

Operational Sustainability

Minimizing the environmental impact of our physical operations is an important part of our overall sustainability strategy. Doing so supports our commitment to operating responsibly, enhances the resiliency of our firm and reduces costs. Given the nature of our business, our direct environmental impacts stem primarily from the operation of our more than 5,500 corporate buildings, bank branches and data centers.

This section focuses on the operational components of our sustainability strategy. For more on how we are managing the environmental and social risks associated with our financing activities, see [page 14](#); for more about how we are helping accelerate the transition to a low-carbon economy, see [page 47](#).

Our Operational Sustainability Targets

We have developed the following targets to drive progress on operational sustainability:



Maintain **carbon neutral operations** annually, starting in 2020



Source renewable energy for **100%** of our global power needs annually, starting in 2020



Reduce Scope 1 and Scope 2 greenhouse gas emissions by **40%** by 2030 vs. a 2017 baseline



Satisfy at least **70%** of our renewable energy goal with on-site renewable energy and off-site long-term renewable energy contracts by 2025



Transition our **entire owned fleet** of vehicles to electric vehicles by 2025



Reduce global water consumption by **20%** by 2030 vs. a 2017 baseline



Reduce office paper use by **90%** by 2025 vs. a 2017 baseline



Purchase **100% of our paper** from certified sources by the end of 2021



Divert **100% of e-waste** from landfills

Achieving Carbon Neutral Operations

In 2020, we committed to become carbon neutral across our operations. Our commitment includes Scope 1 (direct) greenhouse gas (GHG) emissions from building operations and company-owned aircraft and vehicles; Scope 2 (indirect) GHG emissions from purchased electricity; and Scope 3 (indirect) GHG emissions associated with business travel. We are committed to maintaining carbon neutral operations each year going forward.

Our strategy to achieve – and maintain – carbon neutral operations is focused on the following:

- ▶ **Improving efficiency.** Reducing the amount of energy we use is our first priority; we have undertaken a range of energy efficiency measures across our operations and plan to implement additional improvements in the coming years.
- ▶ **Sourcing renewables.** Next, we are focused on installing on-site renewable energy systems at JPMorgan Chase properties and executing long-term renewable energy procurement agreements (e.g., Power Purchase Agreements and green power supply contracts).
- ▶ **Purchasing Energy Attribute Certificates (EACs) and carbon offsets.** Finally, for the remainder of our direct and indirect emissions, we are purchasing applicable EACs (e.g., Green-E certified Renewable Energy Certificates [RECs], International-RECs) and verified carbon offsets (see [page 31](#)).

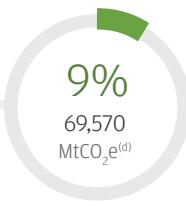
Our 2020 Operational GHG Footprint

JPMorgan Chase's operational GHG footprint stems from two primary activities: powering our buildings (e.g., electricity, heating and cooling) and business travel. Scope 2 emissions, from purchased electricity, are the largest driver of our building-related emissions and overall operational GHG footprint. The majority of our business travel-related emissions are Scope 3 emissions from commercially operated air and rail; reimbursed personal vehicle and rental car travel; and hotel stays. A small portion of our business travel emissions are Scope 1 emissions from company-owned aircraft and vehicles.

Scope 1

Direct emissions from owned or controlled sources

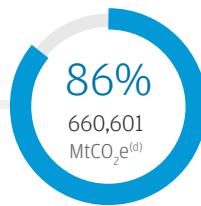
Fuel oil to heat buildings, diesel to run generators, jet fuel for company-owned aircraft



Scope 2^(a)

Indirect emissions from the generation of purchased electricity

Purchased electricity for owned and leased facilities for which the firm controls the energy usage and pays the utility bills



Scope 3

Other indirect emissions sources^(b)

Business travel, including air, rail, reimbursed personal vehicle and rental car travel, as well as hotel stays



Emissions Sources^(c)

Carbon Neutral Strategies

- Reduce energy consumption
- Procure low-carbon fuels (e.g., sustainable aviation fuel)
- Purchase verified carbon offsets

- Reduce energy consumption
- Install on-site renewable energy
- Execute long-term renewable energy procurement agreements
- Purchase applicable EACs and verified carbon offsets

- Reduce business travel
- Purchase verified carbon offsets

(a) Scope 2 emissions are location based

(b) Includes business travel

(c) List is not exhaustive

(d) Metric tons of carbon dioxide equivalent

Buildings, Branches and Data Centers

The largest contributor to our operational GHG footprint is purchased electricity, which is why our strategy for carbon neutral operations is principally focused on reducing energy use and sourcing renewable energy. To that end, in 2017, we set a goal to source renewable energy for 100% of our global power needs on an annual basis, beginning in 2020. We met our goal in 2020 by generating and purchasing renewable energy and corresponding EACs in an amount equivalent to the total megawatt hours (MWh) of electricity that our firm consumed globally throughout the year.

We intend to maintain our commitment to carbon neutral operations – and to do so in a way that maximizes positive impact. Moving forward, we will continue to support the development of renewable energy, including by installing on-site renewable energy systems and executing long-term renewable energy procurement agreements. We have set a goal that these solutions will make up 70% or more of our renewable energy procurement, with the remainder satisfied by applicable EACs. In parallel, to drive progress in efficiency and reduce our energy use, in 2021 we announced a new target to cut our Scope 1 and Scope 2 (location-based) emissions by 40% by 2030, over our 2017 baseline.

Highlights of our efforts include the following:

- ▶ **Energy efficiency.** We have implemented a number of efficiency measures across our operations. For example, we have installed LED lighting systems at approximately 4,300 branches and 50 commercial offices, reducing lighting-related electricity consumption at each building by an estimated 50%. We have also installed energy-efficient building management systems at over 3,400 branches to better control and monitor energy use at each location. In addition, we recently piloted an artificial intelligence-based building management system overlay, which will provide real-time data and insights to help us further reduce our energy use and GHG footprint of our commercial buildings.
- ▶ **On-site renewable energy.** Since 2017, we have installed on-site solar generation systems across our global operations, where feasible. This includes installing approximately 30 megawatts (MW) of solar capacity across 900 branches, which are expected to provide about 35% of each location's power needs. In addition, during 2020 we began installing an additional 12 MW of carport solar capacity at our corporate campus in Columbus, Ohio. Combined with the existing rooftop array, the site will have approximately 14.8 MW of solar capacity and will be able to generate about 75% of its annual power needs. We also recently completed construction of a 2 MW solar array at our Bournemouth, England, campus, which, in combination with thermal energy storage, provides enough energy to power the entire campus during the day. All told, we currently have plans to install 40 MW of solar capacity across our corporate office buildings in the U.S. and the U.K.
- ▶ **Off-site renewable energy.** Throughout the past year, we signed additional long-term agreements to purchase renewable energy. For example, in 2020 we collaborated with Brookfield Renewable to purchase electricity from hydroelectric sources equivalent to the amount needed to power over 500 facilities, or 90% of our operations, in New York state. This project also pilots an innovative, blockchain-based technology that will match our electricity demand across the state with power generated from Brookfield Renewable's hydroelectric facilities in real time.

We also collaborated with Algonquin Power & Utilities Corp. on the development of a 108 MW, 22-turbine wind farm in Lee County, Illinois, that will bring almost 350,000 MWh of clean energy to the U.S. grid per year. JPMorgan Chase will purchase approximately 70% of the wind farm's energy output, equivalent to about 14% of our energy needs globally.

Business Travel

Business travel represented approximately 5% of our operational GHG emissions in 2020. During the year, our firm's business travel was significantly reduced compared to previous years due to the COVID-19 pandemic and, going forward, our objective is to minimize travel when possible by leveraging virtual technology. When we do travel, we aim to reduce our emissions by leveraging lower-carbon options, including by transitioning our entire owned vehicle fleet to electric by 2025. For the remainder of our travel-related emissions, we will purchase verified carbon offsets. In 2020, we expanded the scope of business travel we report – and offset – beyond commercially operated air and rail to include reimbursed personal vehicle and rental car travel, as well as hotel stays.

Another way we are working to leverage lower-carbon solutions for our business travel is by seeking to accelerate investment in sustainable aviation fuels (SAF), which have the potential to reduce the carbon intensity of flying by more than 80% compared with conventional jet fuel. In early 2021, we became a founding member of the Sustainable Aviation Buyers Alliance, an initiative working to establish a SAF certificate trading system, which will enable companies like ours that are unable to directly purchase SAF to buy the resulting emission reductions for use toward our sustainability goals – ultimately increasing the demand signal to the SAF market and incentivizing the production of more SAF. In addition, to further demonstrate our support of and demand for SAF, JPMorgan Chase's corporate flight department helped bring one of the first truckloads of SAF to the Greater New York metropolitan area – making us the first company to partner with our aviation fuel supplier to take such a delivery of SAF.

Our Approach to Carbon Offsets

Carbon offsets are an important tool that enables companies to invest in projects that reduce GHG emissions and, in many cases, create valuable social and community co-benefits. At JPMorgan Chase, we purchase offset credits to address emissions that we are unable to abate through efficiency improvements or other measures. We purchase offset credits that have been certified by accredited third parties, which means they are real, additional and independently verified. We also strive to source offset credits that are generated from projects located in areas where JPMorgan Chase has a presence, and that have additional co-benefits.

Reducing Waste and Sourcing Responsibly

Responsible resource and waste management are important elements of our sustainability strategy, helping us reduce our impacts while improving efficiency and reducing costs. Our focus is on reducing our water and waste footprint, coupled with responsible disposal of the waste we produce. To drive progress in these areas, in 2021 we set new targets to reduce our water consumption by 20% by 2030 and internal paper use by 90% by 2025 compared with 2017 baselines. And we have also committed that by the end of 2021 we will source 100% of our paper from certified sources, meaning the products come from responsibly managed forests that provide environmental, social and economic benefits. We work to recycle paper, as well as non-paper waste, throughout our buildings and branches where recycling services are available and economically feasible. We are working to optimize existing recycling services, expand such services to new

locations and explore opportunities to bring composting services to more of our corporate locations with cafeterias. We also carefully select vendors to dispose our e-waste responsibly, with 100% diverted from landfills.

We recognize that the environmental and social impact of our operations extends to our suppliers. As such, we seek to do business with suppliers that share our values and commitment to making a positive impact in the communities where we operate. We encourage our suppliers to develop internal programs, as well as targets, to foster a culture of sustainability. We expect them to conduct their operations in a manner that protects the environment by making reasonable efforts to meet industry best practices and standards with respect to the reduction of energy use, GHG emissions, waste and water use.

ENVIRONMENTAL DATA

	2020	2019	2018	2017
Global employee headcount	255,351	256,981	256,105	252,539
Rentable square feet ^a	58,940,565	57,205,977	57,584,466	58,140,356
GHG Emissions (MtCO₂e)^b				
Scope 1 – direct ^c	69,570	81,655	83,101	78,229
Natural gas	39,332	46,183	46,488	40,696
Propane	149	283	276	233
Fuel oil	2,994	2,471	3,323	3,081
Jet fuel	4,013	8,323	8,412	8,916
Fugitive emissions	23,082	24,395	24,602	25,303
Scope 2 (location) – indirect	660,601	692,299	739,458	770,704
Purchased electricity	656,414	686,626	731,120	763,828
Purchased steam and chilled water	4,187	5,673	8,338	6,876
Total Scope 1 and Scope 2 (location)	730,171	773,955	822,559	848,933
Scope 2 (market) – indirect	4,187	556,142	572,067	596,843
Purchased electricity	-	550,469	563,728	589,967
Purchased steam and chilled water	4,187	5,673	8,338	6,876
Total Scope 1 and Scope 2 (market)	73,757	637,798	655,167	675,073
Scope 3 (category 6 – business travel)	36,169	181,004	176,356	187,020
Total emissions: Scope 1, 2 (market) and 3	109,926	818,802	831,524	862,092
Verified carbon offset emissions reductions	109,926	189,327	184,769	175,155
Net emissions: Scope 1, 2 (market) and 3	-	629,474	646,755	686,937
Renewable Power (MWh)				
Electricity production (on-site solar and fuel cells)	17,172	7,743	13,290	6,472
Contractual instruments ^d	1,679,213	380,901	375,280	370,801
Proportion of power use from renewable sources (production and instruments)	100%	22%	22%	21%
Energy Consumption (MWh)				
Direct Energy				
Natural gas	216,862	254,794	256,623	224,119
Propane	692	1,314	1,281	1,081
Fuel oil	2,013	9,849	13,248	12,283
Jet fuel	14,965	31,833	32,172	33,447
Indirect Energy				
Purchased electricity	1,693,143	1,759,170	1,787,344	1,823,121
Purchased steam and chilled water	15,052	25,317	37,143	30,645
Total	1,942,728	2,082,277	2,127,812	2,124,697
Water Consumption (m³)				
U.S. operations ^b	5,035,089	5,091,865	5,731,976	5,611,797

^aJPMorgan Chase utilizes an operational control approach to establish boundaries for our GHG inventory. This includes owned and leased facilities for which we control the energy usage and pay the energy/utility bills directly to the respective utility.

^bScope 1, 2 and 3 emissions and water consumption have been verified by a third party. See [ESG Report Appendices](#) for verification statements. Other data has not been subject to external verification.

^cScope 1 emissions include emissions from corporate air travel. In 2020, business travel-related emissions from reimbursed personal vehicle and rental car travel, and hotel stays, were added to the scope. In 2019, rail travel was added to the scope. In previous years, only commercial air travel was included.

^dContractual instruments include RECs from the Buckthorn wind farm PPA, Bengaluru Physical PPA, U.K. renewable energy guarantees of origin (REGOs), Brookfield NY renewable electricity supply procurement, EMEA renewable electricity supply procurement and Mumbai solar and wind tariff.