

Facebook Sustainability Data 2019

FACEBOOK

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Values are rounded; totals calculated before rounding.

Every year we evaluate and improve our greenhouse gas inventory methodology. To ensure accurate tracking towards our 75% operational emissions reduction target, any material changes are also applied to our 2017 base year at minimum. "Other data center-related facilities" includes facilities where Facebook used less than 100,000 MWh of electricity in the reporting year, such as warehouses or colocation facilities. Our owned data centers are always reported by site, even if they were below this threshold.

Electricity Use (MWh)

	2015	2016	2017	2018	2019
Altoona, IA	174,000	342,000	500,000	612,000	853,000
Clonee, Ireland	not yet online	1,000	17,000	200,000	382,000
Forest City, NC	310,000	339,000	433,000	547,000	614,000
Fort Worth, TX	<500	16,000	189,000	461,000	695,000
Luleå, Sweden	187,000	295,000	301,000	337,000	373,000
New Albany, OH	not yet online	not yet online	not yet online	not yet online	38,000
Odense, Denmark	not yet online	not yet online	not yet online	4,000	128,000
Papillion, NE	not yet online	not yet online	not yet online	5,000	178,000
Prineville, OR	284,000	327,000	426,000	488,000	573,000
Henrico, VA	not yet online	not yet online	not yet online	not yet online	10,000
Los Lunas, NM	not yet online	not yet online	not yet online	26,000	289,000
East Coast Leased Data Center Facility	224,000	317,000	359,000	432,000	674,000
Other Data Center-Related Facilities	82,000	118,000	135,000	133,000	113,000
Data Centers Total	1,260,000	1,756,000	2,360,000	3,245,000	4,918,000
Offices Total	45,000	74,000	102,000	181,000	222,000
	2015	2016	2017	2018	2019
Total Electricity Use	1,306,000	1,830,000	2,462,000	3,427,000	5,140,000

Power Usage Effectiveness

	2015	2016	2017	2018	2019
Annual Data Center PUE	1.09	1.10	1.10	1.11	1.11

Electricity Mix

	2015	2016	2017	2018	2019
Renewable	35%	44%	51%	75%	86%
Non-renewable	65%	56%	49%	25%	14%

Operational Greenhouse Gas Emissions by Scope (market-based metric tons CO2e)

	2015	2016	2017	2018	2019
Scope 1	6,000	9,000	25,000	42,000	44,000
	1%	2%	4%	12%	17%
Scope 2	444,000	545,000	591,000	314,000	208,000
	99%	98%	96%	88%	83%

Operational Greenhouse Gas Emissions (market-based Scope 1 & 2 metric tons CO2e)^{2,3}

	2015	2016	2017	2018	2019
Altoona, IA	1,000	1,000	1,000	1,000	2,000
Clonee, Ireland	not yet online	0	<500	<500	<500
Forest City, NC	106,000	116,000	136,000	53,000	9,000
Fort Worth, TX	not yet online	<500	1,000	1,000	1,000
Luleå, Sweden	<500	<500	<500	<500	<500
New Albany, OH	not yet online	not yet online	not yet online	not yet online	<500
Odense, Denmark	not yet online	not yet online	not yet online	0	<500
Papillion, NE	not yet online	not yet online	not yet online	<500	<500
Prineville, OR	207,000	239,000	293,000	137,000	1,000
Henrico, VA	not yet online	not yet online	not yet online	not yet online	<500
Los Lunas, NM	not yet online	not yet online	not yet online	1,000	1,000
East Coast Leased Data Center Facility	81,000	115,000	98,000	102,000	188,000
Other Data Center-Related Facilities	28,000	45,000	40,000	17,000	4,000
Data Centers Total	423,000	516,000	568,000	314,000	207,000
Offices Total⁴	28,000	39,000	48,000	42,000	44,000
	2015	2016	2017	2018	2019
Total Operational GHG Emissions	451,000	555,000	616,000	356,000	252,000

Progress against 75% operational emissions reduction target

42%

59%

Select Value Chain Emissions⁵ (Scope 3 metric tons CO₂e)

	2015	2016	2017	2018	2019
Construction	96,000	56,000	191,000	184,000	359,000
Business Travel ⁶	52,000	64,000	246,000	397,000	463,000
Employee Commuting	30,000	36,000	43,000	71,000	90,000

Greenhouse Gas Intensity (market-based Scope 1 & 2 metric tons CO₂e / monthly active person)

	2015	2016	2017	2018	2019
Annual GHG Intensity	0.00028	0.00030	0.00029	0.00015	0.00010

Market-Based vs. Location-Based Scope 2 Data Center GHG Emissions (metric tons CO₂e)

	2017		2018		2019	
	Market-Based	Location-Based	Market-Based	Location-Based	Market-Based	Location-Based
Altoona, IA	0	283,000	0	346,000	0	483,000
Clonee, Ireland	0	7,000	0	82,000	0	143,000
Forest City, NC	135,000	159,000	52,000	201,000	8,000	208,000
Fort Worth, TX	0	87,000	0	212,000	0	295,000
Luleå, Sweden	0	4,000	0	7,000	0	6,000
New Albany, OH	not yet online	not yet online	not yet online	not yet online	0	20,000
Odense, Denmark	not yet online	not yet online	0	1,000	<500	18,000
Papillion, NE	not yet online	not yet online	0	3,000	0	101,000
Prineville, OR	293,000	127,000	137,000	145,000	0	167,000
Henrico, VA	not yet online	not yet online	not yet online	not yet online	0	3,000
Los Lunas, NM	not yet online	not yet online	0	12,000	0	135,000
East Coast Leased Data Center Facility	98,000	106,000	102,000	128,000	188,000	193,000

Water Withdrawal (cubic meters)

	2015	2016	2017	2018	2019
Altoona, IA	44,000	87,000	106,000	139,000	145,000
Clonee, Ireland	not yet online	not yet online	10,000	188,000	395,000
Forest City, NC	99,000	123,000	129,000	99,000	85,000
Fort Worth, TX	not yet online	14,000	98,000	269,000	322,000
Luleå, Sweden	30,000	32,000	66,000	53,000	58,000
New Albany, OH	not yet online	not yet online	not yet online	not yet online	33,000
Odense, Denmark	not yet online	not yet online	not yet online	not yet online	266,000
Papillion, NE	not yet online	not yet online	not yet online	not yet online	62,000
Prineville, OR	70,000	70,000	172,000	160,000	208,000
Henrico, VA	not yet online	not yet online	not yet online	not yet online	not yet online
Los Lunas, NM	not yet online	not yet online	not yet online	25,000	92,000
East Coast Leased Data Center Facility	245,000	400,000	473,000	533,000	1,011,000
Other Data Center-Related Facilities	78,000	98,000	85,000	264,000	54,000
Data Center Operations Total	566,000	825,000	1,139,000	1,730,000	2,731,000
Offices Total	227,000	305,000	470,000	638,000	699,000
	2015	2016	2017	2018	2019
Total Water Withdrawal⁷	793,000	1,129,000	1,609,000	2,367,000	3,430,000
Recycled Water	255,000	426,000	469,000	673,000	854,000

Water Consumption (cubic meters)

	2015	2016	2017	2018	2019
Total Water Consumption	data not available	data not available	838,000	1,279,000	1,971,000

Water Usage Effectiveness

	2015	2016	2017	2018	2019
Annual Data Center WUE⁸	0.24	0.21	0.24	0.27	0.27

Water Withdrawal Intensity (cubic meters / monthly active person)

	2015	2016	2017	2018	2019
Annual Water Intensity	0.00050	0.00061	0.00076	0.00102	0.00137

¹Because we do not control building operations in leased data center facilities, as of 2017, only emissions associated with our IT load electricity are included in our Scope 2 emissions.

²Scope 1 includes emissions from diesel, natural gas, and refrigerant of the offices and data centers and from diesel and gasoline of the transportation fleet owned and controlled by Facebook.

³Scope 2 includes emissions from electricity of offices and warehouses leased, controlled, and owned by Facebook; electricity of data centers owned and leased (IT load) by Facebook; natural gas of offices and warehouses leased and serviced by Facebook; and purchased heat.

⁴In the 2019 reporting year, we made three updates to our reporting, which were applied to our 2017 (our target base year) and later inventories. 1) Vehicles operated by the Transportation team in support of commuting and inter-campus travel were previously counted in Scope 3 - Employee Commute; after re-visiting our control of these vehicles, we've determined they should be accounted for in Scope 1; 2) We determined that we have been overestimating natural gas emissions by including estimates for offices which do not in fact use natural gas; we have recalculated our inventory to remove these inaccuracies; 3) We moved fugitive emissions from refrigerant losses at offices we do not own or control from Scope 2 to Scope 3.

⁵Scope 3 emissions in this inventory include only select activities and are not intended to represent Facebook's full value chain emissions.

⁶Business travel in 2017 and later includes radiative forcing for air travel.

⁷Notes on Facebook's 2019 water withdrawal: a) 25% is recycled water; 1% is ground water and the remainder is provided by local utilities, and all unconsumed water is returned to utility-owned wastewater treatment plants; b) 38% of water withdrawal occurs in high water stress areas (determined using WRI's Aqueduct tool and Facebook knowledge on local water stress); c) Not included in these figures are an additional 504,000 cubic meters of water withdrawn for the construction of Facebook data centers.

⁸Water Use Effectiveness (WUE) has been calculated based on best available data, including internal flow meters, design estimates, and utility bills where applicable.