2023 Environmental Data Index

Forward looking statements

This report covers only Meta's business and does not address the performance or operations of our suppliers, contractors or partners. Statements regarding targets, goals and commitments are aspirational and may also be based on estimates and assumptions under developing standards that may change in the future. As such, no guarantees or promises are made that they will be met or successfully executed, and actual results may differ, possibly materially. In addition, data, statistics and metrics included in this report are non-audited estimates, not necessarily prepared in accordance with generally accepted accounting principles, continue to evolve, and may be based on assumptions believed to be reasonable at the time of preparation but may be subject to revision. This report has not been externally assured or verified by an independent third party unless otherwise noted. This report represents Meta's current policy and intent and is not intended to create legal rights or obligations.

In this report, our use of the terms "material," "materiality" and other similar terms is consistent with that of GRI, SASB, TCFD and other standards referenced in the preparation of this report, or refers to topics that reflect Meta's significant economic, social and environmental impacts or that substantially influence the assessments and decisions of a diverse set of stakeholders. We are not using these terms as they are used under the securities or other laws of the United States or any other jurisdiction or as these terms are used in the context of financial statements and financial reporting. This report is not comprehensive, and for that reason, should be read in conjunction with our most recent Annual Report on Form 10-K, our subsequent reports on Forms 10-Q and 8-K and other filings made with the Securities and Exchange Commission (SEC).

This report contains forward-looking statements. All statements contained in this report other than statements of historical fact, including statements regarding our future results of operations and financial position, our business strategy and plans, and our objectives for future operations, as well statements regarding targets, goals and commitments, are forward-looking statements. The words "believe," "may," "will," "estimate," "continue," "anticipate," "intend," "expect," and similar expressions are intended to identify forward-looking statements. We have based these forward-looking statements largely on our current expectations and projections about future events and trends that we believe may affect our financial condition, results of operations, business strategy, short-term and long-term business operations and objectives, and financial needs.

Especially with respect to the matters discussed in this report, many factors and uncertainties relating to our operations and business environment, all of which are difficult to predict and many of which are outside of our control, influence whether any forward-looking statements can or will be achieved.

Any one of those factors, including as the result of changes in circumstances, estimates that turn out to be incorrect, standards of measurement that change over time, assumptions not being realized, or other risks or uncertainties, could cause our actual results, including the achievement of targets, goals or commitments, to differ materially from those expressed or implied in writing in any forward-looking statements made by Meta or on its behalf.

Forward looking statements

We describe these risks and uncertainties in our SEC filings, including our most recent Annual Report on Form 10-K and our subsequent reports on Forms 10-Q and 8-K, as well as, with respect to targets, goals and commitments outlined in this report or elsewhere, the challenges and assumptions that are either identified in this report or that we are unable to foresee at this time. We cannot assure that the results reflected or implied by any forward-looking statement will be realized or, even if substantially realized, that those results will have the forecasted or expected consequences and effects.

We also caution that the important factors referenced therein may not include all of the factors that are important to readers. Our forward-looking statements speak only as of the date of this report or as of the date they are made, and we undertake no obligation to update this report to reflect subsequent events or circumstances, except as required by law. Given these risks and uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements.

This report may contain links to other internet sites or references to third parties. Such links or references are not incorporated by reference to this report, and we can provide no assurance as to their accuracy. The use or inclusion of the information is also not intended to represent endorsements of any apps and services.

Environmental footprint

1.1 GHG emissions [1,2,3,4,5]

Total GHG emissions

Market-based (in metric tons CO_2e)

	2017	2018	2019	2020	2021	2022
Net total	1,096,000	1,008,000	4,330,000	4,984,000	5,740,244	8,453,471
Carbon removal (carbon credits applied) [7]	-	-	-	145,000	90,000	80,000
Total	1,096,000	1,008,000	4,330,000	5,129,000	5,830,244	8,533,471
Scope 1	25,000	42,000	44,000	29,000	55,173	66,934
Percent of total GHG emissions (Scopes 1-3)	2%	4%	1%	1%	1%	1%
Scope 2	591,000	314,000	208,000	9,000	2,487	273
Percent of total GHG emissions (Scopes 1-3)	54%	31%	5%	<1%	<1%	<1%
Scope 3	480,000	652,000	4,078,000	5,091,000	5,772,583	8,466,264
Percent of total GHG emissions (Scopes 1-3)	44%	65%	94%	99%	99%	99%

Location-based (in metric tons CO_2e)

	2017	2018	2019	2020	2021	2022
Total	1,387,000	1,983,000	6,295,000	8,559,000	10,163,476	14,007,222

Greenhouse gas intensity

Market-based Scope 1 & 2 emissions (in metric tons CO_2e/unit of key performance indicators)

	2017	2018	2019	2020	2021	2022
GHG intensity per monthly active person	0.00029	0.00015	0.00008	0.00001	0.00002	0.00002
GHG intensity per million USD of revenue	–	–	–	–	0.49	0.58
GHG intensity per MWh	–	–	–	–	0.0061	0.0058

1. Prior to 2021, values were rounded and totals were calculated before rounding throughout this report.

2. "Other data center-related facilities" includes facilities where Meta used less than 100,000 MWh of electricity in the reporting year, such as warehouses or colocation facilities. Owned, online data centers are always reported by site, even if they were below this threshold.

3. Meta's methodology for calculating greenhouse gas emissions can be found on page 15.

4. Prior to 2018, Scope 3 emissions included only business travel, employee commute and construction. Meta includes emissions from all relevant categories in Scope 3 for reporting years 2019 to the present.

5. In the 2022 reporting year, several updates to reporting were applied to the 2021 and later inventories.

   (a) Data from life cycle assessments for our hardware and sold products were used to calculate our Scope 3 emissions.
   (b) 2021 category 1, 2, 8, & 11 emissions were recalculated with higher quality data inputs to improve accuracy.
   (c) All Scope 3 Categories were broken out individually to improve transparency and eliminate the previously reported "Other Applicable Categories"
   (d) Emissions associated with third-party construction-related energy usage were recategorized into Category 1 instead of Category 3 to better align with the GHG Protocol Scope 3 Category Boundaries.
   (e) Emissions associated with overhead electricity load at leased data centers was recategorized into Category 8 Instead of Category 3 to better align with the GHG Protocol Scope 3 Category Boundaries.
   (f) 2021 Category 6 emissions were recalculated to incorporate more accurate and transparent methodologies for applying sustainable aviation fuel emissions reductions.
   (g) 2021 Total Fuel and Energy Consumption were recalculated to eliminate third-party party construction-related fuel use outside of Meta's Operational Control.

Environmental footprint

Operational GHG emissions

Market-based Scope 1 & 2 emissions (in metric tons CO_2e)[6]

	2017	2018	2019	2020	2021	2022
Total operational GHG emissions	616,000	356,000	252,000	38,000	57,661	67,207
Data centers total	568,000	314,000	207,000	14,000	25,240	22,163
Altoona, IA	1,000	1,000	2,000	1,000	2,118	920
Clonee, Ireland	<500	<500	<500	1,000	1,364	264
Dekalb, IL	-	-	-	-	0	1,859
Eagle Mountain, UT	-	-	-	-	3,250	3,609
Forest City, NC	136,000	53,000	9,000	<500	1,401	587
Fort Worth, TX	1,000	1,000	1,000	<500	779	625
Gallatin, TN	-	-	-	-	-	138
Richmond, VA	-	-	<500	<500	4,822	821
Huntsville, AL	-	-	-	-	261	1,788
Los Lunas, NM	-	1,000	1,000	<500	1,067	1,298
Luleå, Sweden	<500	<500	<500	<500	374	79
New Albany, OH	-	-	<500	2,000	408	2,605
Newton County, GA	-	-	-	-	300	535
Odense, Denmark	-	-	<500	<500	2,824	655
Papillion, NE	-	<500	<500	3,000	2,348	1,642

Market-based Scope 1 & 2 emissions (in metric tons CO_2e)[6] (Continued)

	2017	2018	2019	2020	2021	2022
Prineville, OR	239,000	137,000	1,000	3,000	3,862	4,501
Leased data center facilities	98,000	102,000	188,000	-	25	72
Other data center-related facilities	40,000	17,000	4,000	2,000	40	166
Offices total	48,000	42,000	44,000	24,000	32,421	45,044

6. 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 Meta's operational control of these vehicles, it was determined that they should be accounted for in Scope 1.
(b) It was determined that Meta overestimated natural gas emissions by including estimates for offices that 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 Meta operational control were moved from Scope 2 to Scope 3.

Environmental footprint

Market-based vs. Location-based

Scope 2 emissions (in metric tons CO_2e)

	2018		2019		2020		2021		2022	
	Market-based	Location-based	Market-based	Location-based	Market-based	Location-based	Market-based	Location-based	Market-based	Location-based
Total facilities GHG emissions	314,000	1,241,000	205,000	1,885,000	9,000	2,718,000	2,487	3,080,194	273	3,921,611
Data centers total	308,000	1,181,000	197,000	1,813,000	2,000	2,650,000	2,487	2,987,964	273	3,821,450
Altoona, IA	-	346,000	-	483,000	-	555,000	-	425,377	-	474,826
Clonee, Ireland	-	82,000	-	143,000	-	159,000	-	187,475	-	178,367
Dekalb, IL	-	-	-	-	-	-	-	2,122	-	8,087
Eagle Mountain, UT	-	-	-	-	-	-	-	62,962	-	145,985
Forest City, NC	52,000	201,000	8,000	208,000	-	202,000	-	165,026	-	143,754
Fort Worth, TX	-	212,000	-	295,000	-	399,000	-	378,198	-	355,696
Gallatin, TN	-	-	-	-	-	-	-	-	-	2,664
Richmond, VA	137,000	-	-	3,000	-	69,000	-	146,396	-	204,494
Huntsville, AL	-	-	-	-	-	-	-	32,464	-	156,885
Los Lunas, NM	-	12,000	-	135,000	-	266,000	-	276,795	-	347,033
Lueleå, Sweden	-	7,000	-	6,000	-	7,000	-	3,917	-	2,782
New Albany, OH	-	-	-	20,000	-	157,000	-	229,785	-	335,561
Newton County, GA	-	-	-	-	-	-	-	84,402	-	258,773
Odense, Denmark	-	1,000	<500	18,000	-	57,000	2,487	51,171	273	49,198
Papillion, NE	-	3,000	-	101,000	-	294,000	-	329,674	-	458,460

Environmental footprint

Scope 2 emissions (in metric tons CO_2e) (Continued)										
	2018		**2019**		**2020**		**2021**		**2022**	
	Market-based	**Location-based**	**Market-based**	**Location-based**	**Market-based**	**Location-based**	**Market-based**	**Location-based**	**Market-based**	**Location-based**
Prineville, OR	-	145,000	-	167,000	-	200,000	-	245,996	-	284,462
Leased data center facilities	102,000	128,000	188,000	193,000	-	223,000	-	272,848	-	323,060
Other data center-related facilities	17,000	44,000	1,000	41,000	2,000	62,000	-	93,354	-	91,364
Offices total	6,000	60,000	8,000	72,000	7,000	68,000	-	92,230	-	100,160

Environmental footprint

Value chain GHG emissions

Scope 3 emissions (in Metric Tons CO_2e) [1, 5, 7, 8]

	2017	2018	2019	2020	2021	2022
Total	480,000	652,000	4,078,000	5,091,000	5,772,583	8,466,264
Category 1: Purchased Goods & Services [5, 8]	-	-	1,428,000	1,846,000	2,956,909	2,545,466
Of Total (in %)	-	-	35%	36%	51%	30%
Category 2: Capital Goods [5, 8]	-	-	1,671,000	2,516,000	2,466,041	5,346,583
Of Total (in %)	-	-	41%	49%	43%	63%
Category 3: Fuel & Energy-Related Activities [5]	-	-	264,000	56,000	10,483	12,658
Of Total (in %)	-	-	6%	1%	<1%	<1%
Category 4: Upstream Transportation and Distribution	-	-	65,000	49,000	180,183	176,636
Of Total (in %)	-	-	2%	1%	3%	2%
Category 5: Waste Generated in Operations [5, 8]	-	-	4,000	10,000	18,430	18,519
Of Total (in %)	-	-	<1%	<1%	<1%	<1%
Category 6: Business Travel [5, 7]	246,000	397,000	529,000	129,000	8,653	251,807
Of Total (in %)	-	-	13%	3%	<1%	3%
Category 7: Employee Commuting [8]	43,000	71,000	90,000	61,000	23,163	45,054
Of Total (in %)	-	-	2%	1%	<1%	<1%
Category 8: Upstream Leased Assets [5]	-	-	16,000	24,000	1,185	3,444
Of Total (in %)	-	-	<1%	<1%	<1%	<1%

Scope 3 emissions (in Metric Tons CO_2e) (Continued)

	2017	2018	2019	2020	2021	2022
Category 9: Downstream Transportation and Distribution [5]	-	-	5,000	10,000	37	16
Of Total (in %)	-	-	<1%	<1%	<1%	<1%
Category 11: Use of Sold Products [5]	-	-	5,000	390,000	106,232	62,306
Of Total (in %)	-	-	<1%	8%	2%	<1%
Category 12: End-of-Life Treatment of Sold Products [5]	-	-	<500	<500	1,267	3,775
Of Total (in %)	-	-	<1%	<1%	<1%	<1%

1. Prior to 2021, values were rounded and totals were calculated before rounding throughout this report.

5. In the 2022 reporting year, several updates to reporting were applied to the 2021 and later inventories.

   (a) Data from life cycle assessments for our hardware and sold products were used to calculate our Scope 3 emissions.
   (b) 2021 Category 1, 2, 8, & 11 emissions were recalculated with higher quality data inputs to improve accuracy.
   (c) All Scope 3 categories were broken out individually to improve transparency and eliminate the previously reported “Other Applicable Categories.”
   (d) Emissions associated with third-party construction-related energy usage were recategorized into Category 1 instead of Category 3 to better align with the GHG Protocol Scope 3 Category Boundaries.
   (e) Emissions associated with overhead electricity load at leased data centers was recategorized into Category 8 Instead of Category 3 to better align with the GHG Protocol Scope 3 Category Boundaries.
   (f) 2021 Category 6 emissions were recalculated to incorporate more accurate and transparent methodologies for applying sustainable aviation fuel emissions reductions.
   (g) 2021 Total Fuel and Energy Consumption were recalculated to eliminate third-party construction-related fuel use outside of Meta’s Operational Control.

7. Sustainable Aviation Fuel was purchased in 2022 and associated emissions reductions are reflected in the inventory.

8. In the 2022 reporting year, the following updates to the methodology were applied:

   (a) A new Category 5 estimation methodology was developed to improve completeness across all operations.
   (b) Employee commuting now includes emissions calculations on a well-to-tank basis.
   (c) a new Category 1 and Category 2 methodology was developed to improve the completeness, accuracy and reliability of the underlying activity and financial data.

Environmental footprint

2.1 Electricity

Electricity consumption

Electricity consumption by facility (In MWh)

	2017	2018	2019	2020	2021	2022
Total electricity consumption	2,462,000	3,427,000	5,140,000	7,170,000	9,420,839	11,508,131
Electricity from grid (%)	100%	100%	100%	100%	100%	100%
Data centers total	2,360,000	3,245,000	4,918,000	6,966,000	9,117,122	11,167,416
Altoona, IA	500,000	612,000	853,000	980,000	950,705	1,043,606
Clonee, Ireland	1,000	200,000	382,000	487,000	634,648	668,290
Dekalb, IL	-	-	-	-	4,724	16,934
Eagle Mountain, UT	-	-	-	-	229,946	504,049
Forest City, NC	433,000	547,000	614,000	595,000	580,842	492,786
Fort Worth, TX	189,000	461,000	695,000	941,000	1,014,447	959,419
Gallatin, TN	-	-	-	-	0	6,264
Richmond, VA	-	-	10,000	204,000	515,270	701,003
Huntsville, AL	-	-	-	-	85,286	368,841
Los Lunas, NM	-	26,000	289,000	571,000	717,932	929,488
Luleå, Sweden	301,000	337,000	373,000	369,000	306,054	267,471
New Albany, OH	-	-	38,000	270,000	511,414	702,694
Newton County, GA	-	-	-	-	215,279	636,266
Odense, Denmark	-	4,000	128,000	343,000	500,863	517,718

Electricity consumption by facility (in MWh) (Continued)

	2017	2018	2019	2020	2021	2022
Papillion, NE	-	5,000	178,000	519,000	736,810	1,007,635
Prineville, OR	426,000	488,000	573,000	686,000	898,409	982,177
Leased data center facilities	359,000	432,000	647,000	795,000	964,650	1,105,834
Other data center-related facilities	135,000	133,000	113,000	206,000	249,843	256,939
Offices Total	102,000	181,000	222,000	204,000	303,717	340,657

Electricity intensity (in MWh/unit of key performance indicators)

	2017	2018	2019	2020	2021	2022
Electricity intensity per monthly active person	-	-	-	-	0.0026	0.0031
Electricity intensity per million USD revenue	-	-	-	-	79.9	98.7

Electricity mix (in % of total electricity used)

	2017	2018	2019	2020	2021	2022
Renewable	51%	75%	86%	100%	100%	100%
Non-renewable	49%	25%	14%	0%	0%	0%

2.2 Total energy consumed

Energy consumption (in GJ)[5]

	2017	2018	2019	2020	2021	2022
Total energy consumption	-	-	-	27,075,000	34,882,163	42,560,221
Direct energy consumption	-	-	-	438,000	853,042	1,138,794
Indirect energy consumption	-	-	-	26,638,000	34,029,121	41,421,428

Environmental footprint

2.3 Fuels

Fuel consumption[5]

	2017	2018	2019	2020	2021	2022
Natural gas (therms)	-	-	-	-	6,153,856	7,539,592
Diesel — diesel fuel (gal)	-	-	-	-	363,082	1,376,871
Diesel — distillate fuel oil No.4 (gal)	-	-	-	-	842,460	724,151
Gasoline (gal)	-	-	-	-	52,375	119,955
Propane (gal)	-	-	-	-	0	0
Renewable fuels						
Hydrotreated vegetable oil (gal)	-	-	-	-	0	0

2.4 Data center operations and design

Power usage effectiveness (PUE)

	2017	2018	2019	2020	2021	2022
PUE (data center energy efficiency)	1.10	1.11	1.11	1.10	1.09	1.08

Sustainable design

Green building standards for data centers and offices (% of sq ft covered by green building standards and/or EnMS)

	2017	2018	2019	2020	2021	2022
Total	-	-	-	-	98%	99%
Data centers (LEED Gold or above, or ISO 50001)	-	-	-	-	100%	100%
Offices (LEED Gold or above, or ISO 50001)	-	-	-	-	97%	98%

5. In the 2022 reporting year, several updates to reporting were applied to the 2021 and later inventories

(a) Data from life cycle assessments for our hardware and sold products were used to calculate our Scope 3 emissions.
(b) 2021 Category 1, 2, 8, & 11 emissions were recalculated with higher quality data inputs to improve accuracy.
(c) All Scope 3 categories were broken out individually to improve transparency and eliminate the previously reported “Other Applicable Categories”
(d) Emissions associated with 3rd party construction related energy usage were recategorized into Category 1 instead of Category 3 to better align with the GHG Protocol Scope 3 Category Boundaries
(e) Emissions associated with overhead electricity load at leased data centers was recategorized into Category 8 Instead of Category 3 to better align with the GHG Protocol Scope 3 Category Boundaries
(f) 2021 Category 6 emissions were recalculated to incorporate more accurate and transparent methodologies for applying sustainable aviation fuel emissions reductions
(g) 2021 Total Fuel and Energy Consumption were recalculated to eliminate 3rd party construction-related fuel use outside of Meta’s Operational Control

Environmental footprint

3.1 Water withdrawal [9]

Water withdrawal

Water withdrawal by facility (in cubic meters)

	2017	2018	2019	2020	2021	2022
Total water withdrawal	1,609,000	2,367,000	3,430,000	3,726,000	5,042,564	4,893,023
Data centers total	1,139,000	1,730,000	2,731,000	3,000,000	3,417,791	3,618,003
Altoona, IA	106,000	139,000	145,000	151,000	140,231	199,378
Clonee, Ireland	10,000	188,000	395,000	615,000	927,914	838,654
Dekalb, IL	-	-	-	-	0	29,659
Eagle Mountain, UT	-	-	-	-	57,701	89,366
Forest City, NC	129,000	99,000	85,000	68,000	64,053	62,853
Fort Worth, TX	98,000	269,000	322,000	300,000	253,520	346,115
Gallatin, TN	-	-	-	-	0	0
Richmond, VA	-	-	-	42,000	80,478	54,994
Huntsville, AL	-	-	-	-	38,520	103,501
Los Lunas, NM	-	25,000	92,000	140,000	152,666	161,436
Luleå, Sweden	66,000	53,000	58,000	49,000	38,922	25,358
New Albany, OH	-	-	33,000	35,000	121,194	87,413
Newton County, GA	-	-	-	-	105,121	77,203
Odense, Denmark	-	-	266,000	360,000	373,355	427,937
Papillion, NE	-	-	62,000	108,000	106,339	100,912
Prineville, OR	172,000	160,000	208,000	445,000	353,951	240,302

Water withdrawal by facility (in cubic meters)

	2017	2018	2019	2020	2021	2022
Leased data center facilities	473,000	533,000	1,011,000	645,000	603,629	772,921
Other data center-related facilities	85,000	264,000	54,000	42,000	197	0
Offices total	470,000	631,000	699,000	726,000	1,624,773	1,275,021

Water withdrawal by source

Water withdrawal by source (in cubic meters)

	2017	2018	2019	2020	2021	2022
Total water withdrawal	1,609,000	2,367,000	3,430,000	3,726,000	5,042,564	4,893,023
From surface water	-	-	-	-	0	0
From groundwater	-	-	-	37,000	33,285	37,343
From seawater	-	-	-	-	0	0
From produced water	-	-	-	-	0	0
From third-party water (e.g. municipal water supply)	-	-	-	3,689,000	5,009,279	4,855,680

Water usage effectiveness (WUE)

	2017	2018	2019	2020	2021	2022
Annual data center WUE	0.24	0.27	0.27	0.30	0.26	0.20

9. Not included in Meta's 2022 water withdrawal numbers are an additional 1,780,000 cubic meters of water withdrawn for the construction of Meta data centers.

Environmental footprint

Water withdrawal intensity (in cubic meters/unit of key performance indicators)

	2017	2018	2019	2020	2021	2022
Water withdrawal per monthly active person	0.000755	0.001020	0.001200	0.001130	0.001405	0.001308
Water withdrawal per million USD revenue	-	-	-	-	42.8	42.0

Water withdrawal from areas with water stress (in cubic meters)

	2017	2018	2019	2020	2021	2022
Total water withdrawal	1,609,000	2,367,000	3,430,000	3,726,000	5,042,564	4,893,023
From areas with high or extremely high baseline water stress	-	-	-	-	1,390,166	1,130,181
From areas without water stress	-	-	-	-	3,652,398	3,762,843

Recycled water (in cubic meters)

	2017	2018	2019	2020	2021	2022
Total water recycled	469,000	673,000	854,000	643,000	580,223	265,906

3.2 Water consumption

Water consumption (in cubic meters)

	2017	2018	2019	2020	2021	2022
Total water consumption	838,000	1,279,000	1,971,000	2,202,000	2,568,849	2,638,188
Data centers total	-	-	-	2,197,000	162,477	2,510,686
Offices total	-	-	-	73,000	2,406,372	127,502

Water consumption from areas with water stress (in cubic meters)

	2017	2018	2019	2020	2021	2022
Total water consumption	838,000	1,279,000	1,971,000	2,202,000	2,568,849	2,638,188
From areas with high or extremely high baseline water stress	-	-	-	-	162,477	443,150
From areas without water stress	-	-	-	-	2,406,372	2,195,038

3.3 Water discharge

Water discharge by source (in cubic meters)

	2017	2018	2019	2020	2021	2022
Total water discharge	-	-	-	1,524,000	2,473,716	2,254,835
To surface water	-	-	-	-	0	0
To groundwater	-	-	-	-	0	0
To seawater	-	-	-	-	0	0
To third-party water (e.g. municipal sewers)	-	-	-	1,524,000	2,473,716	2,254,835

Water discharge to areas with water stress (in cubic meters)

	2017	2018	2019	2020	2021	2022
Total water discharge	-	-	-	1,524,000	2,473,716	2,254,835
To areas with water stress	-	-	-	-	863,836	687,031
To areas without water stress	-	-	-	-	1,609,879	1,567,804

Environmental footprint

3.4 Water stewardship

Water restoration (in cubic meters)

	2017	2018	2019	2020	2021	2022
Volumetric water restoration benefits	-	132,000	145,000	2,250,000	2,335,672	2,351,562

Progress on 2030 net positive water goal (in cubic meters)

	2017	2018	2019	2020	2021	2022
Total water consumption	838,000	1,279,000	1,971,000	2,202,000	2,569,000	2,638,000
Total water restored	-	132,000	145,000	2,250,000	2,335,672	2,351,562

Water use embedded in purchased electricity (In cubic meters)

	2017	2018	2019	2020	2021	2022
Embedded consumption in purchased electricity - location-based	-	-	-	-	31,923,969	41,172,356
Embedded consumption in purchased electricity - market-based	-	-	-	-	3,312,616	2,894,787
Avoided water consumption	-	-	-	-	28,611,342	38,277,569

Environmental methodology

At Meta, our sustainability work helps us to operate efficiently and responsibly in our mission to build community and bring the world closer together. As a global company, we recognize the tech industry's environmental impact and role to play in addressing climate change. We embrace the responsibility to understand the full scope of our footprint and be transparent and accountable in our mission to reduce our emissions.

Identifying the source of our emissions on an annual basis enables us to prioritize emissions reduction where we can make the most meaningful progress on our path to net zero emissions across our value chain in 2030. Similarly, minimizing our water use, being transparent with our water data, and restoring water in the same watersheds where our data centers are located are vital to reach our commitment to restore more water than we use by 2030.

Meta's GHG emissions

Meta's GHG footprint includes the emissions associated with running our business and data centers, as well as the indirect emissions upstream and downstream of our operations. These emissions correspond to Scope 1, Scope 2 and Scope 3 emissions as defined by the World Resources Institute (WRI) Greenhouse Gas Protocol↗. Meta uses the operational control approach when calculating our GHG footprint, in which we account for 100% of the GHG emissions over which we have operational control.

OPERATIONAL EMISSIONS

Scope 1 and 2 emissions are considered our operational emissions. Scope 1 emissions come from our direct operations, such as combustion of natural gas to heat our offices and the fuel burned in our employee shuttles. Scope 2 includes indirect emissions from purchased energy, such as the electricity powering our data centers. We consider purchased electricity for construction and overhead electricity within leased data centers outside of our operational control and therefore report these in Scope 3.

SCOPE 1 EMISSIONS Direct emissions from our data centers, offices and transportation fleet	• Stationary combustion (e.g., natural gas consumed at our Menlo Park campus for heating) • Mobile combustion (e.g., diesel emissions from our intercampus shuttles) • Fugitive emissions (e.g., refrigerant losses)
SCOPE 2 EMISSIONS Indirect emissions from purchased energy for our data centers and offices	• Purchased electricity • District heating • Stationary combustion from leased sites

In 2020, Meta reduced our operational emissions by 94% from a 2017 baseline and addressed the residual emissions with high-quality carbon removal projects. As a result, Meta's operations have produced net zero emissions since then.

FULL VALUE CHAIN EMISSIONS

Scope 3 emissions come from sources within our full value chain beyond our operations and comprise the largest component of our footprint. Scope 3 includes:

1. Upstream emissions, such as the emissions from manufacturing our data center servers or emissions from employee commutes; and
2. Downstream emissions, such as the emissions associated with people using our Portal or Quest devices.

Environmental methodology

SCOPE 3 EMISSIONS Our value chain emissions upstream and downstream of our operations	**Upstream:** • Purchased goods and services (e.g., upstream emissions from purchased office supplies) • Capital goods (e.g., server hardware) • Fuel and energy-related activities • Upstream transportation and distribution (e.g., emissions associated with the transportation of AR/VR-related consumer hardware) • Waste generated from our operations • Business travel • Employee commuting (including telecommuting) • Upstream leased assets (Including leased data center overhead electricity use) **Downstream:** • Downstream transportation and distribution • Direct use of our AR/VR-related consumer hardware • End-of-life treatment of our AR/VR-related consumer hardware

How we calculate our GHG emissions

Meta is aligning our emissions reduction targets with the Science Based Targets initiative↗ and takes a scientific, standardized approach to calculating its GHG emissions in accordance with the GHG Protocol↗. Furthermore, Meta's GHG emissions data and methodologies undergo third party verification each year. This is completed annually to ensure that only the most accurate and up-to-date data is publicly reported.

We quantify our GHG emissions via activity data, LCAs and financial data. We prioritize calculating our emissions through activity data that directly measures an activity that results in GHG emissions, such as kilowatt hours (kWh) of electricity. Due to the complex nature of our business and value chain, we use other methods to help calculate our emissions when activity data is not available.

> We measure our emissions by metric tons of carbon dioxide equivalent, or CO_2e, units. CO_2e is used to standardize the emissions from different GHGs based on their global warming potentials.

ACTIVITY DATA

For activity data, we take the quantity of a specific measured activity and multiply it by an associated emissions factor to calculate the total emissions from that activity. For example, the kWh of electricity consumed at a Meta site is multiplied by the appropriate country-specific or regional-specific, publicly available emissions factor to calculate the total emissions from that site's electricity use. We use activity data to calculate:

- Scope 1 and 2 emissions
- Fuel and energy-related activities
- Waste generated in operations
- Upstream transportation and distribution where supplier specific data is available
- Business travel (including radiative forcing)
- Employee commuting
- Direct use of our AR/VR-related consumer hardware

Environmental methodology

Where activity data is incomplete or unavailable for an operation that results in GHG emissions, existing activity data is used as a proxy to estimate these emissions. This ensures we are reporting a complete GHG inventory across all of our operations. For example, the weight of waste at several Meta sites is used as a proxy to estimate waste at other sites in the same region that do not have final waste weight data.

LCAs

To understand cradle-to-gate emissions and/or upstream emissions that are released before certain assets are used (e.g., the emissions released from the production of concrete before it is poured), we conduct third-party LCA studies or utilize LCA tools to measure our impact. This is applicable in our 2022 inventory for the following emissions:

- Upstream emissions associated with the materials used in the construction of our data centers
- Upstream emissions of materials in office renovations and new construction
- Cradle-to-gate emissions of our augmented and virtual reality related consumer hardware, such as Portal and Quest devices
- Cradle-to-gate emissions in key data center hardware components, such as hard drives
- End-of-life treatment of our AR/VR-related consumer hardware

FINANCIAL

Our Environmentally Extended Input Output (EEIO) method utilizes financial spend data and applies industry-specific emission factors (e.g., kg CO_2e per dollar spent on electronic manufacturing) published by the U.S. Environmental Protection Agency (EPA) ↗ to calculate "cradle-to-gate" emissions. We apply the EEIO method to the following:

- Purchased goods and services
- Capital goods not related to data center and office construction, AR/VR-related consumer hardware, and key data center hardware components
- Upstream transportation and distribution where supplier specific data is unavailable
- Upstream leased assets

MARKET-BASED INSTRUMENTS

We have publicly committed to supporting its global operations with 100% renewable energy. We procure and retire one Energy Attribute Certificate (EAC) for every MWh of electricity used to power our global operations. Meta also procures and retires one EAC for every MWh of electricity use in select Scope 3 categories.[A] Additionally, Meta procures Sustainable Aviation Fuel (SAF) and applies the associated emissions reductions from SAF allocated in the reporting year as a market-based instrument to Category 6: Business Travel.

A core focus of Meta's renewable energy program is adding new renewable energy projects to the electricity grids that support our data centers to drive the transition to renewable energy in our communities. In alignment with these principles, Meta adheres to the following EAC market boundaries:

1. Owned data centers[B]: EACs from the same grid region[C]
2. Leased data centers[D]: EACs from the same grid region or same geographic region[E]
3. Other Scope 2 loads (offices, points-of-presence): EACs from same grid region or same geographic region
4. Scope 3 loads: EACs from same grid region; once exhausted, EACs from same geographic region

Meta's methodology aligns with the market boundaries set forth by the GHG Protocol for over 95% of our Scope 2 emissions, including for all Scope 2 emissions from our owned data centers. A small portion of our Scope 2 emissions are not covered by EACs within the GHG Protocol's market boundaries set forth, but are instead covered by EACs from within the same geographic region.

A. This includes data center construction in Category 1: Purchased Goods & Services, transmission and distribution loss in Category 3: Fuel & Energy Related Activities, employee work from home in Category 7: Employee Commuting, leased data center overhead electricity use in Category 8: Upstream Leased Assets, and United States-based electricity consumption from our products in Category 11: Use of Sold Products.

B. Owned data centers include all completed data centers owned and operated by Meta. Data center loads while under construction are treated in line with leased data centers.

C. Grid Regions: WECC, ERCOT, MISO/SPP, PJM/NC, SERC, Nordpool (Europe), Singapore/Southeast Asia

D. For reporting year 2022, all leased data center load was in the United States and covered by EACs generated in-country.

E. Geographic Regions: Americas (AMER); Europe, Middle East, and Africa (EMEA); Asia Pacific (APAC)

Environmental methodology

Improving our GHG methodology

As Meta decarbonizes our value chain over the next decade, the data and methodology that drives our climate work will evolve and improve each year. We have disclosed our Scope 1 and 2 emissions for the last decade. We began reporting on some Scope 3 categories in 2015 and have reported on every relevant category defined by the GHG Protocol since 2019. As techniques to calculate our emissions improve, we will apply those methods to previous years to refine our GHG footprint. For example, in 2020 we used the EPA's updated EEIO emission factors for our Scope 3 calculations and updated our 2019 data accordingly.

Going forward, we will focus on increasing accuracy and granularity of our data. For example, we re-baselined our 2020 data based on updated LCA data for key data center hardware and our AR/VR-related consumer hardware. We will use activity data for more emissions categories as methods to do so become available. We will continue reporting and updating our emissions boundaries as our business grows on our path to net zero emissions.

PUE/WUE

Each year, we calculate the Power Usage Effectiveness (PUE) and Water Usage Effectiveness (WUE) of our data centers. PUE measures how efficiently our data centers consume the energy to operate our servers and network infrastructure. It is calculated by dividing the energy consumed at the data center by IT electricity load. The closer our annual PUE is to "1" indicates how efficient our data centers are designed to consume electricity.

Annual WUE is calculated by dividing our water withdrawal, in liters, by IT electricity load, in kWh. The closer WUE is to "0", the more efficient consumption of water to cool our IT-related infrastructure.

These metrics are calculated based on best available data, including internal meters, design estimates, and utility bills where applicable.

Meta's water withdrawal

The water that we use in our offices and at our data centers are withdrawn from our local water utilities or local aquifers. We report our water withdrawals based on data from our local water utilities or meter data, where available. We also report our water withdrawal during construction, based on reported data from our construction partners. Not included in Meta's 2022 operational water withdrawal numbers are an additional 1,780,000 cubic meters of water withdrawn for the construction of Meta data centers.

Meta's water consumption

For our data centers, we determine our water consumption via two methods:

1. Calculating the difference between water withdrawal and wastewater discharge
2. Calculating consumption based on cycles of concentration from our cooling systems

For our offices, we estimate our water consumption based on industry averages. All of our wastewater is discharged to local wastewater facilities.

Water risk

We use water stress metrics in the WRI's Aqueduct tool ↗ to conduct initial assessments of our water risks. When appropriate, we increase the level of water risk based on additional local knowledge.