)	4	3	<1	<1	
	Recycling rate	(%)	99.6	99.8	>99.9	99.9	
306-4	**Hazardous waste**						
	Waste volume containing PCB	(kt)	25	27	25	26	
	Insulating oil (inadvertently contaminated)	(ML)	5	4	4	4	
	Pole-mounted transformers	(10k units)	8	8	9	7	
	High-voltage transformers and capacitors (high contaminated)	(units)	190	116	121	3	
	Management of remaining PCB equipments						
	Pole-mounted transformers	(10k units)	32	27	16	12	
	High-voltage transformers and capacitors (high contaminated)	(units)	302	186	63	23	* 17
	Ash management						
	Total generated	(kt)	742	741	0	0	
	Recycled volume	(kt)	742	741	0	0	
	Landfill treatment volume	(kt)	<1	<1	0	0	
	Recycling rate	(%)	>99.9	>99.9	-	-	

GRI	KPI	UM	FY2017	FY2018	FY2019	FY2020	
	Other						
	Electric vehicle						
	Number of EV or PHEV	(no.)	464	446	427	569	
	Rate of EV or PHEV fleets	(%)	-	-	10	15	
	Green procurement						
	Green procurement rate in office supplies (monetary value based)	(%)	99.6	99.8	>99.9	99.8	
	Paper usage for printers/ photocopiers						
	Number of sheets (equivalent A4 sheets)	(mil A4eq)	304	282	258	205	
	Weight	(t)	1,215	1,126	1,028	818	

	TEPCO HD and all of consolidated subsidiary companies						
GRI	KPI	UM	FY2017	FY2018	FY2019	FY2020	
	Key figures						
	Installed capacity by energy source						
	Total net electrical capacity	(MW)	63,882	63,850	18,345	18,350	
	Thermal net capacity	(MW)	41,155	41,161	57	58	
	Coal	(MW)	3,200	3,200	0	0	
	LNG	(MW)	29,251	29,251	0	0	
	Oil	(MW)	8,704	8,710	57	58	
	Nuclear net capacity	(MW)	12,612	12,612	8,212	8,212	
	Renewable net capacity	(MW)	10,115	10,078	10,076	10,080	
	Hydroelectric	(MW)	10,059	10,023	10,021	10,025	* 2
	Solar	(MW)	31	31	31	31	
	Wind	(MW)	18	21	21	21	
	Geothermal	(MW)	3	0	0	0	
	Biomass and cogeneration	(MW)	3	3	3	3	
	Net energy production by energy source						
	Total net electrical production	(GWh)	197,515	191,398	11,638	12,561	
	Thermal net production	(GWh)	184,384	179,610	160	159	
	Coal	(GWh)	24,069	23,888	0	0	
	LNG	(GWh)	156,393	153,517	0	0	
	Oil	(GWh)	3,923	2,204	160	159	
	Nuclear net production	(GWh)	0	0	0	0	
	Renewable net production	(GWh)	13,275	12,181	11,478	12,402	
	Hydroelectric	(GWh)	13,038	11,698	11,396	12,332	* 2
	Solar	(GWh)	35	33	32	31	
	Wind	(GWh)	30	35	32	26	
	Geothermal	(GWh)	9	4	0	0	
	Biomass and cogeneration	(GWh)	[163]	[410]	19	13	* 18
	Sales						
	Electricity volumes	(GWh)	240,300	230,306	222,277	204,484	
307-1	**Environmental compliance**						
	Total monetary value of significant fines	(mil. JPY)	0	0	0	0	
	Total number of non-monetary sanctions	(no.)	0	0	0	0	
	Significant spill						
	Total number of significant spill	(no.)	0	0	0	0	
	ISO 14001						
	Certificated offices	(no.)	24	24	24	24	* 19

GRI	KPI	UM	2017年度	2018年度	2019年度	2020年度	注
	Emissions						
305-1	**Direct greenhouse gas emissions (Scope 1)**						
	Total direct emissions (Scope 1)	($ktCO_2eq$)	84,343	81,616	200	203	
305-2	**Indirect greenhouse gas emissions (Scope 2)**						
	Related to energy purchased from the grid (Scope 2, market based)						
	Civil uses, hydroelectric and thermal electric plants	($ktCO_2eq$)	603	559	520	493	
	Related to energy purchased from the grid (Scope 2, location based)						
	Civil uses, hydroelectric and thermal electric plants	($ktCO_2eq$)	647	592	525	495	
	Related to technical losses from distribution and transmission network	($ktCO_2eq$)	-	-	5,395	4,736	
	Scope 1 and 2						
	Market based	($ktCO_2eq$)	84,945	82,175	6,114	5,432	
	Location based	($ktCO_2eq$)	84,990	82,208	6,120	5,433	
GRI	KPI	UM	2017年度	2018年度	2019年度	2020年度	注
	Energy						
302-1	**Energy comsumption**						
	Total	(GJ)	1,516,670,541	1,472,295,071	13,223,953	13,084,756	* 15
GRI	KPI	UM	2017年度	2018年度	2019年度	2020年度	注
	Water						
303-3	**Water withdrawal by uses**						
	Total	(kilo m^3)	60,187,511	52,935,328	50,038,113	51,300,456	* 15
	River water for hydroelectric plants	(kilo m^3)	60,176,500	52,924,074	50,036,857	51,299,291	
	Industrial water	(kilo m^3)	9,634	9,939	138	67	* 15
	Municipal water	(kilo m^3)	1,358	1,298	1,076	1,072	* 15
	Groundwater	(kilo m^3)	19	18	42	25	* 15
GRI	KPI	UM	2017年度	2018年度	2019年度	2020年度	注
	Waste						
	Industrial waste by disposal method						
306-3	Total generated	(kt)	1,111	1,122	158	179	
306-4	Recycled volume	(kt)	1,106	1,119	158	179	
306-5	Landfill treatment volume	(kt)	5	3	<1	<1	
	Recycling rate	(%)	99.6	99.7	99.7	99.8	
GRI	KPI	UM	2017年度	2018年度	2019年度	2020年度	注
	Other						
	Electric vehicle						
	Number of EV or PHEV	(no.)	466	448	430	592	* 19
	Green procurement						
	Green procurement rate in office supplies (monetary value based)	(%)	99.5	99.0	98.9	97.6	* 15
	Paper bought for printers/ photocopiers						
	Number of sheets (equivalent A4 sheets)	(mil A4eq)	380	355	348	323	
	Weight	(t)	1,515	1,419	1,390	1,289	

・ Totals may not be exact due to significant digits or rounding.
・ Due to integrating the existing thermal power generation businesses of TEPCO Fuel & Power, Inc. into JERA Co., Inc. as of 1 April 2019, since FY2019 there is a difference in the datas related to thermal electric plants compared to before FY2018.
・ The values of TEPCO HD and all of consolidated subsidiary companies are the sum of the value multiplying each company data by the voting rights ratio.
・ 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 value in [] is the re-posted value of biomass power generation in thermal power production.
＊4 The average value of the loss rate results for the past three years from FY2018 due to changes in the contracts for consignment supply, etc. FY2020 data is under calculation.
＊5 In all households except places where replacement work is difficult, etc.
＊6 Adjusted emissions intensity is the value after adjustment of feed-in tariff scheme for renewable energy based on the Act on Promotion of Global Warming Countermeasures.
＊7 Adjusted emissions is the value after adjustment of feed-in tariff scheme for renewable energy based on the Act on Promotion of Global Warming Countermeasures.
＊8 Emissions of greenhouse gases released directly into the atmosphere from emission sources within organizational boundaries.
＊9 The value for calendar year (from January 1 to December 31)
＊10 Emissions due to the use of electricity, heat and steam supplied by others.
＊11 Reflecting the emissions intensity of each electricity retail company
＊12 Reflecting the average emissions intensity of grids
＊13 Until FY2018 the emissions equivalent to power transmission and distribution technical loss was contained in Scope 1 emissions. Since Scope 1 emissions decreased because of integrating the existing thermal power generation businesses of TEPCO Fuel & Power, Inc. into JERA Co., Inc., calculation was started based on the GHG protocol from FY2019.
＊14 Indirect greenhouse gas emissions from business activities in the supply chain, other than direct emissions (Scope 1 emissions) and indirect emissions (Scope 2 emissions).
We follow major guidelines have been published:
"Corporate Value Chain (Scope 3) Accounting and Reporting Standard(GHG protocol)"
"Green Value Chain Platform (Japanese Ministry of the Environment website, which provides Scope 3 emissions calculation methods and models)"
Calculation method for each of the categories
Category 1: Calculated by multiplying the amount of purchased goods by the emission factor
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 electricity sales and gas sales 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: No applicable emissions due to our type of business
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: No applicable emissions due to our type of business
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
＊15 Values of previous years are updated in accordance with revisions to calculation method
＊16 Not applicable to mercury emission facilities under the Air Pollution Control Act after FY2019
＊17 Reflects exclusions from high contaminated PCBs
＊18 Regarding the value related to TEPCO Fuel & Power, Inc. of the value in [] the re-posted value of biomass power generation in thermal power production.
＊19 Added up without multiplying by voting rights ratio
＊20 Data of FY2020 is preliminary