

ESG Data 2023

E : Environmental Data

Updated Dec. 2023

		UNIT	2018	2019	2020	2021	2022	
Realization of a carbon-free society	CO2 emission factor of electricity sold to customers ^{※1}	kg-CO ₂ /kWh	0.452 (0.457)	0.424 (0.431)	0.377 (0.406)	0.382 (0.449)	0.440 (0.433)	
	CO2 emissions of electricity sold to customers ^{※1}	10 thousand t-CO ₂	5,339 (5,407)	4,969 (5,056)	4,174 (4,494)	4,158 (4,892)	4,509 (4,439)	
	Total greenhouse gas (GHG) emissions ^{※2,3}	Scope1 ^{※4}	10 thousand t-CO ₂	5,313	6	11	10 (27)	26 (29)
		Scope2 Total	10 thousand t-CO ₂	6	258	265	295 (296)	305 (306)
		Scope2 ^{※5} – Offices, power plants, etc. ^{※6}	10 thousand t-CO ₂	6	19	17	15 (16)	17 (19)
		Scope2 – Transmission and distribution losses ^{※7}	10 thousand t-CO ₂	–	239	247	280 (280)	287 (287)
		Scope1,Scope2 Total	10 thousand t-CO ₂	5,319	264	276	305 (323)	331 (334)
		Scope3 ^{※8} Total	10 thousand t-CO ₂	1,071	5,924	5,363	5,740 (5,913)	5,564 (5,755)
		Category 1 Purchased goods and services ^{※9}	10 thousand t-CO ₂	※19	65	65	71 (110)	134 (168)
		Category 2 Capital goods ^{※10}	10 thousand t-CO ₂	※19	51	70	48 (53)	73 (74)
		Category 3 Fuel- and energy- related activities (not included in scope1 or scope2) ^{※11}	10 thousand t-CO ₂	※19	5,549	4,966	5,335 (5,445)	4,938 (4,938)
		Category 4 Upstream transportation and distribution ^{※12}	10 thousand t-CO ₂	※19	–	–	– (1)	1 (4)
		Category 5 Waste generated in operations ^{※13}	10 thousand t-CO ₂	※19	1	1	1 (1)	1 (1)
		Category 6 Business travel ^{※14}	10 thousand t-CO ₂	※19	1	0.1	0.2 (0.3)	1 (1)
		Category 7 Employee commuting ^{※15}	10 thousand t-CO ₂	※19	1	2	1 (2)	2 (2)
	Category 11 Use of sold products ^{※16}	10 thousand t-CO ₂	※19	257	260	284 (285)	409 (561)	
	Category 12 End-of-life treatment of sold products ^{※17}	10 thousand t-CO ₂	※19	–	–	– (0.0)	0 (1)	
	Category 13 Downstream leased assets ^{※18}	10 thousand t-CO ₂	※19	–	–	– (16)	6 (6)	
	Total energy consumption	GWh	225,695	467	1,279	1,191	1,209	
	Renewable energy generation capacity ^{※2,20}	Hydroelectric(General)	10 thousand kW	214.3	214.3	214.8	215.5	215.5
		Hydroelectric(Pumped storage)	10 thousand kW	331.7	331.7	331.7	331.7	331.7
		Solar	10 thousand kW	28.3	36.8	45.1	50.9	50.4
		Wind	10 thousand kW	17.2	16.9	17.9	17.9	18.4
Biomass		10 thousand kW	0.7	5.2	11.9	11.9	15.3	
Geothermal		10 thousand kW	–	–	0	0	0.1	
Total(excluding pumped storage)		10 thousand kW	260.5	273.2	289.7	296.2	299.7	
Fuel consumption of vehicles	kℓ	3,315	2,995	2,582	2,562	2,511		
Office electricity consumption	10 thousand kWh	10,127	9,472	9,884	10,118	9,756		
Transmission and distribution losses	Total transmission and distribution	MWh	5,687,735.0	5,061,357.0	5,555,573.0	6,458,576	6,620,730	
Transmission and distribution losses	Total transmission and distribution	%	4.2	4.1	4.3	4.7	4.9	
Coexisting with nature	SOx emissions	t	3,686	0	1	1	2	
	NOx emissions	t	7,312	0	79	74	77	
	SF ₆ recovery rate ^{※21}	In equipment inspections	%	99.7	99.9	97.9	96.8	99.5
		In equipment removal	%	99.6	99.5	99.5	99.5	99.3
	HCFC ^{※21} emissions	t	1.1	1.7	0.7	0.1	0.0	
	HFC ^{※21} emissions	t	0.9	0.4	0.9	0.9	0.7	
	Water resources ^{※22}	Total water withdrawal (including seawater and freshwater) ^{※23}	Million m ³	68,843	52,365	50,585	51,258	50,760
		Water discharge from biomass and nuclear power stations	10 thousand m ³	334	2.0	12.7	6.3	6.4
		Fresh water use(used for nuclear, thermal and biomass power generation)	10 thousand m ³	1,047	11	21	16	15
		Water use for offices	10 thousand m ³	53.9	41.3	37.7	38.7	39.5
		Water use for offices per employee	m ³ /employee	33.5	28.7	24.8	25.7	26.5
		Used quarry water collected in the quarry	10 thousand m ³	0	0	0	0	0
		Water withdrawal from water-stressed regions	10 thousand m ³	0	0	0	0	0
Facilities, assets, production and revenue in water-stressed regions		number/amount	0	0	0	0	0	
Number of incidents of non-compliance with water-related regulations	cases	0	0	0	0	0		
Creating a circular society	Amount of waste generated ^{※24}	amount/accidents	156.8	3.6	4.3	4.6	4.5	
	Hazardous waste	10 thousand t	–	0.3	0.2	0.3	0.2	
	Plastic waste	10 thousand t	–	0.2	0.2	0.1	0.1	
	Industrial waste, etc., recycling rate ^{※24}	10 thousand t	99.7	97.2	97.2	97.8	97.3	
	Paper waste generated	%	1,683	1,390	1,141.3	1,149	1,017	
	Paper waste recycling rate	t	91.5	90.7	78.4	70.7	71.8	
Green procurement rate of consumable office supplies	%	0	0	0	0	98.8		
Environmental compliance	Violation of important environmental laws and regulations	amount/accidents	0	0	0	0	0	

■ Due to integrating the thermal power generation businesses of Chubu Electric Power Co., Inc. into JERA Co., Inc. as of 1 April 2019, since FY2019 there is a difference in the data related to thermal electric plants compared to before FY2018.

■ The values for the individual Chubu Electric Power companies are listed up to FY2019 and the total combined values for three companies consisting of Chubu Electric Power Co., Inc., Chubu Electric Power Grid Co., Inc. and Chubu Electric Power Miraiz Co., Inc. companies are listed from FY2020. (Chubu Electric Power Co., Inc. split off its power transmission and distribution businesses into Chubu Electric Power Grid Co., Inc. and its sales businesses into Chubu Electric Power Miraiz Co., Inc. on April 1 2020.)

■ Figures which are marked with (red square) have been externally assured by KPMG AZSA Sustainability Co.,Ltd.

- ※ 1 Reflects adjustments involved in CO2 emission credits, non-fossil fuel energy certificates and the FIT scheme for renewable energy obtained from the methods stipulated in the Act on Promotion of Global Warming Countermeasures. Figures in parentheses represent Basic emissions factor and Basic emissions.
- ※ 2 Figures are rounded and may not match the total.
- ※ 3 Scope of calculation is as follows:
 FY2018 and FY2019: Chubu Electric Power Co., Inc. (before split offs)
 FY2020: Chubu Electric Power Co., Inc., Chubu Electric Power Grid Co., Inc. and Chubu Electric Power Miraiz Co., Inc.
 FY2021:
 Not in parentheses ... Chubu Electric Power Co., Inc., Chubu Electric Power Grid Co., Inc. and Chubu Electric Power Miraiz Co., Inc.
 In parentheses ... Chubu Electric Power Co., Inc., Chubu Electric Power Grid Co., Inc., Chubu Electric Power Miraiz Co., Inc., Chuden Auto Lease Co., Ltd., Chubu Plant Service Co., Ltd., C-TECH CORPORATION, Techno Chubu Co., Ltd., Chuden CTI Co., Ltd., Cenergy Co. and Diamond Power Corporation
 FY2022:
 Not in parentheses ... Chubu Electric Power Co., Inc., Chubu Electric Power Grid Co., Inc., Chubu Electric Power Miraiz Co., Inc., Chubu Plant Service Co., Ltd., C-TECH CORPORATION, Techno Chubu Co., Ltd., Cenergy Co., Chuden Real Estate Co., Inc., Chuden Auto Lease Co., Ltd., Chuden CTI Co., Ltd. and ES-CON JAPAN Ltd.
 In parentheses ... Scopes 1 and 2: Consolidated subsidiaries in Japan
 Scope 3: Including TOENEC CORPORATION, TOENEC SERVICE CORPORATION and ASAHI SYNCHROTECH CORPORATION in the above scope "Not in parentheses"
- ※ 4 Scope1 :
 Emissions of greenhouse gases released directly into the atmosphere from emission sources within organizational boundaries.
 Calculated, in principle, with the emission factors specified in the GHG emissions accounting, reporting, and disclosure system administered by Japan's Ministry of the Environment, based on the Act on the Rational Use of Energy and the Act on Promotion of Global Warming Countermeasures.
- ※ 5 Scope2 : Emissions due to the electricity consumption.
- ※ 6 Offices, power plants, etc : Calculated by using the adjusted emissions factor for each electricity retail company.
- ※ 7 Transmission and distribution losses :
 Calculated by subtracting the amount of electrical energy at use end from that at transmission end and multiplying the result by the emission factor of general electricity transmission and distribution utility companies. Included in Scope 1 in and before FY2018, and calculated in accordance with the GHG Protocol Corporate Accounting and Reporting Standard and GHG Protocol Scope 2 Guidance in and after FY2019. (Transmission and distribution losses up until FY2020 do not include the amount of electrical energy within substations. Following a change in the calculation method, it is included in transmission and distribution losses in and after FY2021.)
- ※ 8 Scope3 :
 Indirect greenhouse gas emissions from business. We follow major guidelines have been published:
 "the GHG emissions accounting, reporting, and disclosure system administered by Japan's Ministry of the Environment", based on "the Act on the Rational Use of Energy" and "the Act on Promotion of Global Warming Countermeasures"
 "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) (Ver.3.3) "
 "IDEA Ver.2.3"
 "Evaluation of Life Cycle CO2 Emissions of Domestic and Foreign Biomass Fuel for Coal-fired Power Plant" (CRIEPI Report Y10010 (May 2011))"
 "Comprehensive Assessment of Life Cycle CO2 Emissions from Power Generation Technologies in Japan" (CRIEPI Report Y06 (July 2016))"
- ※ 9 Category 1 : Product/service price × emission factor
- ※ 10 Category 2 : Amount of a price increase of non-current assets × emission factor
- ※ 11 Category 3 :
 The sum of the following three values;
 -Emissions from generation of electricity we procured and sold to end users :
 the quantities of electricity procured from other companies × emission factor
 -Emissions from upstream activities (extraction, production and transportation) of fuels for electricity we procured and sold to end users :
 the quantities of electricity procured from other companies × emission factor
 -Emissions from upstream activities (extraction, production and transportation) of fuels we consumed :
 the quantities of fuels consumed × emission factor
- ※ 12 Category 4 : We are not a Specified Shippers under the Act on the Rational Use of Energy and figure is basically not calculated.
- ※ 13 Category 5 : Industrial waste, etc. generated × emission factor
- ※ 14 Category 6 : Business travel expenses × emission factor
- ※ 15 Category 7 : Travel expenses for employee commuting × emission factor
- ※ 16 Category11 : LNG · Gas sales volume × emission factor etc.
- ※ 17 Category12 : Expected waste volume × emission factor
- ※ 18 Category13 : Number of leased assets, etc. × emission factor
- ※ 19 Breakdown for FY2018 and earlier is omitted due to a review of our calculation method from FY2019.
- ※ 20 Power generation capacity owned by Chubu Electric Power Co., Inc. for business (the capacity of joint project is counted by equity share) .
- ※ 21 The value for calendar year (from January 1 to December 31).
- ※ 22 Chubu Electric Power Co., Inc. also discloses water-related information in the CDP water security questionnaire. <https://www.chuden.co.jp/english/esg/environment/initiatives/cdp/>
- ※ 23 Includes seawater for cooling at power plants, fresh water (river water) for hydroelectric power generation, etc.
- ※ 24 Industrial waste, etc. = Industrial waste + Valuables + Internally recycled goods