

FACEBOOK

Sustainability

---

# 2020 Data Disclosures

## Electricity Use (MWh)

	2016	2017	2018	2019	2020
Altoona, IA	342,000	500,000	612,000	853,000	980,000
Clonee, Ireland	1,000	1,000	200,000	382,000	487,000
Forest City, NC	339,000	433,000	547,000	614,000	595,000
Fort Worth, TX	16,000	189,000	461,000	695,000	941,000
Luleå, Sweden	295,000	301,000	337,000	373,000	369,000
New Albany, OH	not yet online	not yet online	not yet online	38,000	270,000
Odense, Denmark	not yet online	not yet online	4,000	128,000	343,000
Papillion, NE	not yet online	not yet online	5,000	178,000	519,000
Prineville, OR	327,000	426,000	488,000	573,000	686,000
Henrico, VA	not yet online	not yet online	not yet online	10,000	204,000
Los Lunas, NM	not yet online	not yet online	26,000	289,000	571,000
East Coast Leased Data Center Facility	317,000	359,000	432,000	674,000	795,000
Other Data Center-Related Facilities	118,000	135,000	133,000	113,000	206,000
<b>Data Centers Total</b>	<b>1,756,000</b>	<b>2,360,000</b>	<b>3,245,000</b>	<b>4,918,000</b>	<b>6,966,000</b>
<b>Offices Total</b>	<b>74,000</b>	<b>102,000</b>	<b>181,000</b>	<b>222,000</b>	<b>204,000</b>
<b>Total Electricity Use</b>	<b>1,830,000</b>	<b>2,462,000</b>	<b>3,427,000</b>	<b>5,140,000</b>	<b>7,170,000</b>

## Power Usage Effectiveness

	2016	2017	2018	2019	2020
<b>Annual Data Center PUE</b>	<b>1.10</b>	<b>1.10</b>	<b>1.11</b>	<b>1.11</b>	<b>1.10</b>

## Electricity mix <sup>3</sup>

	2016	2017	2018	2019	2020
<b>Renewable</b>	<b>44%</b>	<b>51%</b>	<b>75%</b>	<b>86%</b>	<b>100%</b>
Non-Renewable	56%	49%	25%	14%	0%

Greenhouse Gas Emissions by Scope (metric tons CO<sub>2</sub>e) <sup>4,5,6,7</sup>

Market-Based	2016	2017	2018	2019	2020
Scope 1	9,000	25,000	42,000	44,000	29,000
	1%	2%	4%	1%	1%
Scope 2	545,000	591,000	314,000	208,000	9,000
	77%	54%	31%	5%	<1%
Scope 3	156,000	480,000	652,000	4,078,000	4,029,000
	22%	44%	65%	94%	99%
<b>Total</b>	<b>710,000</b>	<b>1,096,000</b>	<b>1,008,000</b>	<b>4,330,000</b>	<b>4,067,000</b>
<b>Carbon Removal <sup>8</sup></b>					<b>-145,000</b>
<b>Net Total</b>	<b>710,000</b>	<b>1,096,000</b>	<b>1,008,000</b>	<b>4,330,000</b>	<b>3,922,000</b>
Location-based	2016	2017	2018	2019	2020
<b>Total</b>	<b>789,000</b>	<b>1,387,000</b>	<b>1,983,000</b>	<b>6,295,000</b>	<b>7,555,000</b>

Operational Greenhouse Gas Emissions (market-based scope 1 & 2 metric tons CO<sub>2</sub>e) <sup>9</sup>

	2016	2017	2018	2019	2020
Altoona, IA	1,000	1,000	1,000	2,000	1,000
Clonee, Ireland	0	<500	<500	<500	1,000
Forest City, NC	116,000	136,000	53,000	9,000	<500
Fort Worth, TX	<500	1,000	1,000	1,000	<500
Luleå, Sweden	<500	<500	<500	<500	<500
New Albany, OH	not yet online	not yet online	not yet online	<500	2,000
Odense, Denmark	not yet online	not yet online	0	<500	<500
Papillion, NE	not yet online	not yet online	<500	<500	3,000
Prineville, OR	239,000	293,000	137,000	1,000	3,000
Henrico, VA	not yet online	not yet online	not yet online	<500	<500
Los Lunas, NM	not yet online	not yet online	1,000	1,000	<500
East Coast Leased Data Center Facility	115,000	98,000	102,000	188,000	0
Other Data Center-Related Facilities	45,000	40,000	17,000	4,000	2,000
<b>Data Centers Total</b>	<b>516,000</b>	<b>568,000</b>	<b>314,000</b>	<b>207,000</b>	<b>14,000</b>
<b>Offices Total</b>	<b>39,000</b>	<b>48,000</b>	<b>42,000</b>	<b>44,000</b>	<b>24,000</b>
<b>Total Operational GHG Emissions</b>	<b>555,000</b>	<b>616,000</b>	<b>356,000</b>	<b>252,000</b>	<b>38,000</b>
Reduction From 2017 Baseline		Baseline	42%	59%	94%

Market-Based vs. Location-Based Scope 2 Facilities GHG Emissions (metric tons CO<sub>2</sub>e)

	2018		2019		2020	
	Market-based	Location-based	Market-based	Location-based	Market-based	Location-based
Altoona, IA	0	346,000	0	483,000	0	555,000
Clonee, Ireland	0	82,000	0	143,000	0	159,000
Forest City, NC	52,000	201,000	8,000	208,000	0	202,000
Fort Worth, TX	0	212,000	0	295,000	0	399,000
Luleå, Sweden	0	7,000	0	6,000	0	7,000
New Albany, OH	not yet online	not yet online	0	20,000	0	157,000
Odense, Denmark	0	1,000	<500	18,000	0	57,000
Papillion, NE	0	3,000	0	101,000	0	294,000
Prineville, OR	137,000	145,000	0	167,000	0	200,000
Henrico, VA	not yet online	not yet online	0	3,000	0	69,000
Los Lunas, NM	0	12,000	0	135,000	0	266,000
East Coast Leased Data Center Facility	102,000	128,000	188,000	193,000	0	223,000
Other Data Center-Related Facilities	17,000	44,000	1,000	41,000	2,000	62,000
<b>Data Centers Total</b>	<b>308,000</b>	<b>1,181,000</b>	<b>197,000</b>	<b>1,813,000</b>	<b>2,000</b>	<b>2,650,000</b>
<b>Offices Total</b>	<b>6,000</b>	<b>60,000</b>	<b>8,000</b>	<b>72,000</b>	<b>7,000</b>	<b>68,000</b>
<b>Total Facilities GHG Emissions</b>	<b>314,000</b>	<b>1,241,000</b>	<b>205,000</b>	<b>1,885,000</b>	<b>9,000</b>	<b>2,718,000</b>

Greenhouse Gas Intensity (market-based scope 1 & 2 metric tons CO<sub>2</sub>e / monthly active person)

	2016	2017	2018	2019	2020
<b>Annual GHG Intensity</b>	<b>0.00030</b>	<b>0.00029</b>	<b>0.00015</b>	<b>0.00008</b>	<b>0.000012</b>

Value Chain Greenhouse Gas Emissions (scope 3 metric tons CO<sub>2</sub>e) <sup>10,11,12</sup>

	2016	2017	2018	2019	2020
Category 1: Purchased Goods & Services <sup>10</sup>	data not available	data not available	data not available	1,428,000	1,846,000
				35%	46%
Category 2: Capital Goods <sup>10</sup>	data not available	data not available	data not available	1,671,000	1,837,000
				41%	46%
Category 3: Fuel & Energy-Related Activities	data not available	data not available	data not available	264,000	56,000
				6%	1%
Category 6: Business Travel <sup>11</sup>	64,000	246,000	397,000	529,000	129,000
				13%	3%
Category 7: Employee Commuting <sup>12</sup>	36,000	43,000	71,000	90,000	61,000
				2%	2%
Other Applicable Categories <sup>10,12</sup>	data not available	data not available	data not available	96,000	100,000
				2%	2%
<b>Total</b>	<b>156,000</b>	<b>480,000</b>	<b>652,000</b>	<b>4,078,000</b>	<b>4,029,000</b>

Water Withdrawal (cubic meters) <sup>13</sup>

	2016	2017	2018	2019	2020
Altoona, IA	87,000	106,000	139,000	145,000	151,000
Clonee, Ireland	not yet online	10,000	188,000	395,000	615,000
Forest City, NC	123,000	129,000	99,000	85,000	68,000
Fort Worth, TX	14,000	98,000	269,000	322,000	300,000
Luleå, Sweden	32,000	66,000	53,000	58,000	49,000
New Albany, OH	not yet online	not yet online	not yet online	33,000	35,000
Odense, Denmark	not yet online	not yet online	not yet online	266,000	360,000
Papillion, NE	not yet online	not yet online	not yet online	62,000	108,000
Prineville, OR	70,000	172,000	160,000	208,000	445,000
Henrico, VA	not yet online	not yet online	not yet online	not yet online	42,000
Los Lunas, NM	not yet online	not yet online	25,000	92,000	140,000
East Coast Leased Data Center Facility	400,000	473,000	533,000	1,011,000	645,000
Other Data Center-Related Facilities	98,000	85,000	264,000	54,000	42,000
<b>Data Centers Total</b>	<b>825,000</b>	<b>1,139,000</b>	<b>1,730,000</b>	<b>2,731,000</b>	<b>3,000,000</b>
<b>Offices Total</b>	<b>305,000</b>	<b>470,000</b>	<b>638,000</b>	<b>699,000</b>	<b>726,000</b>
<b>Total Water Withdrawal</b>	<b>1,129,000</b>	<b>1,609,000</b>	<b>2,367,000</b>	<b>3,430,000</b>	<b>3,726,000</b>
Recycled Water	426,000	469,000	673,000	854,000	643,000

## Water Consumption (cubic meters)

	2016	2017	2018	2019	2020
<b>Total Water Consumption</b>	data not available	<b>838,000</b>	<b>1,279,000</b>	<b>1,971,000</b>	<b>2,202,000</b>

## Water Usage Effectiveness

	2016	2017	2018	2019	2020
<b>Annual Data Center WUE <sup>14</sup></b>	<b>0.21</b>	<b>0.24</b>	<b>0.27</b>	<b>0.27</b>	<b>0.30</b>

## Water Withdrawal Intensity (cubic meters / monthly active person)

	2016	2017	2018	2019	2020
<b>Annual Water Intensity</b>	<b>0.000607</b>	<b>0.000755</b>	<b>0.00102</b>	<b>0.00120</b>	<b>0.00113</b>

**1** Values are rounded and totals are calculated before rounding throughout this report.

**2** "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. Owned data centers are always reported by site, even if they were below this threshold.

**3** In owned and leased data center facilities included in scope 2 and 3 emissions, Facebook has matched building operations with renewable energy.

**4** Facebook's methodology for calculating greenhouse gas emissions can be found [here](#).

**5** Scope 1, 2, and 3 greenhouse gas emissions are calculated annually based on the WRI/WBCSD [Greenhouse Gas Protocol](#).

**6 (a)** Scope 1 includes emissions from diesel, natural gas, and refrigerants from offices and data centers and from diesel and gasoline in the transportation fleet owned and controlled by Facebook.

**(b)** Scope 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. Because Facebook does not control building operations in leased data center facilities, as of 2017, only emissions associated with its IT load electricity are included in Scope 2 emissions.

**(c)** Scope 3 emissions are indirect emissions throughout Facebook's value chain. Starting in 2019, Facebook included emissions from all relevant categories in Scope 3. Scope 3 emissions for 2015 to 2018 include business travel, employee commute, and construction.

**7** To ensure accurate tracking towards Facebook's 75% operational emissions reduction target, any material changes are also applied to the 2017 base year, at minimum.

**8** Prior to 2020, Facebook invested in avoided emissions offsets which are not considered carbon removal.

**9** In the 2019 reporting year, three updates to reporting were applied to 2017 (baseline year) and later inventories:

**(a)** 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 Facebook's operational control of these vehicles, it was determined that they should be accounted for in Scope 1.

**(b)** It was determined that Facebook overestimated natural gas emissions by including estimates for offices which do not in fact use natural gas. Recalculations have been applied to the inventory to remove these inaccuracies.

**(c)** Fugitive emissions from refrigerant losses at offices not under Facebook operational control were moved from Scope 2 to Scope 3.

**10** In the 2020 reporting year, two emission factors updates have significantly impacted the GHG inventory:

**(a)** Economic-Environmental Input-Output emission factors were updated and applied to relevant categories. 2019 numbers have been updated to reflect these new emission factors.

**(b)** Waste emission factors have been updated and applied starting in 2020.

**11** In the 2020 reporting year, two updates to the methodology were applied:

**(a)** A new business travel methodology was developed, which was applied to 2019 and updated. Air travel still includes radiative forcing starting from 2017.

**(b)** Employee commuting now includes telecommuting, or work-from-home, emissions starting in 2020, for which the electricity portion is matched with renewable energy.

**12** This includes the following categories in Scope 3: upstream and downstream transportation and distribution, waste generated in operations, upstream leased assets, use of sold products, and end-of-life treatment of sold products

**13** Notes on Facebook's 2020 water withdrawal:

**(a)** 17% is recycled water, 1% is ground and off-site water, and the remainder is provided by local utilities. All unconsumed water is returned to utility-owned wastewater treatment plants.

**(b)** 25% 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 388,000 cubic meters of water withdrawn for the construction of Facebook data centers.

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

# Thank you

We look forward to sharing more of our sustainability progress with you through future reports.

---

For more information, please visit:

[sustainability.fb.com](https://sustainability.fb.com)