The table summarizes our emissions for the categories included in our target, including Scope 1 (direct) 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.

GHG Emissions 2017–2021[16]

	2021	2020	2019	2018	2017
GHG EMISSIONS ($mtCO_2e$)[i,ii]					
Scope 1 – direct[iii]	84,911	81,944	102,423	98,505	93,031
Natural gas	58,820	55,080	68,428	64,975	60,422
Propane	57	228	300	260	234
Fuel oil	627	629	1,391	1,500	1,387
Jet fuel	6,228	4,013	8,558	8,640	9,160
Fugitive emissions	17,517	18,940	19,448	20,903	20,121
Diesel	1,031	2,568	2,881	1,302	1,655
Fleet	631	486	1,416	924	52
Scope 2 (location) – indirect	755,514	816,056	851,622	919,876	922,762
Purchased electricity	749,234	811,127	842,994	907,508	913,188
Purchased steam and chilled water	6,280	4,929	8,627	12,368	9,574
Total Scope 1 and Scope 2 (location)	**840,425**	**898,000**	**954,045**	**1,018,381**	**1,015,794**
Change from 2017 baseline	-17%	-12%	-6%	0%	-
GHG emissions intensity[iv]	6.9	7.5	8.2	9.3	10.1
Scope 2 (market) – indirect	6,280	4,929	711,595	746,043	793,746
Purchased electricity	-	-	702,968	733,675	784,172
Purchased steam and chilled water	6,280	4,929	8,627	12,368	9,574
Total Scope 1 and Scope 2 (market)	**91,191**	**86,873**	**814,018**	**844,548**	**886,777**
Scope 3 (category 6 – business travel)[v]	**38,336**	**36,169**	**181,004**	**176,356**	**187,020**
Verified carbon offset emissions reductions	129,527	123,042	189,327	184,769	175,155
Net emissions: Scope 1, 2 (market), and 3	-	-	**805,694**	**836,135**	**898,642**

i. JPMorgan 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.

ii. Scope 1, 2, and 3 emissions were verified for 2017, 2018, 2019, 2020, and 2021. Water withdrawal has been verified for 2018, 2019, 2020, and 2021. Other data has not been subject to external verification. Some sources of emissions have been excluded as they have been found to be de minimis, accounting for less than 5% of total Scope 1 and Scope 2 emissions.

iii. Scope 1 emissions include emissions from corporate air travel and owned vehicle fleet.

iv. Includes Scope 1 and 2 location-based GHG emissions; $mtCO_2e$/$M revenue

v. Scope 3 emissions include business travel (air, rail, car, and hotel stays for 2020 and 2021, air and rail travel in 2019, and only air travel in 2017 and 2018).

[16] Further definitions regarding Scope 2 accounting:
- Location-based method for Scope 2 accounting: A method to quantify Scope 2 GHG emissions based on average energy generation emission factors for defined locations, including local, subnational, or national boundaries.
- Market-based method for Scope 2 accounting: A method to quantify Scope 2 GHG emissions based on GHG emissions emitted by the generators from which the reporter contractually purchases electricity bundled with instruments, or unbundled instruments on their own.

Renewable Energy

With the majority of our operational emissions linked to electricity use, increasing our use of renewable energy is a central part of our strategy for reducing emissions. Since 2020, we have achieved our target of meeting 100% of our global power needs annually using renewable energy, which we have accomplished through a combination of on-site installations at JPMorgan Chase facilities and the purchase of renewable energy via both EACs and long-term power purchase agreements.

The table summarizes our global energy consumption by displaying renewable energy use obtained via either on-site generation or contractual instruments.

Renewable Energy Use 2017–2021

	2021	2020	2019	2018	2017
RENEWABLE POWER (MWH)					
Progress toward 70% long-term renewable target	23%	-	-	-	-
Electricity production (on-site solar)	26,125	13,929	4,569	9,665	2,598
Contractual instruments[i]	2,060,483	2,166,728	380,901	375,280	370,801
Proportion of power use from renewable sources (production and instruments)	100%	100%	18%	17%	18%

i. Contractual instruments include applicable EACs, RECs from PPAs, UK renewable energy guarantees of origin, and renewable supply contracts.

In recognition of the challenges and limitations associated with many available EACs, we are also working to increase the proportion of renewable energy we source via other methods, including on-site generation and long-term power purchase agreements. We have set a target to increase this proportion to at least 70% by 2025.