

Amgen 2022 Summary of Environmental Data

Energy

Type	Unit	2007	2012	2019	2020	2021	2022
Total Combustion On-site (Direct) (b)	1,000 GJ	2,151	1,790	1,543	1,812	1,671	1,574
Natural Gas	1,000 GJ	1,848	1,390	1,009	1,037	1,060	960
Diesel	1,000 GJ	303	390	533	773	609	613
Propane	1,000 GJ	-	10	1.2	1.3	1.4	1.4
Total Purchased Energy for On-site Use (Indirect-MBE) (c)	1,000 GJ	2,190	2,059	1,551	1,474	1,522	1,501
Fossil Fuel	1,000 GJ	1,557	1,558	975	805	383	1,023
Nuclear	1,000 GJ	240	195	96	103	7.4	118
Renewables	1,000 GJ	393	305	480	146	1,131	360
Onsite Renewable Generation (d)	1,000 GJ	-	-	0.1	0.2	0.1	0.1
Total Energy from Utilities	1,000 GJ	4,341	3,849	3,094	3,286	3,193	3,075
Total Energy Normalized to Net Sales	1,000 GJ/\$B net sales	303	231	139	136	131	117

Amgen 2022 Summary of Environmental Data (cont.)

Carbon

Type	Unit	2007	2012	2019	2020	2021	2022
Carbon (Scope 1) (e)	1,000 MT CO ₂ Eq	144	120	136	139	133	130
Natural Gas Combustion On-site	1,000 MT CO ₂ Eq	104	70	51	53	54	49
Diesel Combustion On-site	1,000 MT CO ₂ Eq	22	27	37	54	43	43
Propane Combustion On- site	1,000 MT CO ₂ Eq	-	0.6	0.1	0.1	0.1	0.1
Sales Fleet	1,000 MT CO ₂ Eq	13	15	40	27	30	29
Executive Air Travel	1,000 MT CO ₂ Eq	4.8	6.3	4.4	1.4	2.0	4
Fugitive Emissions	1,000 MT CO ₂ Eq	-	-	3.1	3.7	4.2	2.7
Other Carbon - Offsets (f)	1,000 MT CO ₂ Eq	-	-	-	-	(17)	0
Other Carbon - from purchased CO ₂ and process generation (g)	1,000 MT CO ₂ Eq	-	-	-	-	2.4	2.3
Carbon - Scope 2 MBE (h)	1,000 MT CO ₂ Eq	290	287	160	136	58	35
Purchased Electricity	1,000 MT CO ₂ Eq	284	283	160	136	58	34

Amgen 2022 Summary of Environmental Data (cont.)

Purchased Steam	1,000 MT CO ₂ Eq	6.0	3.7	0.6	0.1	0.3	0.3
Fleet Electrification	1,000 MT CO ₂ Eq	-	-	-	-	0.2	0.5
Carbon - Scope 2 LBE (i)	1,000 MT CO ₂ Eq	290	287	174	139	156	153
Purchased Electricity	1,000 MT CO ₂ Eq	284	283	168	133	150	147
Purchased Steam	1,000 MT CO ₂ Eq	6.0	3.7	6.3	5.9	5.8	6
Fleet Electrification	1,000 MT CO ₂ Eq	-	-	-	-	0.2	0.5
Total Carbon from Utilities - Scope 1 (Utilities) and Scope 2 MBE	1,000 MT CO ₂ Eq	416	385	249	243	155	127
Total Carbon from Utilities Normalized to Net Sales	1,000 MT CO ₂ Eq/\$B net sales	29	23	13	11	7.9	4.8
Total Carbon from Utilities Normalized to Total Energy from Utilities	MT CO ₂ Eq/GJ	0.095	0.100	0.070	0.074	0.048	0.041
Confirmed Results of Carbon Reduction Projects (j)	1,000 MT CO ₂ Eq	-	84	49	5.7	129	131
Carbon - Scope 3 Upstream (k)	1,000 MT CO ₂ Eq	-	-	2,773	2,627	3,064	2,868
Purchased Goods and Services (Category I)	1,000 MT CO ₂ Eq	-	-	2,324	2,316	2,570	1,760

Amgen 2022 Summary of Environmental Data (cont.)

Capital Goods (Category 2)	1,000 MT CO ₂ Eq	-	-	258	210	348	909
Fuel- and Energy-related activities (Category 3)	1,000 MT CO ₂ Eq	-	-	53	45	44	77
Upstream transportation & distribution (Category 4)	1,000 MT CO ₂ Eq	-	25	23	21	59	55
Waste generated in operations (Category 5)	1,000 MT CO ₂ Eq	-	-	3.5	7.6	6.3	2.4
Business Travel (Category 6)	1,000 MT CO ₂ Eq	-	65	56	13	4.2	31
Employee Commuting (Category 7)	1,000 MT CO ₂ Eq	-	-	56	14	33	34
Upstream Leased Assets (Category 8)	1,000 MT CO ₂ Eq	Emissions from upstream leased assets are included in Amgen's Scope 1 and 2 Emissions accounting					
Carbon - Scope 3 Downstream	1,000 MT CO ₂ Eq					448	318
Downstream transportation and distribution (Category 9)	1,000 MT CO ₂ Eq					446	317
End of Life treatment of sold products (Category 12)	1,000 MT CO ₂ Eq					2.1	0.8

Amgen 2022 Summary of Environmental Data (cont.)

Water

Type	Unit	2007	2012	2019	2020	2021	2022
Total Water Withdrawal	1,000 CM	3,286	2,720	2,146	2,355	2,238	2,042
Municipal	1,000 CM	3,249	2,707	2,129	2,337	2,233	2,025
Other - (Reservoir) Trucked In	1,000 CM	8	-	-	-	-	0
Ground	1,000 CM	29	13	17	18	5.1	17
Total Water Withdrawal Normalized to Net Sales	1,000 CM/\$B net sales	260	163	97	97	92	78
Water Fate	1,000 CM	-	2,720	2,146	2,355	2,238	2,042
Consumed Into Products	1,000 CM	-	21	31	28	28	28
Lost to Evaporation	1,000 CM	-	713	546	542	576	543
Discharged to Treatment	1,000 CM	-	1,662	1,379	1,621	1,450	1,323
Discharged Directly to Environment	1,000 CM	-	324	191	162	184	148
Recycled	1,000 CM	-	535	548	567	557	513
Percentage of Water Recycled per Total Water Withdrawal	%	-	20	26	24	25	25
Confirmed Results of Water Reduction Projects (l)	1,000 CM	-	686	291	4.5	55	199

Amgen 2022 Summary of Environmental Data (cont.)

Waste

Type	Unit	2007	2012	2019	2020	2021	2022
Recycling Rate (m)	%	35	53	48	52	51	54
Total Routine Waste	MT	10,146	9,018	9,818	9,841	10,289	10,066
Hazardous Waste	MT	1,343	1,180	2,179	2,144	2,230	2,010
Recycled	MT	251	245	230	367	346	489
Incinerated for Energy Recovery	MT	375	347	988	797	1,102	947
Incinerated Not for Energy Recovery	MT	523	422	855	885	674	347
Landfilled	MT	118	126	78	66	74	172
Treated (n)	MT	76	40	28	28	35	55
Nonhazardous Waste	MT	8,803	7,838	7,640	7,697	8,059	8,056
Composted	MT	260	583	745	775	636	528
Reused	MT	32	44	249	216	117	111
Recycled	MT	2,999	3,890	3,522	3,792	4,104	4,279
Incinerated for Energy Recovery	MT	432	576	594	731	1,162	1,176
Incinerated Not for Energy Recovery	MT	194	79	183	74	171	95
Landfilled	MT	4,885	2,662	2,302	2,072	1,813	1,841
Treated (n)	MT	-	4	45	37	56	26

Amgen 2022 Summary of Environmental Data (cont.)

Total Routine Waste Normalized to Net Sales	MT/\$B net sales	709	542	442	406	423	383
Total Nonroutine Waste (o)	MT	31,415	16,902	3,128	7,966	64,969	2,613
Waste Disposed	MT	5,796	3,334	3,490	3,163	2,823	2,536
Confirmed Results of Routine Waste Reduction Projects (p)	MT	-	1,094	1,574	181	884	1,029

Compliance

Type	Unit	2007	2012	2019	2020	2021	2021	2022
Environmental Notices of Violation (NOVs) (q)	# NOV	8	2	1	1	3	3	4

Notes:

General

(a)

Reported columns in the Summary of Data table represent the following information

- 2007 – Base year of Amgen's 1st Sustainability Plan 2008-2012 and of our overall sustainability efforts
- 2012 – Base year of Amgen's 2nd Sustainability Plan 2013-2019
- 2019 – Base year of Amgen's 3rd and current Sustainability Plan (2020-2027)
- 2020 – Annual data: 1st year of 2020-2027 Sustainability Plan
- 2021 – Annual data: 2nd year of 2020-2027 Sustainability Plan

Amgen data includes specific measurements for energy, water and waste obtained from our operations, representing 88 percent of Amgen's worldwide facility space based on total square feet. Included facilities are in Thousand Oaks, California, U.S.; West Greenwich, Rhode Island,

Amgen 2022 Summary of Environmental Data (cont.)

U.S.; Louisville, Kentucky, U.S.; South San Francisco, California, U.S.; Cambridge and Woburn, Massachusetts, U.S.; Juncos, Puerto Rico; Burnaby, Canada; Breda, Netherlands; Dun Laoghaire, Ireland; Uxbridge and Cambridge, United Kingdom; São Paulo, Brazil; Yenibosna and Sekerpinar, Turkey; and Tuas, Singapore. Energy and carbon data for the remaining 12 percent of facility space is estimated based on building energy intensity factors and country specific emission factors. This includes leased buildings where we have operational control over building infrastructure, including utilities.

Energy

(b)

Direct onsite energy use results from the operation of equipment that is owned or controlled by Amgen. For facilities identified in note (a), data on the use of natural gas, propane and diesel in boilers, our combined heat and power turbine, and in heating, ventilation, and air conditioning systems is recorded from utility bills or purchase records. Data on the use of diesel in emergency generators is recorded from purchase records or meter readings and, in some cases, estimated from run-hours. Utility bills recorded in units of volume are converted to energy. Energy from emergency generators recorded as run-hours is estimated using the manufacturer's specified fuel-feed rate for each generator. For Amgen facilities where measurements are not obtained or available, usage is estimated from energy intensity factors based on building square footage.

(c)

Indirect onsite energy use results from purchased energy in the forms of electricity and steam. For facilities identified in note (a), data on the use of electricity and steam are

Amgen 2022 Summary of Environmental Data (cont.)

recorded from utility bills. For Amgen facilities where measurements are not obtained or available, usage is estimated from energy intensity factors based on building square footage.

The fuel mix associated with the MBE methodology represents the fuel mix for energy that Amgen acquired through purchasing decisions. Non-specified sources of energy are recorded as Fossil Fuel.

(d)

In 2019, Amgen's facility in Breda, Netherlands installed a solar photovoltaic system.

Carbon

(e)

Scope 1 carbon emissions result from direct energy sources defined in note (b); sales fleet; executive air fleet; and fugitive emissions from refrigerant losses, purchased carbon dioxide used for process operations and carbon dioxide emissions resulting from cell respiration in manufacturing processes and onsite wastewater treatment systems.

Carbon emissions from natural gas are calculated using the U.S. EPA's Center for Corporate Climate Leadership Emission Factors for Greenhouse Gas Inventories (1 April 2021) for all U.S. sites and locations not specifically listed below and for fuel consumed in fleet vehicles and executive air travel; the Intergovernmental Panel on Climate Change (IPCC) Canadian National Inventory Report (NIR) for Amgen's facility in Burnaby, Canada; the Ireland Country Specific Net Calorific Values and CO₂ Emissions Factors for use in the Annual Installation Emissions Report-December 2021 for Amgen's facility in Dun Laoghaire, Ireland; The Netherlands IPCC NIR for Amgen's facility in Breda, Netherlands; and the U.K. DEFRA's Greenhouse gas reporting: conversion factors 2021 for Amgen's facilities in Uxbridge and Cambridge, United Kingdom. Carbon emissions data from propane and diesel fuel sources are calculated using U.S.

Amgen 2022 Summary of Environmental Data (cont.)

EPA's Center for Corporate Climate Leadership Emission Factors for Greenhouse Gas Inventories (1 April 2021). Carbon data from direct energy sources prior to 2011 were calculated using emission factors from the Greenhouse Gas Protocol Cross-Sector Tools-Stationary Combustion-V.1.0 (July 2009). Fugitive emissions include refrigerant losses, carbon dioxide equivalent emissions are calculated using their associated global warming potentials.

Carbon emissions from fugitive emissions were not reported prior to 2013

(f)

In 2021, Amgen's facility in West Greenwich, Rhode Island applied purchased carbon offsets to their Scope 1 emissions. Prior to 2021, Amgen did not record offsets for Scope 1 emissions

(g)

In 2021, Amgen is including emissions associated with non-greenhouse gas refrigerants (i.e., non-HFC). Prior to 2021, we did not report on carbon dioxide equivalent emissions for non-greenhouse gases

(h)

Scope 2 carbon market-based emissions (MBE) are a result of Amgen's procurement decisions on sourcing of indirect energy defined in note (c). For our facilities in Thousand Oaks, CA; West Greenwich, RI; Louisville, KY; Cambridge, MA; Breda, Netherlands; and Singapore we purchased in-country renewable energy certificates with zero greenhouse gas emissions. For our facilities in Dun Laoghaire, Ireland; Uxbridge, United Kingdom and Cambridge, United Kingdom we contract with our local energy providers for GreenPower Purchase Plans with zero greenhouse gas emissions. For facilities in San Francisco, California and Sao Paulo, Brazil we contract with our local energy providers to source electricity with low greenhouse gas emissions. Market-based emissions from our facility in Burnaby, Canada are calculated using local grid emission factors from the Intergovernmental Panel on Climate Change (IPCC) Canadian National Inventory Report (NIR). Market-based emissions from our facilities in Yenibosna and Sekerpinar, Turkey are calculated using the International Energy Agency's CO₂ emissions from fuel combustion 2021.

Amgen 2022 Summary of Environmental Data (cont.)

Market-based emissions from our facility in Woburn, Massachusetts are calculated using the U.S. EPA eGRID Summary Table 2020. Market-based emissions from our facility in Juncos, Puerto Rico are calculated using a combination of North American renewable energy certificates and the U.S. EPA eGRID Summary Table 2020. Carbon emissions from other Amgen locations and for sales fleet electric vehicle charging are calculated using country or regional emission factors from the International Energy Agency's CO₂ emissions from fuel combustion 2021. Carbon data from purchased steam is calculated using an emission factor provided by the supplier for Amgen's facility in Cambridge, Massachusetts. For base year 2007 and 2012 Amgen has not calculated separate market-based or location-based emissions. Carbon emissions for these years are reported as both our market-based and location-based emissions. Prior to 2021, electricity consumption of electric vehicle charging was de minimis and not reported.

(i)

Scope 2 carbon location-based emissions (LBE) are calculated using local or regional emission factors for purchased electricity and steam. For facilities in the United States of America and Puerto Rico, we use the U.S. EPA eGRID Summary Tables 2020; for Burnaby, Canada we use the Intergovernmental Panel on Climate Change's (IPCC) Canadian National Inventory Report (NIR); for our facilities in Cambridge and Uxbridge United Kingdom we use the U.K. DEFRA's Greenhouse gas reporting: conversion factors 2021, for all other locations we use the International Energy Agency's CO₂ emissions from fuel combustion 2021. LBE carbon data from purchased steam is calculated using the U.S. Energy Star® Portfolio Manager® Technical Reference for district steam.

(j)

Measurement and verification of carbon conservation and reduction projects are based on adaptation of the International Performance Measurement and Verification Protocol (IPMVP). Project measurements are conducted using reasonable means, including direct measurements and scientific estimations as appropriate. Values reported in 2012, represent year-over-year, cumulative and continuing avoidance based on a 2007 baseline for Amgen's 2012 Environmental Sustainability Program (years 2008-2012); values reported in 2019 represent year-over-year,

Amgen 2022 Summary of Environmental Data (cont.)

cumulative and continuing avoidance based on a 2012 baseline for Amgen's 2020 Environmental Sustainability Program (years 2013-2019); and a 2019 baseline for Amgen's 2027 Environmental Sustainability Program (years 2020-2027). NOTE: 2020 Environmental Sustainability Program's conservation targets were achieved ahead of schedule and the program was closed in 2019.

(k)

Scope 3 – Upstream

Scope 3 carbon emissions are a consequence of the activities of the company but occur from sources not owned or controlled by the company.

Scope 3 carbon emissions that are currently tracked include emissions from Amgen's purchased goods and services, capital goods, fuel-related activities, upstream material transportation, waste generated in operations, commercial business travel (air and rail), and staff commuting. Carbon emissions for Scope 3 Purchased Goods and Services and from Scope 3 Capital Goods are calculated using spend data and the Greenhouse Gas Protocols Scope 3 Evaluator tool. Carbon emissions from Scope 3 Fuel- and Energy-related Activities are calculated using the U.K. DEFRA's Greenhouse gas reporting: conversion factors 2021. Carbon emissions from Scope 3 Upstream Transportation and Distribution have been provided by Amgen's transportation carriers using their own specific methods or calculated using carrier data. Carbon emissions from Scope 3 Waste Generated in Operations is calculated using the U.K. DEFRA's Greenhouse gas reporting: conversion factors 2021. Carbon emissions from Scope 3 Business Travel are calculated by Amgen's travel provider for air travel and internal information for hotel stays and rental car miles. Carbon emissions from Scope 3 Employee Commuting are calculated using the Global Fuel Economy Initiative's International Comparison of Light-Duty Vehicle Fuel Economy. Carbon emissions from upstream leased assets are included in Amgen's Scope 1 and 2 Emissions accounting

See Amgen's [CDP climate change disclosures](#) for additional Scope 3 information.

Water

(l)

Measurement and verification of water conservation and reduction projects are based on adaptation of the International Performance Measurement and Verification Protocol (IPMVP). Project measurements are conducted using reasonable means, including direct measurements and scientific estimations as appropriate. Values reported in 2012, represent year-over-year, cumulative and continuing avoidance based on a 2007 baseline for Amgen's 2012 Environmental Sustainability Program (years 2008-2012); values reported in 2019 represent year-over-year, cumulative and continuing avoidance based on a 2012 baseline for Amgen's 2020 Environmental Sustainability Program (years 2013-2019); and a 2019 baseline for Amgen's 2027 Environmental Sustainability Program (years 2020-2027). NOTE: 2020 Environmental Sustainability Program's conservation targets were achieved ahead of schedule and the program was closed in 2019.

Waste

(m)

The recycle rate is the total routine recycled, composted and reused weight divided by the total weight of routine waste.

(n)

Amgen 2022 Summary of Environmental Data (cont.)

Treatment means the physical, thermal, chemical or biological processes that change the characteristics of the waste in order to reduce its volume or hazardous nature, facilitate its handling or enhance recovery.

(o)

Nonroutine waste constitutes waste generated outside the normal operations of our facilities and consists mainly of construction and demolition waste.

(p)

Measurement and verification of waste conservation and reduction projects are based on adaptation of the International Performance Measurement and Verification Protocol (IPMVP). Project measurements are conducted using reasonable means, including direct measurements and scientific estimations as appropriate. Amgen's 2027 Plan focusses on a reduction in waste disposed (i.e., waste sent to landfill, treatment or incineration without energy recovery) from base year 2019 and differs from previous waste reduction metrics. For data on historical waste reduction projects, please see [Archived Reports](#)

Compliance

(q)

Environmental notices of violation (NOVs) reported that resulted from agency inspections.

INDEPENDENT REASONABLE AND LIMITED ASSURANCE STATEMENT

To: The Stakeholders of Amgen



Introduction and objectives of work

Apex Companies, LLC (Apex) has been engaged by Amgen to provide reasonable assurance of selected environmental and safety data and limited assurance on Scope 3 greenhouse gas (GHG) emissions. This assurance statement applies to the Subject Matter included within the scope of work described below.

This information and its presentation in Amgen's Environmental, Social & Governance 2022 Report ('the ESG 2022 Report') are the sole responsibility of the management of Amgen. Apex was not involved in the drafting of the ESG 2022 Report. Our sole responsibility was to provide independent assurance on the accuracy of the Subject Matter.

Scope of work

The scope of our work was assurance over the following environmental and safety data included within the ESG 2022 Report for the period of calendar year 2022 (the 'Subject Matter'):

- Energy Use (Total, Direct and Indirect)
- Greenhouse Gas (GHG) Emissions
 - Scope 1
 - Scope 2 Location-Based Emissions (LBE)
 - Scope 2 Market-Based Emissions (MBE)
 - Scope 3 Upstream (Categories 1 – 7)
 - Scope 3 Downstream (Downstream Categories 9 and 12)
- Water Withdrawal and Fate
- Waste Quantities and Disposition
- Recordable Case Rate (Amgen Staff and Contractors)
- Days Away Case Rate (Amgen Staff and Contractors)
- Lost-Time Injury Frequency Rate (Amgen Staff and Contractors)
- Fatalities (Amgen Staff and Contractors)
- Environmental Notices of Violation

Data and information supporting the Subject Matter were in some cases estimated rather than historical in nature.

Our assurance does not extend to any other information included in the ESG 2022 Report.

Reporting Boundaries

The following are the boundaries used by Amgen for reporting sustainability data:

- Operational Control
- Energy, GHG emissions, Recordable Case Rate, Days Away Case Rate and Environmental Notices of Violation: Amgen facilities located worldwide.
- Water and Waste Metrics: Fourteen manufacturing, research and development, and distribution facilities where data are collected, representing approximately 85 percent of Amgen's building square footage. The remaining facilities are primarily administrative offices.

Reporting Criteria

The Subject Matter needs to be read and understood together with the description of the Subject Matter reporting criteria in the ESG 2022 Report. The reporting criteria for greenhouse gas emissions was the World Resources Institute (WRI)/World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol Corporate Accounting and Reporting Standard and Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

Limitations and Exclusions

Excluded from the scope of our work is any assurance of information relating to:

- Text or other written statements associated with the ESG 2022 Report and amgen.com
- Activities outside the defined assurance period of Calendar Year 2022

This reasonable assurance engagement relies on a risk based selected sample of sustainability data and the associated limitations that this entails. This independent statement should not be relied upon to detect all errors, omissions or misstatements that may exist.

Responsibilities

This preparation and presentation of the Subject Matter in the ESG 2022 Report are the sole responsibility of the management of Amgen.

Apex was not involved in the drafting of the ESG 2022 Report or of the Reporting Criteria. Our responsibilities were to:

- obtain reasonable assurance about whether the Subject Matter has been prepared in accordance with the Reporting Criteria;
- form an independent conclusion based on the assurance procedures performed and evidence obtained; and
- report our conclusions to Amgen management.

Assessment Standards

We performed our work in accordance with Apex's standard procedures and guidelines for external Assurance of Sustainability Reports and International Standard on Assurance Engagements (ISAE) 3000 Revised, Assurance Engagements Other than Audits or Reviews of Historical Financial Information (effective for assurance reports dated on or after Dec. 15, 2015), issued by the International Auditing and Assurance Standards Board. Greenhouse Gas Emissions were verified in accordance with and ISO Standard 14064-3 Second edition 2019-04 Greenhouse Gases - Part 3: Specification with Guidance for the Verification and Validation of Greenhouse Gas Statements.

A materiality threshold of ± 5 -percent was set for the assurance process.

Summary of Work Performed

As part of our independent assurance, our work included:

1. Assessing the appropriateness of the Reporting Criteria for the Subject Matter;
2. Conducting interviews with relevant personnel at Amgen regarding data collection and reporting systems;
3. Reviewing the data collection and consolidation processes used to compile Subject Matter, including assessing assumptions made, and the data scope and reporting boundaries;
4. Reviewing documentary evidence provided by Amgen;
5. Agreeing a selection of the Subject Matter to the corresponding source documentation both remotely and during interviews with individuals responsible for reporting data at facilities located in Rhode Island, Cambridge, Massachusetts and Thousand Oaks, California;
6. Reviewing Amgen's systems for quantitative data aggregation and analysis; and
7. Assessing the disclosure and presentation of the Subject Matter to ensure consistency with assured information.

Conclusion

On the basis of our methodology and the activities described above:

- The Subject Matter is presented in accordance with the Reporting Criteria and is, in all material respects, fairly stated; and
- It is our opinion that Amgen has established appropriate systems for the collection, aggregation and analysis of quantitative data within the scope of this assurance.

With respect to the Scope 3 GHG emissions, on the basis of our methodology and the activities described above:

- Nothing has come to our attention to indicate that the Subject Matter has not been properly prepared, in all material respects, in accordance with the Reporting Criteria; and
- It is our opinion that Amgen has established appropriate systems for the collection, aggregation and analysis of quantitative data within the scope of this assurance.

A summary of data within the scope of assurance for 2022 is attached.


Statement of Independence, Integrity and Competence

Apex is an independent professional services company that specializes in Health, Safety, Social and Environmental management services including assurance with over 30 years history in providing these services.

Apex has implemented a Code of Ethics across the business to maintain high ethical standards among staff in their day-to-day business activities.

No member of the assurance team has a business relationship with Amgen, its Directors or Managers beyond that required of this assignment. We have conducted this verification independently, and there has been no conflict of interest.

The assurance team has extensive experience in conducting assurance over environmental, social, ethical and health and safety information, systems and processes, has over 20 years combined experience in this field and an excellent understanding of Apex's standard methodology for the verification of greenhouse gas emissions data.



John A. Rohde, Lead Verifier
Apex Companies, LLC
Lakewood, Colorado



Trevor Donaghu, Technical Reviewer
Apex Companies, LLC
Pleasant Hill, California

April 25, 2023

Summary of 2022 Data Subject to Assurance

Metric Type	Units ⁽¹⁾	2022 ⁽²⁾
Total Combustion Onsite (Direct)	1,000 GJ	1,574
Natural Gas	1,000 GJ	960
Diesel	1,000 GJ	613
Propane	1,000 GJ	1.4
Total Purchased Energy for Onsite Use (Indirect market-based)	1,000 GJ	1,501
Fossil Fuel	1,000 GJ	382
Nuclear	1,000 GJ	7.0
Renewables	1,000 GJ	1,112
Total Purchased Energy for Onsite Use (Indirect location-based)	1,000 GJ	1,501
Fossil Fuel	1,000 GJ	1,023
Nuclear	1,000 GJ	118
Renewables	1,000 GJ	360
On-site Renewable Generation	1,000 GJ	0.1
Total Energy for Onsite Facilities (does not include fleet)	1,000 GJ	3,075
Carbon (Scope 1 GHG emissions)	1,000 MT CO ₂ Eq	130
Natural Gas	1,000 MT CO ₂ Eq	49
Diesel	1,000 MT CO ₂ Eq	43
Propane	1,000 MT CO ₂ Eq	0.1
Sales Fleet	1,000 MT CO ₂ Eq	29
Executive Air Travel	1,000 MT CO ₂ Eq	4
Fugitive Refrigerant Emissions	1,000 MT CO ₂ Eq	2.7
Cell Respiration and Purchased Carbon	1,000 MT CO ₂ Eq	2.3
Carbon (Scope 2 GHG emissions – market-based)	1,000 MT CO ₂ Eq	35
Electricity	1,000 MT CO ₂ Eq	34
Steam	1,000 MT CO ₂ Eq	0.3
Fleet	1,000 MT CO ₂ Eq	0.5
Carbon (Scope 2 GHG emissions – location-based)	1,000 MT CO ₂ Eq	153
Electricity	1,000 MT CO ₂ Eq	147
Steam	1,000 MT CO ₂ Eq	6
Fleet	1,000 MT CO ₂ Eq	0.5
Carbon (Scope 3 Upstream GHG emissions)	1,000 MT CO ₂ Eq	2,868
Purchased Goods and Services (Category 1)	1,000 MT CO ₂ Eq	1,760
Capital Goods (Scope 3: Category 2)	1,000 MT CO ₂ Eq	909
Fuel- and Energy-Related Activities (Scope 3: Category 3)	1,000 MT CO ₂ Eq	77
Upstream Transportation & Distribution (Category 4)	1,000 MT CO ₂ Eq	55
Waste Generated in Operations (Category 5)	1,000 MT CO ₂ Eq	2.4
Business Travel (Category 6)	1,000 MT CO ₂ Eq	31
Staff Commuting (Category 7)	1,000 MT CO ₂ Eq	34
Carbon (Scope 3 Downstream GHG emissions)	1,000 MT CO ₂ Eq	318
Downstream Transportation and Distribution (Category 9)	1,000 MT CO ₂ Eq	317
End of Life Treatment of Sold Products (Category 12)	1,000 MT CO ₂ Eq	0.8

Carbon - Totals		
Scope 1	1,000 MT CO2Eq	130
Scope 2 (Market-based)	1,000 MT CO2Eq	35
Scope 3	1,000 MT CO2Eq	3,186
Scope 1 and Scope 2 (Market-based)	1,000 MT CO2Eq	165
Scope 1 (Utilities) and Scope 2 (Market-based)	1,000 MT CO2Eq	127
Water		
Total Water Withdrawal	1,000 CM	2,042
Municipal	1,000 CM	2,025
Other - (Reservoir) Trucked In	1,000 CM	-
Ground	1,000 CM	17
Water Fate	1,000 CM	2,042
Consumed into Products	1,000 CM	28
Lost to Evaporation	1,000 CM	543
Discharged to Treatment	1,000 CM	1,323
Discharged Directly to Environment	1,000 CM	148
Recycled	1,000 CM	513
Percentage of Water Recycled per Total Water Withdrawal	%	25%
Waste		
Waste Recycling Rate (includes routine waste recycled, reused and composted)	%	54%
Total Routine Waste	MT	10,066
Routine Hazardous Waste	MT	2,010
Recycled	MT	489
Incinerated for Energy Recovery	MT	947
Incinerated Not for Energy Recovery	MT	347
Landfilled	MT	172
Treated	MT	55
Routine Nonhazardous Waste	MT	8,056
Composted	MT	528
Reused	MT	111
Recycled	MT	4,279
Incinerated for Energy Recovery	MT	1,176
Incinerated Not for Energy Recovery	MT	95
Landfilled	MT	1,841
Treated	MT	26
Total Nonroutine Waste	MT	2,613
Safety		
Injury and Illness Rate – Beyond First Aid (Amgen Staff ⁽³⁾)	Incidents per 100 Workers	0.14
Lost Day Case rate (Amgen Staff ⁽³⁾)	Incidents per 100 Workers	0.05
Injury and Illness Rate – Beyond First Aid (Contractors)	Incidents per 100 contractors	0.79
Lost Day Case rate (Contractors)	Incidents per 100 contractors	0.26
Environmental Notices of Violation (NOVs)	Number	4

⁽¹⁾ Unit abbreviations:

GJ= gigajoules

MT CO2Eq = metric tons of carbon dioxide equivalents

CM = cubic meters

MT = metric tons

⁽²⁾ Numbers in this table have been rounded

⁽³⁾ Amgen staff includes Amgen employees and contingent workers that are directly supervised by Amgen