

ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

Table of the ESG Indicators

Issues	Name of Indicators	Units	Year 2019	Year 2018
Emissions	Scope 1: Direct greenhouse gas emissions ¹	million tons CO ₂ e	0.21	0.28
	Scope 2: Indirect greenhouse gas emissions ¹	million tons CO ₂ e	13.34	11.75
	Total greenhouse gas emissions ¹	million tons CO ₂ e	13.55	12.02
	Greenhouse gas emissions per unit operating revenue ¹	tCO ₂ e/million yuan	36.07	31.88
	Sewage emissions ²	million tons	35.38	36.42
	SO ₂ emissions ³	tons	68.01	65.69
	Waste disposal amount	tons	105,765.21	101,917.88
	Waste storage batteries disposal amount	tons	17,896.33	11,397.72
	Waste telecommunications equipment disposal amount	tons	14,802.23	10,201.40
	Waste cables disposal amount	tons	62,233.17	67,891.16
	Waste terminals disposal amount	tons	1,190.06	625.63
	Other waste disposal amount	tons	9,643.42	11,801.97
	Domestic waste emissions ⁴	tons	23,434.58	21,711.10
	Use of Resources	Electricity consumption	100 million kwh	195.01
Natural gas consumption		million m ³	9.23	9.21
Coal consumption		10,000 tons	0.51	0.49
Gasoline consumption		10,000 tons	4.39	6.28
Diesel consumption		10,000 tons	1.38	1.73
Purchased heat consumption amount		GJ	1,338,157.37	1,464,480.69
Overall energy consumption ⁵		tce	2,544,048.55	2,285,326.69
Overall energy consumption per unit of information flow		kgce/TB	4.91	5.91
Overall energy consumption per operating revenue		kgce/million yuan	6,770.88	6,059.89
Power consumption per carrier frequency at base stations		kwh/carrier frequency	1,100.65	678.31
Water consumption		million tons	41.63	42.85
Water consumption per unit operating revenue		tons/million yuan	110.78	113.61
Coverage rate of energy-saving technology at telecommunications equipment room		%	70.76	67.85
Reclaimed water consumption	tons	53,685.43	44,574.97	
The Environment and Natural Resources	Investment in energy saving and emission reduction	million yuan	636.11	674.36
	Times of video conferencing	-	35,672	39,406

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	4G international roaming countries and regions	-	174	158
	Domestic administrative village fibre broadband coverage	%	94	92
	Domestic administrative village 4G network coverage	%	94	91
	Internet backbone interconnection bandwidth	Gbps	8,416.00	5,886.00
	International interconnection bandwidth	Gbps	8,766.76	5,640.64
	Call drop rate of mobile communication ⁶	%	0.10	-
	Call completing rate of mobile communication network ⁶	%	97.57	-
	Call completing rate for access line	%	92.45	92.35
Product Responsibility	Packet loss rate of broadband Internet ChinaNet backbone network	%	0.03	0.06
	Degree of satisfaction of mobile Internet users ⁷	points	81.91	78.92
	Degree of satisfaction of mobile voice users ⁷	points	82.68	83.80
	Degree of satisfaction of fixed Internet users ⁷	points	79.46	79.86
	Degree of satisfaction of access line users ⁷	points	87.58	84.98
	Percentage of in-time response to customer repair reports	%	99.16	98.80
	Degree of satisfaction of international customers	points	91.40	90.40
	Number of newly acquired patent authorisation	-	472	520
	Number of newly acquired invention patent authorisation	-	452	490
	Number of phishing and fraud websites blocked	-	13,144	12,283
Anti-corruption	Anti-corruption education programmes organised	-	25,457	20,242
	Attendance of anti-corruption education and trainings	person-times	799,356	782,658

ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

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Employment	Percentage of employees participating in labour union	%	100	100	
	Percentage of female employees at management level	%	19.97	19.63	
	Total number of employees ⁸	–	281,215	280,747	
	Total number of full-time employees ⁸	–	274,172	–	
	Total number of part-time employees ⁸	–	7,043	–	
	Percentage of employees aged 30 and below ⁹	%	12.19	–	
	Percentage of employees aged 30 to 49 ⁹	%	68.42	–	
	Percentage of employees aged 50 and above ⁹	%	19.39	–	
	Percentage of male employees	%	67.89	67.83	
	Percentage of female employees	%	32.11	32.17	
	Percentage of employees of ethnic minorities	%	6.97	6.44	
	Percentage of local employees hired in Hong Kong, Macau, Taiwan and overseas branches	%	44	43	
	Total number of newly-hired employees	–	12,350	9,641	
	Percentage of newly-hired male employees	%	58.96	58.88	
	Percentage of newly-hired female employees	%	41.04	41.12	
	Number of resigned employees	–	4,205	4,704	
	Percentage of male employees among resigned employees	%	64.49	64.90	
	Percentage of female employees among resigned employees	%	35.51	35.10	
	Total number of dismissed employees	–	264	253	
	Percentage of male employees among dismissed employees	%	70.83	66.80	
	Percentage of female employees among dismissed employees	%	29.17	33.20	
	Health and Safety	Death rate in accidents per 1,000 employees	%	0	0
		Injury rate in accidents per 1,000 employees	%	0	0
Loss of working days due to work-related injury		–	0	0	
Number of participants in safety emergency drills		person-times	272,542	258,598	
Number of participants in health and safety trainings		person-times	362,174	415,361	
Participation rate of employee health checkup		%	100	100	

ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

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Development and Training	Training expenses per employee	yuan/person	3,076.81	2,630.99
	Number of internal trainers	-	8,844	10,799
	Number of training participants	10,000 person-times	55.76	51.42
	Number of senior management trained	person-times	564	456
	Number of middle-level management trained	person-times	82,842	73,846
	Number of general employees trained	person-times	474,193	439,853
	Number of male employees trained	person-times	361,199	338,644
	Number of female employees trained	person-times	196,400	175,511
	Number of employees passed skill certification exams	person-times	26,668	19,387
	Number of employees enrolled in online college	10,000 persons	13.24	14.88
	Average training time per employee	hours/person	29.12	25.03
	Average training time per senior management	hours/person	52.15	54.07
	Average training time per middle-level management	hours/person	44.63	35.40
	Average training time per general employee	hours/person	27.28	23.53
	Average training time per male employee	hours/person	29.03	26.16
	Average training time per female employee	hours/person	29.31	22.81
	Average training time in online college per employee	hours/person	18.42	27.95
	Community Investment	Number of registered employee volunteers	10,000 persons	6.62
Total service time of volunteers		10,000 hours	61.86	53.11
Number of participants in volunteering activities		10,000 person-times	11.80	10.45
Number of volunteering activities		sessions	9,854	8,791
Volunteer service activities input amount		million yuan	15.18	13.86
Number of participated pole line co-built		kilometres	7,357	3,268
Number of provided pole line co-shared		kilometres	23,062	20,291
Number of participated pipeline co-built		kilometres	6,665	5,207
Number of provided pipeline co-shared		kilometres	1,309	1,346
Number of participated indoor distribution system co-built		-	7,356	6,094
Number of provided indoor distribution system co-shared		-	721	927
Personnel involved in emergency communication support		person-times	69,817	87,046
Number of emergency communication equipment dispatched		set-times	17,979	17,379
Number of emergency communication vehicles dispatched		vehicle-times	22,014	22,780
Number of emergency public service messages sent		million pieces	79.09	37.48

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Notes:

- Greenhouse gas is measured based on the Greenhouse Gas Protocol – Enterprise Accounting and Reporting Standards of World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), the 2006 IPCC Guidelines for National Greenhouse Gas Inventories of Intergovernmental Panel on Climate Change (IPCC) and the Fourth Assessment Report 2007 of Intergovernmental Panel on Climate Change (IPCC), etc.

Scope I: direct greenhouse gas emission includes the greenhouse gas emission from use of natural gas, coal, kerosene, gasoline and diesel.

Scope II: indirect greenhouse gas emission includes the greenhouse gas emission from purchased electricity and heating power, where the electricity emission factors shall refer to the base line emission factors of regional power grids in China released by National Development and Reform Commission, Department of Climate Change.

Total greenhouse gas emission shall be the sum of Scope I (direct greenhouse gas emission) and Scope II (indirect greenhouse gas emission).
- The quantity of sewage emission is measured based on water consumption, and the wastewater discharge coefficient shall be based on GB50318-2017 Code of Urban Wastewater Engineering Planning of the National Standards of the PRC and relevant documents of National Bureau of Statistics of the PRC.
- SO₂ emissions is calculated with the method of the State-owned Assets Supervision and Administration Commission of the State Council of the PRC.
- The quantity of domestic waste emission is measured based on the per capita household waste output coefficient as specified in the guidance released by the State Council of the PRC.
- Overall energy consumption is calculated with the energy statistics calculation method applied by National Bureau of Statistics of the PRC.
- CDMA network data was used for call drop rate of mobile communication and call completing rate of mobile communication network in 2018 and 2017. VoLTE data was used after the full commercial launch of VoLTE (based on 4G network calls) business in 2019. The data disclosed this year is not comparable to the corresponding data disclosed in previous years.
- The 2019 results of “degree of satisfaction of mobile Internet users”, “degree of satisfaction of mobile voice users”, “degree of satisfaction of fixed Internet users” and “degree of satisfaction of access line users” are consistent with the 2019 national telecom service quality satisfaction evaluation by the Ministry of Industry and Information Technology.
- The total number of employees includes the total number of contract workers, labour dispatch and re-employed employees, of which, contract workers are counted as full-time employees, and labour dispatch and re-employed employees are counted as part-time employees. The numbers of full-time and part-time employees are disclosed starting from this year.
- During the year, the indicators of the percentage of employees of different age groups were adjusted. The “percentage of employees aged 30 and below”, “percentage of employees aged 31-50” and “percentage of employees aged 51 and above” disclosed in 2017 and 2018 were adjusted to “percentage of employees aged below 30”, “percentage of employees aged 30-49” and “percentage of employees aged 50 and above”. The data disclosed this year is not comparable to the corresponding data disclosed in previous years.