ESG Data 2024

E : Environmental Data

Updated Jan. 2025

			UNIT	2019	2020	2021	2022	2023
Realization of a carbon-free society	CO2 emission factor of electricity sold to customers※1		kg-CO_2/kWh	0.424 (0.431)	0.377 (0.406)	0.382 (0.449)	0.440 (0.433)	0.393 (0.439)
	CO2 emissions of electricity sold to customers※1		10 thousand t-CO_2	4,969 (5,056)	4,174 (4,494)	4,158 (4,892)	4,509 (4,439)	4,081 (4,555)
	Total greenhouse gas (GHG) emissions※2,3,4	Scope1※5	10 thousand t-CO_2	6	11	10 (27)	26 (29)	20 ☑ (20)
		Scope2 Total	10 thousand t-CO_2	279	271	295 (296)	241 (242)	286 ☑ (286)
		Scope2※6－Offices, power plants, etc.※7	10 thousand t-CO_2	19	17	15 (16)	17 (18)	19 (19)
		Scope2－Transmission and distribution losses※8	10 thousand t-CO_2	260	254	280 (280)	224 (224)	267 (267)
		Scope1,Scope2 Total	10 thousand t-CO_2	285	283	305 (323)	267 (270)	306 (306)
		Scope3※9 Total	10 thousand t-CO_2	5,907	5,358	5,740 (5,913)	5,614 (5,805)	5,911 (5,922)
		Category 1 Purchased goods and services※10	10 thousand t-CO_2	65	65	71 (110)	134 (168)	187 (189)
		Category 2 Capital goods※11	10 thousand t-CO_2	51	70	48 (53)	73 (74)	66 (67)
		Category 3 Fuel- and energy- related activities (not included in scope1 or scope2)※12	10 thousand t-CO_2	5,531	4,961	5,335 (5,445)	4,987 (4,987)	5,011 ☑ (5,011)
		Category 4 Upstream transportation and distribution※13	10 thousand t-CO_2	—	—	— (1)	1 (4)	8 (8)
		Category 5 Waste generated in operations※14	10 thousand t-CO_2	1	1	1 (1)	1 (1)	1 (1)
		Category 6 Business travel※15	10 thousand t-CO_2	1	0	0.2 (0.3)	1 (1)	1 (1)
		Category 7 Employee commuting※16	10 thousand t-CO_2	1	2	1 (2)	2 (2)	2 (2)
		Category 11 Use of sold products※17	10 thousand t-CO_2	257	260	284 (285)	409 (561)	627 (634)
		Category 12 End-of-life treatment of sold products※18	10 thousand t-CO_2	—	—	— (0.0)	0 (1)	1 (1)
		Category 13 Downstream leased assets※19	10 thousand t-CO_2	—	—	— (16)	6 (6)	8 (8)
	Total energy consumption		GWh	467	1,279	1,191	1,209	1,357
	Renewable energy generation capacity※2,20	Hydroelectric(General)	10 thousand kW	214.3	214.8	215.5	215.5	216.6
		Hydroelectric(Pumped storage)	10 thousand kW	331.7	331.7	331.7	331.7	331.7
		Solar	10 thousand kW	36.8	45.1	50.9	50.4	56.7
		Wind	10 thousand kW	16.9	17.9	17.9	18.4	20.6
		Biomass	10 thousand kW	5.2	11.9	11.9	15.3	20.7
		Geothermal	10 thousand kW	—	0.0	0.0	0.1	0.1
		Total(excluding pumped storage)	10 thousand kW	273.2	289.7	296.2	299.7	314.7
	Fuel consumption of vehicles		kℓ	2,995	2,582	2,562	2,511	2,408
	Office electricity consumption		10 thousand kW h	9,472	9,884	10,118	9,756	9,072
	Transmission and distribution losses※21	Total transmission and distribution	MWh	5,638,353	5,705,931	6,458,576	5,160,793	6,088,278
	Transmission and distribution losses※22	Total transmission and distribution	%	4.3	4.4	4.8	4.0	4.7
Coexisting with nature	SOx emissions		t	0	1	1	2	2
	NOx emissions		t	0	79	74	77	84
	SF_6 recovery rate※23	In equipment inspections	%	99.9	97.9	96.8	99.5	99.5
		In equipment removal	%	99.5	99.5	99.5	99.3	99.4
	Amount of Leaked Fluorocarbons※24		10 thousand t —CO2	0.4	0.1	0.1	0.1	0.1
	VOC emissions		t	0	0	0	0	0
	Water resources※25	Total water withdrawal (including seawater and freshwater) ※26	Million m³	52,365	50,585	51,258	50,760	50,824
		Water discharge from biomass and nuclear power stations	10 thousand m³	2	12.7	6.3	6.4	7.0
		Fresh water use(used for nuclear, thermal and biomass power generation)	10 thousand m3	11	21	16	15	16
		Water use for offices	10 thousand m³	41.3	37.7	38.7	39.5	36.8
		Water use for offices per employee	m³/employee	28.7	24.8	25.7	26.5	24.9
		Used quarry water collected in the quarry	10 thousand m³	0	0	0	0	0
		Water withdrawal from water-stressed regions※27	10 thousand m³	0	0	0	0	0
		Facilities, assets, production and revenue in water-stressed regions※27	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※28		amount/accidents	3.6	4.3	4.6	4.5	5.0
	Hazardous waste		10 thousand t	0.3	0.2	0.3	0.2	0.2
	Plastic waste		10 thousand t	0.2	0.2	0.1	0.1	0.2
	Industrial waste, etc., recycling rate※28		10 thousand t	97.2	97.2	97.8	97.3	98.3
	Paper waste generated		%	1,390	1,141	1,148.6	1,017.4	793
	Paper waste recycling rate		t	90.7	78.4	70.7	71.8	80.5
	Green procurement rate of consumable office supplies		%	99.4	99.1	99.2	98.8	98.9
Environmental compliance	Violation of important environmental laws and regulations		amount/accidents	0	0	0	0	0

■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 ☑ 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　GHG emissions quantification is subject to uncertainty when measuring activity data, determining emission factors, and considering scientific uncertainty inherent in the Global Warming Potentials.

※4　Scope of calculation is as follows:

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., + 7 of the domestic consolidated subsidiaries as of the beginning of FY2021

FY2022:

Not in parentheses … Chubu Electric Power Co., Inc., Chubu Electric Power Grid Co., Inc., Chubu Electric Power Miraiz Co., Inc. + 8 of the domestic consolidated subsidiaries as of the beginning of FY2022

In parentheses … Scopes 1 and 2: Chubu Electric Power Co., Inc., Chubu Electric Power Grid Co., Inc., Chubu Electric Power Miraiz Co., Inc. + 37 of the domestic consolidated subsidiaries as of the beginning of FY2022

Scope 3: Chubu Electric Power Co., Inc., Chubu Electric Power Grid Co., Inc., Chubu Electric Power Miraiz Co., Inc. + 11 of the domestic consolidated subsidiaries as of the beginning of FY2022

FY2023 :

Not in parentheses … Chubu Electric Power Co., Inc., Chubu Electric Power Grid Co., Inc., Chubu Electric Power Miraiz Co., Inc.+ 15（＊）of the domestic consolidated subsidiaries as of the beginning of FY2023

＊Chubu Plant Service Co., Ltd., C-TECH CORPORATION, Techno Chubu Co., Ltd., C Energy Co., Inc., Chuden Real Estate Co., Inc., Chuden Auto Lease Co., Ltd., Chuden CTI Co., Ltd., ES-CON JAPAN Ltd., TOENEC CORPORATION, TOENEC Service Co., Ltd., Asahi Synchrotech Co., Ltd., Diamond Power Corporation, CEPO Handa Biomass Power Co.,Ltd., MIRAI Design Power Co., Inc., Chuden Transportation Service Co.,Ltd

In parentheses … Chubu Electric Power Co., Inc., Chubu Electric Power Grid Co., Inc., Chubu Electric Power Miraiz Co., Inc. + 36 of the domestic consolidated subsidiaries as of the beginning of FY2023

※5　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.

※6　Scope2 : Emissions due to the electricity consumption.

※7　Offices, power plants, etc : Calculated by using the adjusted emissions factor for each electricity retail company.

※8　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 in accordance with the GHG Protocol Corporate Accounting and Reporting Standard and GHG Protocol Scope.

※9　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.3.4）"

"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))"

※10　Category 1 : Product/service price × emission factor

※11　Category 2 : Amount of a price increase of non-current assets × emission factor

※12　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

※13　Category 4 : We are not a Specified Shippers under the Act on the Rational Use of Energy and figure is basically not calculated.

※14　Category 5 : Industrial waste, etc. generated × emission factor

※15　Category 6 : Business travel expenses × emission factor

※16　Category 7 : Travel expenses for employee commuting × emission factor

※17　Category11 : LNG・Gas sales volume × emission factor etc.

※18　Category12 : Expected waste volume × emission factor

※19　Category13 : Number of leased assets, etc. × emission factor

※20　Power generation capacity owned by Chubu Electric Power Co., Inc. for business（the capacity of joint project is counted by equity share）.

※21　Transmission and distribution losses (MWh) =The amount of electrical energy at transmission end - The amount of electrical energy at use end

※22　Transmission and distribution losses (%) = (The amount of electrical energy at transmission end - The amount of electrical energy at use end)/The amount of electrical energy at transmission end ×100

※23　The value for calendar year (from January 1 to December 31).

※24　Leakage of chlorofluorocarbons based on the Fluorocarbon Emissions Control Act

※25　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/

※26　Includes seawater for cooling at power plants, fresh water (river water) for hydroelectric power generation, etc.

※27　In WRI's Aqueduct assessment, we define water-stressed regions as those with high water stress.

※28　Industrial waste, etc. = Industrial waste + Valuables + Internally recycled goods