

Welcome to your CDP Climate Change Questionnaire 2021

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Air Products is at the center of one of the greatest global challenges and opportunities today: addressing the world's need for clean energy and materials while reducing environmental impacts. There has been a fundamental shift in public opinion to truly confront climate change, with governments and businesses adopting frameworks to accelerate the shift. Through Air Products' base industrial gas business, our customers across dozens of industries are reducing their energy use, increasing productivity and lowering emissions. In fact, in 2020, customer-avoided CO₂e emissions totaled 72 million metric tons, or three times our CO₂ emissions. Meanwhile, Air Products is driving sustainable growth by building, owning and operating the world's largest gasification, carbon capture and hydrogen projects. This includes our \$3.7 billion investment in NEOM to produce and deliver carbon-free hydrogen to power buses and trucks around the world by 2025.

We supply our customers around the world with atmospheric gases (oxygen, nitrogen, argon and rare gases), process gases (hydrogen, helium, carbon dioxide, carbon monoxide, syngas), specialty gases, and equipment and services relating to the production or processing of gases. Our products are critical for scores of industries to advance their sustainability efforts and to make products that serve their customers and consumers. From energy to electronics, metals to manufacturing and chemicals to construction, our products enable economic opportunities for our customers.

Our products also enable our customers and downstream users to avoid emissions of carbon dioxide (CO₂). In 2020, 72 million metric tons of CO₂e* were avoided by the use of our products, equivalent to the emissions from 16 million cars and three times our own total direct and indirect CO₂e emissions.

Air Products also develops and deploys technology for the world to meet its energy and productivity needs. As we look forward, we see significant opportunities for gasification, carbon capture technologies and hydrogen for mobility and energy transition. We are actively engaged in these industries that we believe will help solve today's and tomorrow's energy and environmental challenges.

In addition to supporting our customers, we are committed to improving our own environmental performance by operating safely and efficiently, incorporating environmental considerations into the design of our facilities and products, effectively managing environmental risks and communicating our results. Industrial gas manufacturing is energy intensive. Air separation requires electricity or steam to compress air so that it can be cryogenically distilled into oxygen, nitrogen and argon. Likewise, the primary method to produce large volumes of hydrogen consumes natural gas, and in some cases, refinery off-gas. Most of our Scope 1 emissions are related to the energy we consume in hydrogen production, while our Scope 2 emissions are largely due to the energy we consume for air separation. Our Scope 3 emissions are related to the fuels we consume, the use of our products and our investments.

For over 80 years, Air Products has enabled its customers to become more productive, energy efficient and sustainable. With fiscal 2020 annual revenues of \$8.9 billion, operations in more than 50 countries, and more than 19,000 employees, we strive to build lasting relationships with our customers and communities based on understanding, integrity and passion. Our corporate headquarters are located in eastern Pennsylvania's Lehigh Valley, near Allentown; European headquarters are in Hersham, near London, England; South American headquarters are in Santiago, Chile; and Asian headquarters are in Shanghai, China.

This is Air Products' 19th consecutive response to CDP's climate change information request. Our emissions reporting period is January 1, 2020 to December 31, 2020.

*CO₂e or carbon dioxide equivalent is a standard unit for measuring carbon footprints that considers the different global warming potentials of GHGs.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1, 2020	December 31, 2020	Yes	2 years

C0.3

(C0.3) Select the countries/areas for which you will be supplying data.

Argentina
 Belgium
 Brazil
 Canada
 Chile
 China
 Colombia
 Ecuador
 France

Germany
Indonesia
Malaysia
Netherlands
Peru
Poland
Portugal
Republic of Korea
Russian Federation
Singapore
Spain
Taiwan, Greater China
United Kingdom of Great Britain and Northern Ireland
United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Financial control

C-CH0.7

(C-CH0.7) Which part of the chemicals value chain does your organization operate in?

Row 1

Bulk organic chemicals

Bulk inorganic chemicals

Hydrogen
Oxygen
Other industrial gasses

Other chemicals

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Board-level committee	<p>Air Products manages sustainability through an interdisciplinary approach. Air Products' Board of Directors has accountability for oversight of environmental and safety performance, which it reviews at least quarterly. The Corporate Governance and Nominating Committee of the Board of Directors has responsibility for monitoring our response to important public policy issues, including sustainability, which the Committee reviews on a regular basis. Air Products' Chairman, President and CEO has leadership responsibility for the development and execution of the company's sustainability strategy.</p> <p>An example of a climate-related decision led by the CEO and under the oversight of the Board of Directors was Air Products' agreement with ACWA Power and NEOM for a \$5 billion world-scale green hydrogen-based ammonia production facility powered by renewable energy. The project, which will be equally owned by the three partners, will be sited in NEOM, a new model for sustainable living located in the northwest corner of the Kingdom of Saudi Arabia. The joint venture project is based on proven, world-class technology and will include the innovative integration of over four gigawatts of renewable power from solar, wind and storage; production of 650 tons per day of hydrogen by electrolysis using thyssenkrupp technology; production of nitrogen by air separation using Air Products technology; and production of 1.2 million tons per year of green ammonia using Haldor Topsoe technology. Air Products will be the exclusive off-taker of the green ammonia and intends to transport it around the world to be dissociated to produce green hydrogen for the transportation market.</p>

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are	Governance mechanisms into which climate-related issues are integrated	Please explain
---	--	----------------

a scheduled agenda item		
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	Risk assessment and management is overseen by the Board of Directors. Climate-related risks and opportunities have been reviewed by and reflect the Board's input. The Corporate Governance and Nominating Committee reviews progress against the company's Sustainability Goals on an annual basis. Our 2020 goals included targets for energy efficiency improvements and greenhouse gas emissions reductions, among other goals. In 2020 we announced a new goal to reduce our CO2 emissions intensity one-third by 2030 from a 2015 baseline. The Board is also engaged in discussions about company activities that could potentially impact sustainability, such as major capital projects.

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

Climate change and related issues are reviewed by the following levels of the organizational structure that are described below in more detail:

- The Board of Directors
- The Corporate Governance and Nominating Committee of the Board of Directors
- Air Products' Chairman, President and Chief Executive Officer
- The Sustainability Leadership Council, which is chaired by the Vice President Investor Relations, Corporate Relations and Sustainability
- Regional businesses and environmental experts
- The Sustainability Team

Air Products' Board of Directors has accountability for oversight of environmental and safety performance, which it reviews at least quarterly. Risk assessment and management is overseen by the Board of Directors. Climate-related risks and opportunities are routinely reviewed and reflect the Board's input.

The Corporate Governance and Nominating Committee of the Board of Directors has responsibility for monitoring our response to important public policy issues, including sustainability, which the Committee reviews on a regular basis.

Our Sustainability Leadership Council sets our sustainability strategy, reviews programs and performance, and is engaged in evaluating risks and opportunities related to climate change. The Council is chaired by the Vice President Investor Relations, Corporate Relations and Sustainability, who reports to the Company's Chief Financial Officer (CFO). The CFO reports to the Chairman, President and Chief Executive Officer of Air Products. Additional members of the Council include:

- Chief Operating Officer
- Executive Vice President and CFO
- Executive Vice President, General Counsel and Secretary
- Senior Vice President and Chief Human Resources Officer
- President, Europe and Africa
- Vice President, Corporate Communications
- Vice President, Hydrogen for Mobility Solutions
- Vice President, Global CO₂ Solutions
- Executive Director, Technology
- Director, Operational Excellence
- Director, Sustainability

The Sustainability Leadership Council Chairman and Sustainability Director report on sustainability progress to the Corporate Governance and Nominating Committee at least annually.

Regional environmental experts identify and review risks (transitional and physical) related to climate change and communicate risks to potentially impacted businesses. The businesses work with environmental experts and Government Relations personnel to develop and execute strategies to address climate-related risks. Regional environmental experts report through the regional businesses, and Government Relations team members report to the Vice President Investor Relations, Corporate Relations and Sustainability.

The Sustainability Team, comprised of the Sustainability Director and staff, supports all aspects of sustainability including climate change and reports to the Vice President Investor Relations, Corporate Relations and Sustainability.

This structure enables the communication and review of climate related risks and opportunities through management and across the Company.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	<p>The Management Development and Compensation Committee of the Board has reserved the ability to adjust the Annual Incentive Plan pay-out within a range to reflect performance in areas such as safety, sustainability, diversity and productivity, progress on strategic objectives or individual performance factors. Accordingly, these factors are considered when determining whether to adjust annual incentive pay-outs from the amount calculated based on achievement of financial targets.</p> <p>Through the period covered by this assessment, the Company also had goals to improve energy efficiency for ASUs (air separation units) and HyCO (hydrogen, carbon monoxide, and syngas) facilities by 2.5% and 1.5%, respectively, and to reduce greenhouse gas emissions intensity by 2% and improve distribution efficiency by 10% by 2020, both from a 2015 baseline year. Air Products has a new goal to reduce CO2 emissions intensity one-third by 2030 from a 2015 baseline.</p>

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Chief Executive Officer (CEO)	Monetary reward	Efficiency target	The Management Development and Compensation Committee of the Board has reserved the ability to adjust the Annual Incentive Plan pay-out within a range to reflect performance in areas such as safety, sustainability, diversity and productivity, progress on strategic objectives or individual performance factors.

			<p>Accordingly, these factors are considered when determining whether to adjust annual incentive pay-outs from the amount calculated based on achievement of financial targets.</p> <p>Through the period covered by this assessment, the Company also had goals to improve energy efficiency for ASUs (air separation units) and HyCO (hydrogen, carbon monoxide, and syngas) facilities by 2.5% and 1.5%, respectively, and to reduce greenhouse gas emissions intensity by 2% and improve distribution efficiency by 10% by 2020, both from a 2015 baseline year. Air Products has a new goal to reduce CO2 emissions intensity one-third by 2030 from a 2015 baseline.</p> <p>"Efficiency target" was selected as the incentivized activity. These targets are also tied to our emissions reduction targets.</p>
Corporate executive team	Monetary reward	Efficiency target	<p>The Management Development and Compensation Committee of the Board has reserved the ability to adjust the Annual Incentive Plan pay-out within a range to reflect performance in areas such as safety, sustainability, diversity and productivity, progress on strategic objectives or individual performance factors. Accordingly, these factors are considered when determining whether to adjust annual incentive pay-outs from the amount calculated based on achievement of financial targets.</p> <p>Through the period covered by this assessment, the Company also had goals to improve energy efficiency for ASUs (air separation units) and HyCO (hydrogen, carbon monoxide, and syngas) facilities by 2.5% and 1.5%, respectively, and to reduce greenhouse gas emissions intensity by 2% and improve distribution efficiency by 10% by 2020, both from a 2015 baseline year. Air Products has a new goal to reduce CO2 emissions intensity one-third by 2030 from a 2015 baseline.</p> <p>"Efficiency target" was selected as the incentivized activity. These targets are also tied to our emissions reduction targets.</p>
Management group	Monetary reward	Efficiency target	<p>The Company's Annual Incentive Plan and Variable Pay Program provide cash compensation that rewards</p>

			<p>eligible employees for meeting established business unit goals. These goals include financial results that are influenced by the management of commercial, financial and technical risk, as well as safety and environmental performance. The Variable Pay Program reinforces Air Products' strategy to be the safest, most profitable and diverse industrial gas company in the world, providing excellent service to our customers. It links the variable portion of cash compensation to company and business unit results, providing line of sight for employees.</p> <p>Through the period covered by this assessment, the Company also had goals to improve energy efficiency for ASUs (air separation units) and HyCO (hydrogen, carbon monoxide, and syngas) facilities by 2.5% and 1.5%, respectively, and to reduce greenhouse gas emissions intensity by 2% and improve distribution efficiency by 10% by 2020, both from a 2015 baseline year. Air Products has a new goal to reduce CO2 emissions intensity one-third by 2030 from a 2015 baseline.</p> <p>"Efficiency target" was selected as the incentivized activity. These targets are also tied to our emissions reduction targets.</p>
All employees	Non-monetary reward	Other (please specify) Biennial recognition	In addition to monetary awards, the Company also recognizes individuals, teams and facilities that demonstrate leadership in Environmental, Health and Safety (EHS) and Sustainability through the Chairman's EHS Awards. Efforts that are recognized often include projects related emissions reduction and energy savings.

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	2	
Medium-term	2	5	
Long-term	5	30	

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

Air Products defines substantive risks as those risks that could have a material, adverse effect on the Company's business, operating results or financial condition. Material effects are identified in accordance with the U.S. Securities and Exchange Commission's definition for materiality. Substantive risks are reported each year in Air Products' Annual Report on Form 10-K and material changes to these risks are reported as needed in Air Products' Quarterly Reports on Form 10-Q. Key risk factors related to greenhouse gases (GHGs) and climate change that were reported in the 2020 Annual Report included:

1. legislative, regulatory and societal responses to global climate change;
2. potential interruptions in energy supply;
3. costs and expenses resulting from compliance with environmental regulations; and,
4. catastrophic events that could disrupt operations, suppliers or customers.

These risks are quantifiable and described in Air Products' response to question C2.3a (below). Air Products estimates that the potential financial impact is ~\$233 million for the first three risks and \$10 million for the fourth risk, respectively.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term

Medium-term

Long-term

Description of process

We use a multi-disciplinary approach to identify, assess and manage risk, including climate-related risks. In addition to the processes described below, we review climate-related developments and the need to assess specific climate risks as part of our internal audit program. We also incorporate climate-related risks into annual financial reporting, defining substantive risks as those risks that could have a material, adverse effect on the Company's business, operating results or financial condition in accordance with the U.S. Securities and Exchange Commission's definition for materiality.

Identifying and assessing climate-related risks

Regional environmental experts identify and review risks (transitional and physical) related to climate change and communicate risks to potentially impacted businesses.

Transitional risks for our direct operations are primarily related to new and/or modified regulations linked to climate change, such as emissions trading systems and carbon pricing mechanisms. Although uncertain, these developments could increase our costs related to consumption of electric power and hydrogen production and application of our gasification technology. Any legislation that limits or taxes GHG emissions could negatively impact our growth, increase our operating costs, or reduce demand for certain of our products. We aim to mitigate most of the increased costs through contractual terms.

Physical risks are identified and assessed for existing facilities and new facilities. This analysis includes the evaluation of risks based on facility locations, some of which may be more vulnerable to the impacts of climate change.

Managing climate-related risks

Regulatory risks are managed at the regional level as regulations vary by jurisdiction. Regional environmental experts assess the risks and work with potentially impacted businesses to address them. One example of Air Products' efforts to manage regulatory risks is our engagement with policy makers in Europe where we sought comparable treatment under the EU Emissions Trading System for all hydrogen producers, regardless of ownership structure, so as to not unduly disadvantage the over-the-fence supply model we use and which enables hydrogen to be produced most efficiently. In addition, the mitigation of costs through contractual terms, as well as our efforts to reduce the energy and emissions intensity of our operations, are part of our strategy to address transition risks.

Physical risks are addressed through plant design and engineering aimed at minimizing severe weather impacts. For example, our structures and related foundations are designed based on regional wind velocities that consider 50 years of climate data. Likewise, in the design and layout of our plants we evaluate how to eliminate or minimize flooding risks based on site drainage where we identify this as an issue, as well as the use of flood walls and elevation for sensitive equipment if necessary. Our Emergency Response and Business Continuity Planning processes also support the response to severe weather events that may be exacerbated by climate change.

Risks are also communicated across regions, shared with our Sustainability Leadership Council, and elevated to the Board of Directors, as appropriate.

Value chain stage(s) covered

Upstream

Risk management process

A specific climate-related risk management process

Frequency of assessment

Annually

Time horizon(s) covered

Short-term

Medium-term

Description of process

We use a specific, climate-related risk management process for evaluating upstream risks and define substantive risks as those risks that could have a material, adverse effect on the Company's business, operating results or financial condition in accordance with the U.S. Securities and Exchange Commission's definition for materiality.

Identifying and assessing climate-related risks

Energy is the primary raw material purchased to manufacture industrial gases, particularly electricity and steam for our air separation units and natural gas for our hydrogen plants. Air Products has identified potential disruptions in energy supply as climate-related risks. The disruptions could be due to legislative or regulatory actions or natural events. Disruptions in energy supply could prevent us from meeting our contractual commitments and harm our business and financial results.

Managing climate-related risks

Each year our Sustainability Team reviews the sustainability programs of suppliers that comprise a significant proportion of our procurement spend to understand the suppliers' approach to sustainable supply and actions being taken to address climate change. For 2020, nearly 90% of our largest energy suppliers demonstrated their commitment to sustainability through energy efficiency programs and transparency. We also sought and found several opportunities to work with our suppliers to procure renewable energy. Understanding and working with our energy suppliers can help reduce supply chain risks.

Value chain stage(s) covered

Downstream

Risk management process

A specific climate-related risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term

Medium-term

Long-term

Description of process

We use a specific, climate-related risk management process for evaluating downstream risks and define substantive risks as those risks that could have a material, adverse effect on the Company’s business, operating results or financial condition in accordance with the U.S. Securities and Exchange Commission's definition for materiality.

Identifying and assessing climate-related risks

The potential financial risks of legislative, regulatory and societal responses to global climate change are examined at least annually. As noted in our Annual Report, any legislation that limits or taxes greenhouse gas emissions could reduce demand for certain products.

Managing climate-related risks

Air Products has a number of sustainable offerings that improve energy efficiency, reduce environmental impact, and/or address a societal need. Each year our Sustainability Team examines the sales of these offerings and looks for positive or negative trends. Our Sustainability Team, regional environmental experts and regional businesses also evaluate the potential for customers to deselect our products as increased customer concerns about climate risks could potentially lead to reduced product demand for certain products due to the energy intensity of company products.

We also examine how technology innovations could impact the use of our products. As the world’s largest supplier of hydrogen, Air Products supplies vast quantities of hydrogen to petroleum refiners to lower sulfur content and help in the making of cleaner-burning gasoline and diesel fuels that significantly reduce vehicle emissions. Technologies that improve fuel efficiency, reduce the weight of vehicles, or enable driverless vehicles could reduce consumption of transportation fuels that require hydrogen for processing. At the same time, we see significant opportunities to expand the use of hydrogen as a transportation fuel and energy carrier.

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Some of our operations are within jurisdictions that have or are developing regulatory regimes governing emissions of greenhouse gases (“GHG”), including CO2. These include existing coverage under

		<p>the European Union Emission Trading System, the California cap and trade scheme, China’s Emission Trading Scheme and its nation-wide expansion, and South Korea’s Emission Trading Scheme. In the Netherlands, a CO2 emissions tax will come into force on 1 January 2021. In Canada, Alberta’s Technology Innovation and Emission Reduction (“TIER”) System went into effect 1 January 2020. In Ontario, Environment & Climate Change Canada’s (“ECCC”) Output Based Pricing System (“OBPS”) is currently in effect, however, on 20 September 2020, ECCC granted approval of Ontario’s GHG Emissions Performance Standards program, which will be used in lieu of adherence to the OBPS, with the effective date of 1 January 2022. In addition, the U.S. Environmental Protection Agency (“EPA”) requires mandatory reporting of GHG emissions and is regulating GHG emissions for new construction and major modifications to existing facilities. Some jurisdictions have various mechanisms to target the power sector to achieve emission reductions, which often result in higher power costs.</p> <p>Any legislation that limits or taxes GHG emissions could negatively impact our growth, increase our operating costs, or reduce demand for certain of our products.</p> <p>Regulatory changes can also create business opportunities for Air Products as we help our customers improve energy efficiency and reduce environmental impact. We also see significant opportunities for gasification, carbon capture technologies and hydrogen for mobility and energy transition.</p>
Emerging regulation	Relevant, always included	Increased public concern may result in more international, U.S. federal, and/or regional requirements to reduce or mitigate the effects of GHGs. Although uncertain, these developments could increase our costs related to consumption of electric power and hydrogen production. We believe we will be able to mitigate some of the increased costs through contractual terms. Any legislation that limits or taxes GHG emissions could negatively impact our growth, increase our operating costs, or reduce demand for certain of our products.
Technology	Relevant, always included	Technology innovations could impact the use of some of the Company’s products. One example is hydrogen. As the world’s largest supplier of hydrogen, Air Products supplies vast quantities of hydrogen to petroleum refiners to lower sulfur content and help in the making of cleaner-burning gasoline and diesel fuels that significantly reduce vehicle emissions. Technologies that improve fuel efficiency, reduce the weight of vehicles, or enable driverless vehicles could reduce consumption of transportation fuels that require hydrogen for processing. At the same time, we see significant opportunities to expand the use of hydrogen as a transportation fuel and energy carrier.

<p>Legal</p>	<p>Relevant, always included</p>	<p>Some of our operations are within jurisdictions that have or are developing regulatory regimes governing emissions of greenhouse gases (“GHG”), including CO₂. These include existing coverage under the European Union Emission Trading System, the California cap and trade scheme, China’s Emission Trading Scheme and its nation-wide expansion, and South Korea’s Emission Trading Scheme. In the Netherlands, a CO₂ emissions tax will come into force on 1 January 2021. In Canada, Alberta’s Technology Innovation and Emission Reduction (“TIER”) System went into effect 1 January 2020. In Ontario, Environment & Climate Change Canada’s (“ECCC”) Output Based Pricing System (“OBPS”) is currently in effect, however, on 20 September 2020, ECCC granted approval of Ontario’s GHG Emissions Performance Standards program, which will be used in lieu of adherence to the OBPS, with the effective date of 1 January 2022. In addition, the U.S. Environmental Protection Agency (“EPA”) requires mandatory reporting of GHG emissions and is regulating GHG emissions for new construction and major modifications to existing facilities. Some jurisdictions have various mechanisms to target the power sector to achieve emission reductions, which often result in higher power costs.</p> <p>Any legislation that limits or taxes GHG emissions could negatively impact our growth, increase our operating costs, or reduce demand for certain of our products.</p> <p>The Company has not been subject to climate-related litigation claims.</p>
<p>Market</p>	<p>Relevant, always included</p>	<p>Air Products supplies industrial gases and related equipment that help its customers be more energy efficient and sustainable. The Company has a number of sustainable offerings that improve energy efficiency, reduce environmental impact, and/or address a societal need. Each year our Sustainability Team examines the sales of these offerings and looks for positive or negative trends.</p> <p>Over the past two years, the Company has seen an increase in customer interest in GHG emissions and product carbon footprints. Our Sustainability Team, regional environmental experts and regional businesses evaluate the potential for customers to deselect our products as increased customer concerns about climate risks could potentially lead to reduced product demand for certain products due to the energy intensity of company products. Some customers have indicated they are considering the inclusion of GHG emissions and carbon footprints in their supplier selection process.</p> <p>Customer interest in climate change can also create business opportunities for Air Products as we help our customers improve energy efficiency and reduce environmental impact. We also see</p>

		significant opportunities for gasification, carbon capture technologies and hydrogen for mobility and energy transition.
Reputation	Relevant, always included	Air Products has built a reputation for its innovative culture, operational excellence and commitment to safety and the environment. While the Company’s products enable its customers to be more energy efficient and sustainable, perceptions of some of our energy-intensive products may change as the world transitions to a lower-carbon economy. We are also supporting this transition by seeking opportunities to further deploy our carbon capture technologies and scaling hydrogen production and fueling infrastructure to ensure its successful adaptation as a sustainable fuel.
Acute physical	Relevant, sometimes included	Our operations could be impacted by catastrophic events outside our control, including severe weather conditions such as hurricanes, floods and other storms. Any such event could cause a serious business disruption that could affect our ability to produce and distribute products and possibly expose us to third-party liability claims. Additionally, such events could impact our suppliers or customers, which could cause energy and raw materials to be unavailable to us, or our customers to be unable to purchase or accept our products and services. Any such occurrence could have a negative impact on our operations and financial results.
Chronic physical	Relevant, sometimes included	Air Products is monitoring several potential and chronic physical risks related to climate change, including water security, changes in precipitation patterns, higher temperatures, sea level rise and higher levels of atmospheric carbon dioxide. At the present time, the Company does not consider these to be material risks but does see a need to monitor risk developments.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation
Carbon pricing mechanisms

Primary potential financial impact

Increased direct costs

Company-specific description

Legislative, regulatory and societal responses to global climate change create financial risk.

We are the world's leading supplier of hydrogen, the primary use of which is the production of ultra-low sulfur transportation fuels that have significantly reduced transportation emissions and helped improve human health. To make the high volumes of hydrogen needed by our customers, we use steam methane reforming, which releases carbon dioxide.

Some of our operations are within jurisdictions that have or are developing regulatory regimes governing emissions of greenhouse gases ("GHG"), including CO₂. These include existing coverage under the European Union Emission Trading System, the California cap and trade scheme, China's Emission Trading Scheme and its nation-wide expansion, and South Korea's Emission Trading Scheme. In the Netherlands, a CO₂ emissions tax will come into force on 1 January 2021. In Canada, Alberta's Technology Innovation and Emission Reduction ("TIER") System went into effect 1 January 2020. In Ontario, Environment & Climate Change Canada's ("ECCC") Output Based Pricing System ("OBPS") is currently in effect, however, on 20 September 2020, ECCC granted approval of Ontario's GHG Emissions Performance Standards program, which will be used in lieu of adherence to the OBPS, with the effective date of 1 January 2022. In addition, the U.S. Environmental Protection Agency ("EPA") requires mandatory reporting of GHG emissions and is regulating GHG emissions for new construction and major modifications to existing facilities. Some jurisdictions have various mechanisms to target the power sector to achieve emission reductions, which often result in higher power costs.

Increased public concern may result in more international, U.S. federal, and/or regional requirements to reduce or mitigate the effects of GHG. Although uncertain, these developments could increase our costs related to consumption of electric power and hydrogen production. We believe we will be able to mitigate some of the increased costs through contractual terms, but the lack of definitive legislation or regulatory requirements prevents an accurate estimate of the long-term impact these measures will have on our operations. Any legislation that limits or taxes GHG emissions could negatively impact our growth, increase our operating costs, or reduce demand for certain of our products.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

22,500,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The lack of definitive legislation or regulatory requirements prevents an accurate estimate of the impact these measures will have on our operations.

The estimate of \$22.5 million assumes that:

- Our direct (Scope 1) CO₂ emissions become subject to cap and trade schemes or carbon taxes
- The cost of carbon averages \$30 per metric ton of CO₂
- In excess of 95% of these costs are expected to be recovered through contractual terms

The calculation for the potential financial impact is:

15,000,000 MT CO₂ x \$30/MT CO₂ x 5% = \$22,500,000

Cost of response to risk

1,000,000

Description of response and explanation of cost calculation

Description of response:

Regional environmental experts identify and review risks (transitional and physical) related to climate change and communicate risks to potentially impacted businesses. The businesses work with environmental experts and Government Relations personnel to develop and execute strategies to address climate-related risks. One example of Air Products' efforts to manage regulatory risks is our engagement with policy makers in Europe where we sought comparable treatment under the EU Emissions Trading System for all hydrogen producers, regardless of ownership structure, so as to not unduly disadvantage the over-the-fence supply model we use and which enables hydrogen to be produced most efficiently.

Explanation of cost calculation:

The Company has incurred modest additional costs to actively engage in and monitor climate change risks and opportunities. This includes the efforts of our Environmental Teams, as well as costs associated with reduction commitments and customer

engagement for cost recovery through contracts. Such costs are budgeted in the normal course of business. An estimate of the scale of those costs is less than \$1 million per year.

Comment**Identifier**

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation

Other, please specify

Increasing energy costs

Primary potential financial impact

Increased direct costs

Company-specific description

Energy, including electricity, natural gas, and diesel fuel for delivery trucks is the largest cost component of our business. Because our industrial gas facilities use substantial amounts of energy, energy price fluctuations could materially impact our revenues and earnings. A disruption in the supply of energy, components, or raw materials, whether due to market conditions, legislative or regulatory actions, natural events, or other disruption, could prevent us from meeting our contractual commitments and harm our business and financial results.

We typically contract to pass-through cost increases in energy to customers, but cost variability can still have a negative impact on our results. We may be unable to raise prices as quickly as costs rise, or competitive pressures may prevent full recovery of such costs. Increases in energy or raw material costs that cannot be passed on to customers for competitive or other reasons may negatively impact our revenues and earnings. Even where costs are passed through, price increases can cause lower sales volume.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

90,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

A hypothetical 10% increase in energy price increases due to GHG regulations would raise Air Products' energy costs by \$200 million based on our annual spend of \$2 billion for energy. If the price of energy were to increase in this way, the Company believes it would be able to recover approximately 45% of the potential costs through contractual terms.

The calculation for the potential financial impact is:

$\$2 \text{ billion} \times 10\% \times 45\% = \90 million

Cost of response to risk

1,000,000

Description of response and explanation of cost calculation

Description of response:

Energy consumption is the most significant variable cost of Air Products' operations, and we carefully track and manage energy purchases. Our conservation programs are focused on continually improving energy efficiency across our plants, particularly our larger facilities that consume the most energy. For example, our steam methane reformers maximize energy efficiency and optimize heat integration. This reduces energy consumed and emissions by converting more feedstock into hydrogen. Likewise, we have continually improved the energy efficiency of our air separation units, and for our plants in North America, have improved energy efficiency by 30% since 1980.

Through the period covered by this assessment, the Company also had goals to improve energy efficiency for ASUs (air separation units) and HyCO (hydrogen, carbon monoxide, and syngas) facilities by 2.5% and 1.5%, respectively, and to reduce greenhouse gas emissions intensity by 2% and improve distribution efficiency by 10% by 2020, both from a 2015 baseline year. Air Products has a new goal to reduce CO2 emissions intensity one-third by 2030 from a 2015 baseline.

We continue to develop technologies that enable our customers and our facilities to lower energy consumption, improve efficiency and reduce emissions. In 2020, over half of our total R&D budget of \$83.9 million was spent on products and processes that improved energy efficiency and/or benefitted the environment.

Explanation of cost calculation:

The Company has incurred modest additional costs to actively engage in and monitor

climate change risks and opportunities. This includes the efforts of our Environmental Teams, as well as costs associated with reduction commitments and customer engagement for cost recovery through contracts. Such costs are budgeted in the normal course of business. An estimate of the scale of those costs is less than \$1 million per year.

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical

Increased severity and frequency of extreme weather events such as cyclones and floods

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

Catastrophic events could disrupt our operations or the operations of our suppliers or customers, having a negative impact on our business, financial results, and cash flows. Our operations could be impacted by catastrophic events outside our control, including severe weather conditions such as hurricanes, floods and other storms. Any such event could cause a serious business disruption that could affect our ability to produce and distribute products and possibly expose us to third-party liability claims. Additionally, such events could impact our suppliers or customers, which could cause energy and raw materials to be unavailable to us, or our customers to be unable to purchase or accept our products and services. Any such occurrence could have a negative impact on our operations and financial results.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

10,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Air Products has significant assets in areas that are subject to weather events that may be exacerbated by climate change, particularly in the U.S. Gulf Coast. The potential financial impact of these events has been estimated at \$10 million. This figure was developed with our insurers and considers the actual impacts of past weather events. The potential risk is spread over multiple locations and mitigated to a large extent by how the Company designs its facilities, with environmental considerations such as wind, rainfall and flooding considered during plant siting and design.

Cost of response to risk

22,000,000

Description of response and explanation of cost calculation

Description of response:

Air Products ensures the resiliency of our facilities through engineering plant design. For example, our structures and related foundations are designed based on regional wind velocities that consider 50 years of climate data. Likewise, in the design and layout of our plants we evaluate how to eliminate or minimize flooding risks based on site drainage where we identify this as an issue, as well as the use of flood walls and elevation for sensitive equipment if necessary.

Explanation of cost calculation:

Engineering and equipment costs that support facility resiliency are included in the normal course of plant design. An approximation of these costs is 1% of our capital expenditures. Based on a three-year average capital expenditure of \$2.2 billion, the estimated cost for these efforts is \$22 million. The calculation for the cost of response is: \$2.2 billion x 1% = \$22 million

Comment

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

We have developed a portfolio of technologies that capture carbon dioxide (CO₂) from steam methane reforming. In Port Arthur, Texas, Air Products operates the largest CO₂ purification and capture project for enhanced oil recovery (EOR) by an industrial gas company. Air Products designed, constructed and operates the state-of-the-art system to capture CO₂ from two steam methane reformers (SMRs). The CO₂ removal technology was retrofitted to the SMRs, which produce hydrogen to assist in the making of cleaner burning transportation fuels by refinery customers on Air Products' Gulf Coast hydrogen pipeline network. Since 2013, when it initiated onstream capture operations, Air Products has captured nearly one million tons per year of CO₂ at Port Arthur that has been put to beneficial use.

Carbon capture is essential to meeting the Paris climate goals. Significant opportunities are available to capture CO₂ from gasifiers and hydrogen plants, and we can deploy our carbon capture technologies and other technologies developed by Air Products in new plants or by retrofitting existing ones.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

500,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The potential financial impact of carbon capture depends on the policies and the partnership frameworks necessary for the advancement and proliferation of this technology. Internationally, momentum is building for carbon capture across the private sector, governments and industry bodies. Experts suggest that carbon capture deployment will need to increase by a factor of 25 by 2030 to meet the objectives of the Paris Agreement, which represents storing 850 metric tons per year, up from just 30 metric tons per year today.

In 2018 the global carbon capture and storage market was estimated to be worth nearly \$5 billion. Assuming the market size remains about the same in the near term and Air Products captures at least 10% of the market with its carbon capture technologies, the potential financial impact would be at least \$500 million. We see significant opportunities for carbon capture and expect the market size will increase accordingly.

The calculation for the potential financial impact is:
 $\$5 \text{ billion} \times 10\% = \500 million

Cost to realize opportunity

1,100,000,000

Strategy to realize opportunity and explanation of cost calculation

Strategy to realize opportunity:

We see significant opportunities to capture CO₂ from gasifiers and hydrogen plants for use in enhanced oil recovery, sequestration and dry reforming. To pursue these opportunities, Air Products has a strategic organization focused on developing and winning large-scale CO₂ capture and related technology projects around the world. We also have built on our experience and technology strengths related to carbon capture and are continuing to innovate new solutions. Likewise, we continue to explore new possible end uses for captured carbon, supporting a more circular economy.

Air Products and its subsidiary Air Products Canada Ltd., in conjunction with the Government of Canada and the Province of Alberta, has announced a multi-billion dollar plan to build a landmark new net-zero hydrogen energy complex that will make Edmonton, Alberta the centre of western Canada's hydrogen economy and set the stage for Air Products to operate the most competitive and lowest-carbon-intensity hydrogen network in the world. Air Products began work in 2018 on the core of this world-scale energy complex in Edmonton, which will begin with a transformative \$1.3 billion (CAD) net-zero hydrogen production and liquefaction facility expected onstream in 2024. The project relies on an innovative combination of well-established technologies to jump-start an ambitious transition to carbon neutrality, including carbon capture.

Explanation of cost to realize opportunity:

The cost to realize this opportunity is based on the investment in the net-zero hydrogen energy complex in Edmonton, Alberta, which is \$1.3 billion CAD or \$1.1 billion USD.

Comment**Identifier**

Opp2

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

As the world's largest hydrogen producer, we are an important contributor to bringing hydrogen to scale on the way to a clean energy future.

The world faces a huge challenge in making the shift toward clean, sustainable energy sources. In many ways, hydrogen is a great solution. It enables the integration of renewables into power generation, fuels and distributing energy across sectors and regions supporting the decarbonization of transportation and energy use. When used in a fuel cell, hydrogen is nearly two times more efficient than gasoline and diesel on a well-to-wheel basis and produces no emissions. Hydrogen can also be made from renewable resources.

To enable successful commercialization of hydrogen vehicles around the world, Air Products has taken a leadership position in the development of hydrogen supply and fueling infrastructure. Our plan has been to demonstrate how to build out a hydrogen market holistically. We are also supporting the development and use of hydrogen in trucks, buses, trains, river boats, cruise ships and for material handling.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

5,000,000,000

Potential financial impact figure – maximum (currency)

7,000,000,000

Explanation of financial impact figure

Air Products expects the market for hydrogen will increase to \$20-30 billion by 2030. Assuming Air Products captures 25% of this market share results in a potential financial impact of \$5-7.5 billion.

The calculation for the potential financial impact is:

\$20 billion x 25% = \$5 billion to

\$30 billion x 25% = \$7.5 billion

Cost to realize opportunity

3,700,000,000

Strategy to realize opportunity and explanation of cost calculation

Strategy to realize opportunity:

Air Products sees significant opportunities to solve sustainability challenges through hydrogen for mobility. Air Products, the leading global supplier of hydrogen to refineries to assist in producing cleaner burning transportation fuels, has significant experience in the hydrogen fueling industry on which it can build. In fact, several sites today for certain hydrogen fueling applications are fueling at rates of over 75,000 refills per year. Use of the Company's fueling technology is increasing and is used in over 1.5 million hydrogen fills per year. The Company has been involved in over 250 hydrogen fueling projects in the United States and 20 countries worldwide. Cars, trucks, vans, buses, scooters, forklifts, locomotives, planes, cell towers, material handling equipment, and even submarines have been fueled with Air Products' technologies. We expect to see the global demand for hydrogen increase and are prepared to supply this valuable fuel. Our teams are also working on reducing the emissions created in the production of hydrogen, increasing the volume of lower-carbon hydrogen we produce, and investing in new, clean hydrogen solutions for our customers.

Explanation of cost to realize opportunity:

In 2020, Air Products announced our agreement with ACWA Power and NEOM for a \$5 billion world-scale green hydrogen-based ammonia production facility powered by renewable energy. The project, which will be equally owned by the three partners, will be sited in NEOM, a new model for sustainable living located in the northwest corner of the Kingdom of Saudi Arabia. The joint venture project is based on proven, world-class technology and will include the innovative integration of over four gigawatts of renewable power from solar, wind and storage; production of 650 tons per day of hydrogen by electrolysis technology; production of nitrogen by air separation using Air Products technology; and production of 1.2 million tons per year of green ammonia. Air Products will be the exclusive off-taker of the green ammonia and intends to transport it

around the world to be dissociated to produce green hydrogen for the transportation market.

The \$3.7 billion opportunity cost is based on Air Products' share of the cost of the production facility plus our \$2 billion investment in equipment to distribute the gas to end customers:

The calculation for the financial impact is:
 $\$5 \text{ billion} \times 33\% + \$2 \text{ billion} = \$3.7 \text{ billion}$

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Markets

Primary climate-related opportunity driver

Access to new markets

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

The potential demand for clean energy could increase demand for oxygen, one of our main products, and boost demand for our proprietary technology for delivering low-cost oxygen.

Air Products' oxy-fuel systems enable the efficient production of biodiesel, biopower/bioheat, cellulosic biofuels and synthetic gas (syngas). Oxygen can increase boiler or furnace efficiency, reduce fuel consumption due to increased available heat, enable use of lower heating value fuels, increase flame stability, and increase turndown capability. Oxygen injection using Air Products' oxy-fuel burners in boilers or furnaces can lead to lower oxygen consumption compared to general oxygen enrichment while providing the same benefits. Oxygen-enhanced gasification can convert abundant natural resources to syngas that enables the production of liquid fuels, high-end chemicals and power.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)**Potential financial impact figure – minimum (currency)**

183,000,000

Potential financial impact figure – maximum (currency)

365,000,000

Explanation of financial impact figure

Air Products has designed, built and is operating world-scale air separation units (ASUs) with capacities of 10,000 tons per day of oxygen. The potential financial impact is based on completing a project of similar scope and an oxygen price range of \$50-100 per ton.

The calculation for the potential financial impact is:

10,000 tons oxygen per day x 365 days x \$50 per ton of oxygen = \$183 million to

10,000 tons oxygen per day x 365 days x \$100 per ton of oxygen = \$365 million

Similar projects are expected, though the potential financial impact figure is not available.

Cost to realize opportunity

300,000,000

Strategy to realize opportunity and explanation of cost calculation

Strategy to realize opportunity:

We see significant opportunities to solve sustainability challenges through gasification, carbon capture technology solutions, and hydrogen for mobility and the energy transition. Gasification enables an environmentally friendly way to use plentiful, lower value feedstocks, and technology strength is key in this area.

Our combustion technologists, industry engineers, and modelling specialists have decades of experience in oxygen-based technologies and work with customers to develop and test at full scale actual combustion and gasification systems using a full spectrum of gaseous, liquid, and solid fuels. Our Advanced Clean Energy Laboratory enables live, remote participation in testing via online video and data sharing.

We have acquired leading technologies for gasification – Shell's Coal Gasification Process (SCGP) and GE Energy's gasification technology – that give us the ability to process low value feedstocks more efficiently and to reduce overall emissions. With these technologies and our other capabilities we can provide a complete solution to our customers, including development, technology, engineering, construction, and operation of large syngas projects.

Explanation of cost to realize opportunity:

The cost reflects Air Products' investment of \$300 million to build, own and operate world-scale ASUs.

Comment

C3. Business Strategy

C3.1

(C3.1) Have climate-related risks and opportunities influenced your organization’s strategy and/or financial planning?

Yes

C3.1b

(C3.1b) Does your organization intend to publish a low-carbon transition plan in the next two years?

	Intention to publish a low-carbon transition plan	Comment
Row 1	No, we do not intend to publish a low-carbon transition plan in the next two years	<p>At Air Products, sustainability creates our growth opportunities, and our growth opportunities support our sustainability goals and focus. We enable our customers to reduce their carbon emissions and we have set a new goal to decrease our CO2 emissions intensity.</p> <p>Through our “Third by ‘30” CO2 intensity reduction goal we aim to reduce our CO2 emissions intensity by one-third by the year 2030 from a 2015 baseline. The goal is fully aligned with our business strategy, is near-term and measurable. We plan to deliver on our CO2 intensity reduction goal through five mechanisms: executing carbon capture projects, producing carbon free hydrogen, executing low-carbon projects, continuing to improve our operations, and increasing our use of renewable energy.</p> <p>Our products enable our customers to make more with less while reducing their impact on the environment. We estimate that in 2020 our products enabled our customers and their customers to avoid the equivalent of 72 million metric tons of CO2e.</p> <p>We view gasification as one of the many tools necessary to meet the world’s growing need for cleaner, sustainable chemicals and materials. Our gasification technology also can support the transition to lower-carbon chemical production by providing high process and energy</p>

		<p>efficiency, a critical first step in lowering industrial carbon emissions, and by using Air Products-developed carbon capture, utilization, and storage technology.</p> <p>Carbon footprint reduction is a core part of Air Products' growth strategy and sustainability goals. We view carbon capture as a high-impact way to tackle climate change and essential to meeting the Paris climate goals. At the same time, we understand that implementation of carbon capture requires supportive policies and favorable project economics, and strong partnerships with governments and our customers.</p> <p>We expect that hydrogen will play an increasingly significant role in meeting society's need for sustainable transportation, especially for heavy duty vehicles where hydrogen excels compared to other technologies. As the world's largest hydrogen producer, Air Products has experience across the full value chain for hydrogen. We have the capability and know-how to make hydrogen through all available production methods and to distribute and dispense this increasingly important fuel.</p>
--	--	---

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

Yes, qualitative and quantitative

C3.2a

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenarios and models applied	Details
RCP 2.6	<p>Air Products is examining several climate scenarios, which are in line with the recommendations of the Intergovernmental Panel on Climate Change (IPCC) and Task Force for Climate-related Financial Disclosures (TCFD), to evaluate the potential implications of climate-related risks and opportunities on our businesses.</p> <p>Areas of the organization considered The scenarios cover our industrial gases businesses, which constituted approximately 98% of our sales in fiscal year 2020. The scenarios consider the risks identified by Air Products as described in the "Risks and Opportunities" section of this response including legislative, regulatory and societal responses to global climate change; potential interruptions in energy supply; costs and expenses resulting from compliance with environmental regulations; and</p>

	<p>catastrophic events that could disrupt operations, suppliers or customers.</p> <p>Time horizons The scenarios cover short-, medium- and long-term horizons, with short-term risks related to the increased severity and frequency of extreme weather events and medium- to long-term risks related to new and emerging regulations and carbon pricing mechanisms. Due to rapid developments in policies and perspectives on climate change, the scenarios continue to evolve.</p>
--	--

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	<p>How our strategy has been influenced by climate-related risks and opportunities and the time horizons covered:</p> <p>The increase in customer interest in improving energy efficiency, reducing carbon emissions and complying with new or emerging regulations creates business opportunities for Air Products. This interest has been increasing over the past several years and is expected to rise in the future, particularly as long-term CO2 goals are set. Therefore, the time horizons are short, medium and long-term.</p> <p>Most substantial strategic decision(s) that have been influenced by the climate-related risks and opportunities:</p> <p>Implementing carbon capture projects and building the hydrogen economy are two strategic ways to reduce carbon emissions. We have built a strategic organization focused on developing and winning large-scale CO2 capture and related technology projects. We have also announced significant investments in hydrogen production that will enable the reduction of transportation emissions.</p> <p>Discussion At Air Products, sustainability creates our growth opportunities, and our growth opportunities support our sustainability goals and focus. We are focused on serving energy, environmental and emerging markets, all of which are important considerations for sustainability and climate</p>

		<p>change.</p> <p>Our products enable our customers to be more productive and efficient – to make more with less while reducing their impact on the environment. In 2020, our products enabled our customers and downstream users to avoid the equivalent of 72 million metric tons of carbon dioxide emissions. This figure is three times our own direct and indirect CO₂e emissions.</p> <p>Over the past five years there has been a shift in customer interest in sustainability as customers increase their commitments to improve energy efficiency, reduce environmental impact and comply with new environmental requirements. These shifts create new opportunities for our products and technologies. One example is the increased interest in carbon capture technologies, which our team is pursuing particularly in the Americas and Europe. Likewise, we are increasing our strategic investments in hydrogen for mobility as demonstrated by our recent agreement with ACWA Power and NEOM for a \$5 billion world-scale facility to produce green hydrogen-based ammonia that will reduce carbon emissions related to transportation.</p>
<p>Supply chain and/or value chain</p>	<p>Yes</p>	<p>How our strategy has been influenced by climate-related risks and opportunities and the time horizons covered:</p> <p>Industrial gas manufacturing is energy intensive. To reduce our exposure to potential risks related to the energy we purchase we have reduced the emissions intensity of our products, increased our sources of renewable energy and instituted contractual clauses to address energy cost increases due to climate regulations. These actions have been taken over the past several years and will continue in the short, medium and long-term.</p> <p>Most substantial strategic decision(s) that have been influenced by the climate-related risks and opportunities:</p> <p>Over the past several years we have increased the percentage of renewable electricity used, particularly in Europe and the U.S., and implemented several projects to produce renewable electricity.</p> <p>Discussion Energy is the primary raw material purchased to manufacture industrial gases, particularly electricity and</p>

		<p>steam for our air separation units and natural gas for our hydrogen plants. Because our industrial gas facilities use substantial amounts of energy, a disruption in the supply of energy, components, or raw materials, whether due to market conditions, legislative or regulatory actions, natural events, or other disruption, could prevent us from meeting our contractual commitments and harm our business and financial results.</p> <p>We look for opportunities to work with our suppliers on renewable energy. Air Products increased its percentage of renewable energy use in 2020, continuing our journey to identify green energy sources that can reduce our energy costs and environmental footprint. We purchase renewable electricity directly through our energy suppliers or by buying Renewable Energy Certificates (RECs) that link our power consumption to a specific asset that generates renewable electricity. We have worked with suppliers to install solar arrays at several of our production and office facilities, generating electricity for internal consumption.</p>
<p>Investment in R&D</p>	<p>Yes</p>	<p>How our strategy has been influenced by climate-related risks and opportunities and the time horizons covered:</p> <p>The world faces a huge challenge in making the shift towards clean, sustainable energy sources. This shift presents opportunities for Air Products to build on its product and technology portfolio and develop new offerings today, tomorrow and for the future. The time horizons for these efforts are short, medium and long-term depending on the R&D efforts underway.</p> <p>Most substantial strategic decision(s) that have been influenced by the climate-related risks and opportunities:</p> <p>In 2020, we announced a \$3.7 billion investment in NEOM to produce and deliver carbon-free hydrogen to power buses and trucks around the world by 2025.</p> <p>Discussion</p> <p>Our research groups are aligned with our businesses and focus on improving our processes and helping our customers. In 2020, more than half of our R&D budget of \$83.9 million supported products and processes that improved energy efficiency and/or benefitted the environment.</p>

		<p>In 2020, Air Products continued to increase its focus on three key innovation areas that are also opportunities to enhance the sustainability of our customers:</p> <p>Gasification Countries and large companies around the world continue to focus on gasification to use abundant natural resources to make synthetic gas. Gasification also provides a solution for refineries that need to find a use for high sulfur bottom-of-the-barrel liquids that can no longer be used as fuel for ships, and for petroleum coke.</p> <p>Carbon Capture Carbon capture is a high-impact opportunity to help tackle climate change and will be essential to meet the Paris climate goals. We see significant opportunities to capture CO₂ from gasifiers and hydrogen plants for use in sequestration, enhanced oil recovery and productive use of CO₂. Likewise, we continue to explore new possible end uses for captured carbon, supporting a more circular economy.</p> <p>Hydrogen and the Energy Transition As the world’s largest hydrogen producer, we are an important contributor to bringing hydrogen to scale on the way to a clean energy future. We are increasing our production of lower-carbon hydrogen and investing in new, clean hydrogen solutions for our customers.</p>
Operations	Yes	<p>How our strategy has been influenced by climate-related risks and opportunities and the time horizons covered:</p> <p>Industrial gas manufacturing is energy intensive. To reduce our exposure to potential risks related to the energy we purchase we have reduced the emissions intensity of our products through efficiency improvements and energy/emissions reduction goals. The time horizons for these efforts are short, medium and long-term as we strive to improve efficiency year over year and have set a new goal to reduce our CO₂ emissions intensity, which is directly related to energy consumption, and has a 2030 target date.</p> <p>Most substantial strategic decision(s) that have been influenced by the climate-related risks and opportunities:</p> <p>In 2020 we established our “Third by ‘30” CO₂ intensity reduction goal to reduce our CO₂ emissions intensity by</p>

		<p>one-third by the year 2030 from a 2015 baseline. We plan to deliver on our CO2 intensity reduction goal through five mechanisms: executing carbon capture projects, producing carbon free hydrogen, executing low-carbon projects, continuing to improve our operations, and increasing our use of renewable energy.</p> <p>Discussion Industrial gas manufacturing is energy intensive. We carefully track and manage energy purchases, and our conservation programs are focused on continually improving energy efficiency across our plants, particularly larger facilities. We met most of our 2020 Sustainability goals that were established in 2016, and set a new goal to reduce CO2 emissions intensity.</p> <p>We have continued our efforts to modernize our fleets with new, more efficient trucks have increased fuel efficiency. Distribution efficiency has also been improved through the addition of trailers with higher payloads. We continue to run trials on trucks that use alternative fuels – LNG, CNG, electricity and diesel electric hybrids – and look forward to using hydrogen as a fuel for our trucks.</p>
--	--	--

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Capital expenditures	<p>Our business strategy focuses on creating value in the markets we serve, particularly energy, environmental and emerging markets. Our business planning process is completed annually for each fiscal year. The process considers growth opportunities, including those related to climate change, as well as climate risk management through energy efficiency and GHG emissions reduction efforts. Below are some examples of these considerations.</p> <p>Revenues Air Products' sustainable offerings are products that improve energy efficiency, reduce environmental impact, and/or address a societal need. Each year we examine our revenues related to our sustainable offerings, which represented 57% of our revenues in 2020. As we look forward, we see significant opportunities for gasification, carbon capture technologies and hydrogen for mobility and the transition to a low carbon economy in</p>

		<p>the medium and long-term. Potential revenues for these businesses have been considered in our financial planning, however the details are confidential.</p> <p>Direct Costs GHG emissions from industrial gas manufacturing are driven by energy consumption. Air separation units require electricity or steam to compress air so it can be cryogenically distilled into oxygen, nitrogen and argon. Likewise, the production of hydrogen consumes hydrocarbons as a feedstock and/or fuel in the production process. Energy consumption is the most significant variable cost of Air Products' operations, and we carefully track and manage energy purchases. Our conservation programs are focused on continually improving energy efficiency across our plants to reduce energy consumption and GHG emissions. Each year as part of our business planning cycle the efficiencies of our operations are examined and business objectives are set to improve energy efficiency. Our efforts in this area are focused on the short and medium-term.</p> <p>Capital Expenditures Air Products develops and deploys technology for the world to meet its energy and productivity needs. Our core competency is our ability to develop, execute, own and operate complex process facilities that transform the resources available to our customers into engines of economic growth and social development. Many of these facilities require significant capital investment, which is included in our financial planning. A recent example is our agreement with ACWA Power and NEOM for a \$5 billion world-scale green hydrogen-based ammonia production facility powered by renewable energy. These are medium to long-term projects.</p>
--	--	--

C3.4a

(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

Responses to the previous questions in this section provide information on how climate-related risks and opportunities have influenced our strategy and financial planning.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Intensity target

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Year target was set

2016

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1+2 (location-based)

Intensity metric

Metric tons CO₂e per metric ton of product

Base year

2015

Intensity figure in base year (metric tons CO₂e per unit of activity)

1

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure

100

Target year

2020

Targeted reduction from base year (%)

2

Intensity figure in target year (metric tons CO₂e per unit of activity) [auto-calculated]

0.98

% change anticipated in absolute Scope 1+2 emissions

5

% change anticipated in absolute Scope 3 emissions

2.7

Intensity figure in reporting year (metric tons CO₂e per unit of activity)

0.974

% of target achieved [auto-calculated]

130

Target status in reporting year

Achieved

Is this a science-based target?

No, and we do not anticipate setting one in the next 2 years

Target ambition**Please explain (including target coverage)**

Our intensity goal was configured as the ratio of reporting year (2020) emissions to reporting year production divided by the emission to production ratio in our base year (2015). Using a ratio allows the reported results to be dimensionless and protects confidential production data. For 2020, our GHG intensity was reduced by 2.6% from the baseline year and we exceeded our goal. This progress was due to our improvements in energy efficiency. In 2020, our air separation units realized a 3.3% improvement in energy intensity from a baseline year of 2015. Our hydrogen and carbon monoxide units improved energy efficiency by 0.6%. These successes were realized through the commissioning of new, larger and more efficient facilities, as well as facility improvement projects involving changes to equipment and manufacturing processes.

Target reference number

Int 2

Year target was set

2015

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1

☞ This goal is for Scope 1 emissions related to our fleet operations.

Intensity metric

Other, please specify

Metric tons of CO₂ per metric ton of delivered product**Base year**

2015

Intensity figure in base year (metric tons CO₂e per unit of activity)

1

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure

100

Target year

2020

Targeted reduction from base year (%)

10

Intensity figure in target year (metric tons CO₂e per unit of activity) [auto-calculated]

0.9

% change anticipated in absolute Scope 1+2 emissions

-8

% change anticipated in absolute Scope 3 emissions

-1

Intensity figure in reporting year (metric tons CO₂e per unit of activity)

0.8

% of target achieved [auto-calculated]

200

Target status in reporting year

Achieved

Is this a science-based target?

No, and we do not anticipate setting one in the next 2 years

Target ambition**Please explain (including target coverage)**

Our fleet intensity goal was configured as the ratio of reporting year (2020) emissions to reporting year product delivered divided by the emission to delivery ratio in our base year (2015). Using a ratio allows the intensity value to be dimensionless and protects confidential production and distribution data. For 2020, our GHG intensity related to deliveries was reduced by 20% from the baseline year, and we have exceeded our goal.

Progress has been realized through continued our efforts to modernize our fleets with new, more efficient trucks that have increased fuel efficiency. Distribution efficiency has also been improved through the addition of trailers with higher payloads. We continue to run trials on trucks that use alternative fuels – LNG, CNG, electricity and diesel electric hybrids – and look forward to using hydrogen as a fuel for our trucks.

Target reference number

Int 3

Year target was set

2020

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1+2 (location-based)

Intensity metric

Other, please specify

CO2 intensity is the ratio of total Scope 1 and 2 CO2e emissions, measured in kilograms (kg) CO2e to the amount of energy equivalents produced at the same facilities over the same calendar year, measured in millions of British Thermal Units (BTUs).

Base year

2015

Intensity figure in base year (metric tons CO2e per unit of activity)

0.092

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure

100

Target year

2030

Targeted reduction from base year (%)

33

Intensity figure in target year (metric tons CO2e per unit of activity) [auto-calculated]

0.06164

% change anticipated in absolute Scope 1+2 emissions

10

% change anticipated in absolute Scope 3 emissions

10

Intensity figure in reporting year (metric tons CO2e per unit of activity)

0.087

% of target achieved [auto-calculated]

16.4690382082

Target status in reporting year

Underway

Is this a science-based target?

No, and we do not anticipate setting one in the next 2 years

Target ambition

Please explain (including target coverage)

Through our “Third by ‘30” CO2 intensity reduction goal we aim to reduce our CO2 emissions intensity by one-third by the year 2030 from a 2015 baseline. The goal is fully aligned with our business strategy, is near-term and measurable. We plan to deliver on our CO2 intensity reduction goal through five mechanisms: executing carbon capture projects, producing carbon free hydrogen, executing low-carbon projects, continuing to improve our operations, and increasing our use of renewable energy.

The CO2 intensity is calculated as the ratio of total Scope 1 and Scope 2 CO2e emissions, measured in kilograms (kg) CO2e, to the amount of energy equivalents produced at the same facilities over the same calendar year, measured in millions of British Thermal Units (BTUs).

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Other climate-related target(s)

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number

Oth 1

Year target was set

2016

Target coverage

Business division

Target type: absolute or intensity

Intensity

Target type: category & Metric (target numerator if reporting an intensity target)

Energy consumption or efficiency

MWh

Target denominator (intensity targets only)

metric ton of product

Base year

2015

Figure or percentage in base year

1

Target year

2020

Figure or percentage in target year

0.975

Figure or percentage in reporting year

0.967

% of target achieved [auto-calculated]

132

Target status in reporting year

Achieved

Is this target part of an emissions target?

The target is related to our 2020 target to reduce GHG emissions intensity by 2%.

Industrial gas manufacturing is energy intensive and our direct (Scope 1) and indirect (Scope 2) CO₂ emissions are related to the energy we consume. Improving energy efficiency also reduces our CO₂ emissions intensity.

This goal applies to our air separation units that require electricity or steam to compress air so it can be cryogenically distilled into oxygen, nitrogen and argon. Our 2020 goal, from a 2015 baseline, is to save energy by reducing energy use intensity by 2% for air gas production. We exceeded this goal in 2020, achieving a 3.3% reduction.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

This goal covers our industrial gases businesses that are related to air gases (nitrogen, oxygen and argon).

Our intensity goal was configured as the ratio of reporting year (2020) emissions to reporting year production divided by the emission to production ratio in our base year (2015). Using a ratio allows the reported results to be dimensionless and protects confidential production data. In 2020, our air separation units realized a 3.3% improvement in energy intensity from a baseline year of 2015 and Air Products exceeded this goal. These successes were realized through the commissioning of new, larger and more efficient facilities, as well as facility improvement projects involving changes to equipment and manufacturing processes.

Target reference number

Oth 2

Year target was set

2016

Target coverage

Company-wide

Target type: absolute or intensity

Intensity

Target type: category & Metric (target numerator if reporting an intensity target)

Resource consumption or efficiency

Other, please specify

Gallons of water consumed

Target denominator (intensity targets only)

metric ton of product

Base year

2015

Figure or percentage in base year

1

Target year

2020

Figure or percentage in target year

0.95

Figure or percentage in reporting year

0.74

% of target achieved [auto-calculated]

520

Target status in reporting year

Achieved

Is this target part of an emissions target?

The target is related to our 2020 targets to improve energy efficiency in our air separation units and hydrogen production.

We use water primarily for cooling, to make hydrogen using the steam methane reforming (SMR) process and to provide steam and water to our customers. Because of these uses, our water consumption is tied closely to energy use; therefore, improvements in energy efficiency can also conserve water. We also recognize the link between climate change and water, and are tracking water consumption at our facilities, paying particular attention to those in water stressed areas.

Our 2020 goal, from a 2015 baseline, is to save energy water by reducing water use

intensity by 5%. We achieved this goal several years ago and continue to improve our water stewardship, achieving a 26% decrease in water intensity in 2020 (from the 2015 baseline).

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

Each year, Air Products inventories water withdrawals, discharges and consumption for approximately 200 facilities that cover an estimated 95% of the Company's total water consumption. Over 90% of the data for the inventory is based on invoices and/or water meters. The remaining values are engineering estimates.

Our intensity goal was configured as the ratio of reporting year (2020) water consumption to reporting year production divided by the water consumption to production ratio in our base year (2015). Using a ratio allows the reported results to be dimensionless and protects confidential production data.

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO₂e savings.

	Number of initiatives	Total estimated annual CO ₂ e savings in metric tonnes CO ₂ e (only for rows marked *)
Under investigation	0	0
To be implemented*	0	0
Implementation commenced*	66	57,000
Implemented*	134	113,500
Not to be implemented	0	0

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

108,000

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

4,600,000

Investment required (unit currency – as specified in C0.4)

5,900,000

Payback period

1-3 years

Estimated lifetime of the initiative

Ongoing

Comment

Each year, Air Products undertakes improvement projects to increase energy efficiency and reduce CO₂ emissions. These projects are tracked in a database that includes active and completed projects by year. The database does not include projects under investigation, to be implemented or not to be implemented. Emissions are estimated by multiplying energy savings due to efficiency improvements by relevant emissions factors. In 2020, the energy efficiency projects contributed to Air Products' 2020 goals (from 2015 baseline) to improve energy use intensity and reduce CO₂ emissions intensity. They also supported Air Products' new "Third by '30" CO₂ emissions intensity reduction goal that is aimed at reducing the Company's CO₂ emissions intensity by one-third by 2030 from a 2015 baseline. The estimated lifetime of the initiatives is ongoing because process changes, such as the optimization of energy efficiency, are maintained until they are re-evaluated.

Initiative category & Initiative type

Non-energy industrial process emissions reductions
Process material efficiency

Estimated annual CO₂e savings (metric tonnes CO₂e)

1,500

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

2,800,000

Investment required (unit currency – as specified in C0.4)

100,000

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

Each year, Air Products undertakes improvement projects to improve process material efficiency. These projects are tracked in a database that includes active and completed projects by year. The database does not include projects under investigation, to be implemented or not to be implemented. Emissions are estimated based on process materials saved multiplied by the embedded carbon footprints of the materials. These projects are in line with Air Products' 2020 goal (from 2015 baseline) to reduce CO₂ emissions intensity. They also supported Air Products' new "Third by '30" CO₂ emissions intensity reduction goal that is aimed at reducing the Company's CO₂ emissions intensity by one-third by 2030 from a 2015 baseline. The estimated lifetime of the initiatives is ongoing because process changes, such as the optimization of product recovery methods, are maintained until they are re-evaluated.

Initiative category & Initiative type

Transportation

Company fleet vehicle efficiency

Estimated annual CO₂e savings (metric tonnes CO₂e)

4,000

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

420,000

Investment required (unit currency – as specified in C0.4)

570,000

Payback period

1-3 years

Estimated lifetime of the initiative

Ongoing

Comment

Each year, Air Products undertakes improvement projects to improve distribution efficiency and reduce CO₂ emissions. These projects are tracked in a database that includes active and completed projects by year. The database does not include projects under investigation, to be implemented or not to be implemented. Emissions are estimated by multiplying energy savings due to efficiency improvements by relevant emissions factors. In 2020, the energy efficiency projects contributed to Air Products' 2020 goals (from 2015 baseline) to improve energy use intensity and reduce CO₂ emissions intensity. They also supported Air Products' new "Third by '30" CO₂ emissions intensity reduction goal that is aimed at reducing the Company's CO₂ emissions intensity by one-third by 2030 from a 2015 baseline. The estimated lifetime of the initiatives is ongoing because process changes, such as the optimization of delivery routes, are maintained until they are re-evaluated.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	Regulatory risks are managed at the regional level as regulations vary by jurisdiction. Regional experts assess the risks and work with potentially impacted businesses to address them.
Employee engagement	Air Products has a robust productivity improvement process. Employee recommendations to improve productivity frequently focus on energy conservation and emissions reduction projects. These ideas are tracked in a global, central database that includes quantified costs and benefits. Data from this system was used to respond to previous questions (C4.3a and C4.3b).
Internal incentives/recognition programs	Employees are recognized for progress against achieving our climate change objectives, developing new commercial offerings that yield cost-effective solutions to our customers' GHG emission reduction needs and bringing such solutions to the marketplace, and implementing effective work processes to compile the GHG inventory and satisfy regulatory compliance and reporting requirements. Efforts are recognized through existing compensation and awards programs, such as our Chairman's Environmental, Health, Safety and Sustainability Awards.
Partnering with governments on technology development	Air Products seeks opportunities to collaborate with governments on technology developments. For example, the Company has employed novel CO ₂ capture technology for one of the largest carbon capture and storage demonstration projects in the world by working with the U.S. Department of Energy.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation

Group of products

Description of product/Group of products

Air Products' gases and applications enable its customers and their customers to reduce and/or avoid emissions of CO₂. These products include but are not limited to:

Oxy-fuel Technology - Air Products' oxy-fuel combustion technologies are used in energy-intensive applications like cement, metals and glass manufacturing to increase production, lower fuel use and costs, reduce emissions and optimize efficiency. We continue to help customers improve operations and efficiency through new burner designs and performance testing at our world-class combustion laboratory facilities.

Hydrogen - Hydrogen is used to refine heavier, sour crudes, increase refinery yields and reduce emissions through cleaner transportation fuels including ultralow sulfur diesel fuel and hydrogen powered electric fuel cell vehicles. Air Products is the world's largest provider of hydrogen, operating over 110 hydrogen plants and providing hydrogen from pipeline systems around the globe.

LNG Process Technology and Equipment - Air Products' liquefied natural gas (LNG) technology and equipment enable the efficient and economic production and transport of this critical energy resource, including from remote/stranded energy sources around the globe. More LNG is produced using Air Products' mixed component refrigerant and liquefaction processes than any other processes, with over 100 LNG trains currently in operation.

Fueling Technology - Hydrogen can be used in many different types of transportation, either in a fuel cell or an internal combustion engine, to eliminate or significantly reduce emissions. Our fueling station technology provides complete fueling infrastructure from supply to dispensing for fuel cell vehicles and is used in 1.5 million hydrogen fills per year.

We estimate that our products and applications enabled the avoidance of 72 million MT CO₂e in 2020.

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Addressing the Avoided Emissions Challenge- Chemicals sector

% revenue from low carbon product(s) in the reporting year

0

Comment

Air Products has several sustainable offerings that improve energy efficiency, reduce environmental impact, and/or address a societal need. Each year we assess the sales of these offerings to estimate the percentage of our revenue related to these offerings and look for positive or negative trends. In 2020, 57% of our revenue was related to these sustainable offerings. Also, in 2020 these offerings enabled our customers and downstream users to avoid the equivalent of 72 million metric tons of carbon dioxide emissions. This figure is three times our own direct and indirect CO₂e emissions. Revenues for low carbon products are not tracked separately.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start

January 1, 2015

Base year end

December 31, 2015

Base year emissions (metric tons CO₂e)

14,600,000

Comment

Air Products has restated greenhouse gas emissions to reflect acquisitions and methodology improvements

Scope 2 (location-based)

Base year start

January 1, 2015

Base year end

December 31, 2015

Base year emissions (metric tons CO₂e)

9,600,000

Comment

Air Products has restated greenhouse gas emissions to reflect acquisitions and methodology improvements.

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

- China Corporate Energy Conservation and GHG Management Programme
- European Union Emission Trading System (EU ETS): The Monitoring and Reporting Regulation (MMR) – General guidance for installations
- Korea GHG and Energy Target Management System Operating Guidelines
- The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
- US EPA Mandatory Greenhouse Gas Reporting Rule

C6. Emissions data

C6.1

(C6.1) What were your organization’s gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

15,024,643

Start date

January 1, 2020

End date

December 31, 2020

Comment

Scope 1 and 2 GHG emissions include the following applicable gases: CO₂, CH₄ and N₂O. CO₂e represents the combined emissions of these gases.

We measure our performance against a baseline year of 2015, which was chosen because it was the expiration date of Air Products' initial set of sustainability goals.

We primarily use the World Resources Institute (WRI) / World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol standard to define organizational and operational boundaries, emission calculation methodologies, and inventory quality aspects to ensure an accurate and representative inventory. We apply the financial control method and use publicly available global warming potentials and emissions factors, primarily from the Intergovernmental Panel on Climate Change, International Energy Agency, and U.S. Energy Information Administration.

The value reported for Scope 1 for 2020 is consistent with the value assured by WSP. The Scope 1 value in Air Products' 2021 Sustainability Report, as well as historical values for Scope 1, have been rounded.

Past year 1

Gross global Scope 1 emissions (metric tons CO₂e)

16,600,000

Start date

January 1, 2019

End date

December 31, 2019

Comment

Scope 1 and 2 GHG emissions include the following applicable gases: CO₂, CH₄ and N₂O. CO₂e represents the combined emissions of these gases.

We measure our performance against a baseline year of 2015, which was chosen because it was the expiration date of Air Products' initial set of sustainability goals.

We primarily use the World Resources Institute (WRI) / World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol standard to define organizational and operational boundaries, emission calculation methodologies, and inventory quality aspects to ensure an accurate and representative inventory. We apply the financial control method and use publicly available global warming potentials and emissions factors, primarily from the Intergovernmental Panel on Climate Change, International Energy Agency, and U.S. Energy Information Administration.

Historical values have been restated due to acquisitions and methodology improvements.

Past year 2

Gross global Scope 1 emissions (metric tons CO₂e)

16,500,000

Start date

January 1, 2018

End date

December 31, 2018

Comment

Scope 1 and 2 GHG emissions include the following applicable gases: CO₂, CH₄ and N₂O. CO₂e represents the combined emissions of these gases.

We measure our performance against a baseline year of 2015, which was chosen because it was the expiration date of Air Products' initial set of sustainability goals.

We primarily use the World Resources Institute (WRI) / World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol standard to define organizational and operational boundaries, emission calculation methodologies, and inventory quality aspects to ensure an accurate and representative inventory. We apply the financial control method and use publicly available global warming potentials and emissions factors, primarily from the Intergovernmental Panel on Climate Change, International Energy Agency, and U.S. Energy Information Administration.

Historical values have been restated due to acquisitions and methodology improvements.

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We have operations where we are able to access electricity supplier emission factors or residual emissions factors, but are unable to report a Scope 2, market-based figure

Comment

Air Products has chosen not to report a market-based figure because it is challenging to get reliable and accurate emissions factors. Locations for which we can obtain reliable and accurate emissions factors are outside the financial control boundary used for our GHG inventory and therefore are not reported as part of our Scope 2 emissions.

As reported in our 2021 Sustainability Report, the majority of the renewable electricity we purchase is used in Europe.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO₂e?

Reporting year

Scope 2, location-based

9,159,243

Start date

January 1, 2020

End date

December 31, 2020

Comment

Scope 1 and 2 GHG emissions include the following applicable gases: CO₂, CH₄ and N₂O. CO₂e represents the combined emissions of these gases.

We measure our performance against a baseline year of 2015, which was chosen because it was the expiration date of Air Products' initial set of sustainability goals.

We primarily use the World Resources Institute (WRI) / World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol standard to define organizational and operational boundaries, emission calculation methodologies, and inventory quality aspects to ensure an accurate and representative inventory. We apply the financial control method and use publicly available global warming potentials and emissions factors, primarily from the Intergovernmental Panel on Climate Change, International Energy Agency, and U.S. Energy Information Administration.

The value reported for Scope 2 for 2020 is consistent with the value assured by WSP. The Scope 2 value in Air Products' 2021 Sustainability Report, as well as historical values for Scope 2, have been rounded.

Past year 1

Scope 2, location-based

9,900,000

Start date

January 1, 2019

End date

December 31, 2019

Comment

Scope 1 and 2 GHG emissions include the following applicable gases: CO₂, CH₄ and N₂O. CO₂e represents the combined emissions of these gases.

We measure our performance against a baseline year of 2015, which was chosen because it was the expiration date of Air Products' initial set of sustainability goals.

We primarily use the World Resources Institute (WRI) / World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol standard to define organizational and operational boundaries, emission calculation methodologies, and inventory quality aspects to ensure an accurate and representative inventory. We apply the financial control method and use publicly available global warming potentials and emissions factors, primarily from the Intergovernmental Panel on Climate Change, International Energy Agency, and U.S. Energy Information Administration.

Historical values have been restated due to acquisitions and methodology improvements.

Past year 2

Scope 2, location-based

9,600,000

Start date

January 1, 2018

End date

December 31, 2018

Comment

Scope 1 and 2 GHG emissions include the following applicable gases: CO₂, CH₄ and N₂O. CO₂e represents the combined emissions of these gases.

We measure our performance against a baseline year of 2015, which was chosen because it was the expiration date of Air Products' initial set of sustainability goals.

We primarily use the World Resources Institute (WRI) / World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol standard to define organizational and operational boundaries, emission calculation methodologies, and inventory quality aspects to ensure an accurate and representative inventory. We apply the financial control method and use publicly available global warming potentials and emissions factors, primarily from the Intergovernmental Panel on Climate Change, International Energy Agency, and U.S. Energy Information Administration.

Historical values have been restated due to acquisitions and methodology improvements.

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Not relevant, explanation provided

Please explain

The principal raw materials for making atmospheric gases and hydrogen are air, electricity, steam and natural gas. Scope 3 emissions related to the electricity, steam and natural gas used as a fuel are covered below under "fuel-and-energy-related activities (not included in Scope 1 or 2)."

Air Products has applied a 2% materiality threshold to its Scope 3 emissions for 2020. This threshold is 168,000 metric tons of CO₂e. Emissions related to other goods and services purchased were estimated in prior years (2016 and earlier) and did not meet the 2% materiality threshold. As a result, the emissions are considered not relevant.

Capital goods

Evaluation status

Not relevant, explanation provided

Please explain

Air Products has applied a 2% materiality threshold to its Scope 3 emissions for 2020. This threshold is 168,000 metric tons of CO₂e. Emissions related to capital goods purchased have been estimated in prior years (2016 and earlier) and did not meet the 2% materiality threshold. As a result, the emissions are considered not relevant.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

3,400,000

Emissions calculation methodology

Fuel consumption values were determined for each facility and summed by country or region as the embedded carbon in fuels can vary by country or region. Cradle-to-gate emissions factors related to the production of each fuel type were obtained from life-cycle assessment databases for each country or region. For each fuel type, the amount of fuel consumed was multiplied by the fuel's cradle-to-gate emissions factor specific to the respective country or region to calculate the individual emissions. These emissions were subsequently summed to determine the total emissions. For electricity consumption, the fuel types and the amount of each were determined based on regional grid mixes, heat rates for respective fuel-type power plants and heating value of fuel types. Fuel related to electricity was adjusted to account for the transmission and distribution losses for the regions as per data from World Development Indicators

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

Fuel usage was determined primarily from supplier invoices or invoice-quality data. The fuel and energy related emissions were subject to limited assurance by WSP (see 2020 Greenhouse Gas Inventory Verification at <http://www.airproducts.com/~media/Files/PDF/company/2020-greenhouse-gas-inventory-verification.pdf>).

Upstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Please explain

The principal raw materials for making atmospheric gases and hydrogen are air, electricity, steam and natural gas. Steam and natural gas are supplied via pipelines and do not require upstream transportation.

Air Products has applied a 2% materiality threshold to its Scope 3 emissions for 2020. This threshold is 168,000 metric tons of CO₂e. Emissions related to upstream transportation and distribution for other products have been estimated in prior years (2016 and earlier) and did not meet the 2% materiality threshold. As a result, the emissions are considered not relevant.

Waste generated in operations

Evaluation status

Not relevant, explanation provided

Please explain

Air Products has applied a 2% materiality threshold to its Scope 3 emissions for 2020. This threshold is 168,000 metric tons of CO₂e. Emissions related to waste have been

estimated in prior years (2015 and earlier) and did not meet the 2% materiality threshold. As a result, the emissions are considered not relevant.

Business travel

Evaluation status

Not relevant, explanation provided

Please explain

Air Products has applied a 2% materiality threshold to its Scope 3 emissions for 2020. This threshold is 168,000 metric tons of CO₂e. Emissions related to business travel have been estimated in prior years (2018 and earlier) and did not meet the 2% materiality threshold. As a result, the emissions are considered not relevant.

Employee commuting

Evaluation status

Not relevant, explanation provided

Please explain

Air Products has applied a 2% materiality threshold to its Scope 3 emissions for 2020. This threshold is 168,000 metric tons of CO₂e. Emissions related to employee commuting have been estimated in prior years (2016 and earlier) and did not meet the 2% materiality threshold. As a result, the emissions are considered not relevant.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

Air Products has applied a 2% materiality threshold to its Scope 3 emissions for 2020. This threshold is 168,000 metric tons of CO₂e. Emissions related to upstream leased assets have been estimated in prior years (2015 and earlier) and did not meet the 2% materiality threshold. As a result, the emissions are considered not relevant.

Downstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Please explain

Emissions related to the distribution of company products using Air Products' fleet are included in our Scope 1 emissions.

Air Products has applied a 2% materiality threshold to its Scope 3 emissions for 2020. This threshold is 168,000 metric tons of CO₂e. Emissions related to downstream transportation and distribution using vehicles not owned or controlled by Air Products have been estimated in prior years (2018 and earlier) and did not meet the 2%

materiality threshold. As a result, the emissions are considered not relevant.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Please explain

Air Products manufactures a variety of gases that are used in over 30 industries. Most company products are gases that are consumed in our customers' processes. Emissions from the processing of these products cannot be reliably estimated.

Use of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

3,000,000

Emissions calculation methodology

Most gaseous products are fully consumed or incorporated into other products. Exceptions include certain uses of carbon dioxide, including food and beverage applications, and nitrous oxide used for medical purposes. Emissions related to these products and applications were estimated based on sales volumes and assuming that the gases would ultimately be emitted to the atmosphere. For example, nitrous oxide used in medical applications was assumed to be fully exhaled by patients and enter the atmosphere. The total amount of nitrous oxide sold for medical applications was subsequently multiplied by the global warming potential for nitrous oxide to determine emissions in CO₂e. These emissions were added to the emissions from the CO₂ business to estimate the total Scope 3 emissions for this category.

Note: the methodology for estimating emissions for this category was improved in 2020, resulting in higher emissions relative to last year.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Emissions have been estimated based on sales volumes of carbon dioxide and nitrous oxide. Sales volumes are tracked internally via SAP.

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Please explain

Most gaseous products are fully consumed or incorporated into other products and do not require end of life treatment.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

Air Products does not have downstream leased assets.

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

Air Products does not have franchises.

Investments

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

2,000,000

Emissions calculation methodology

Most of our investments are non-publicly traded ventures with other companies in the industrial gases business. Emissions related to joint ventures that are consolidated in our financial statements are included in our Scope 1 and 2 emissions reported herein.

Investment emissions are estimated for equity affiliates and investments not under Air Products' control. Emissions per unit revenue are calculated for Air Products' businesses as part of our annual GHG inventory process. These factors are applied to the incomes from the equity affiliates and investments by business type to estimate emissions based on revenue. These emissions are subsequently summed to estimate the total emissions for equity affiliates and investments.

Note: the methodology for estimating emissions for this category was improved in 2020, resulting in higher emissions relative to last year.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

Emissions are estimated based on the incomes reported by our equity affiliates and investments, so 100 percent of the calculated emissions are based on data from value chain partners.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Please explain

No additional upstream Scope 3 emissions

Other (downstream)

Evaluation status

Not relevant, explanation provided

Please explain

No additional downstream Scope 3 emissions.

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO₂e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.0027

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)

24,183,886

Metric denominator

unit total revenue

Metric denominator: Unit total

8,856,300,000

Scope 2 figure used

Location-based

% change from previous year

8

Direction of change

Decreased

Reason for change

Emissions intensity was lower in 2020 due to energy conservation activities.

Intensity figure

1,273

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

24,183,886

Metric denominator

full time equivalent (FTE) employee

Metric denominator: Unit total

19,000

Scope 2 figure used

Location-based

% change from previous year

18

Direction of change

Decreased

Reason for change

In 2020, Air Products added 2,000 colleagues to its ranks, many of whom are working on large-scale projects in line with our sustainability strategy.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	15,020,087	IPCC Fourth Assessment Report (AR4 - 100 year)

CH4	961	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	3,595	IPCC Fourth Assessment Report (AR4 - 100 year)

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
Americas	13,759,904
Other, please specify Asia	183,860
Europe, the Middle East, Africa and Russia (EMEAR)	1,080,879

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By activity

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Hydrogen and export steam production Air Products supplies vast quantities of hydrogen (H2) to petroleum refiners to lower sulfur content and help in the making of cleaner-burning gasoline and diesel fuels that significantly reduce vehicle emissions. Export steam is a co-product of H2 manufacturing and has a significant energy efficiency advantage. The majority of Air Products' Scope 1 emissions are related to hydrogen and steam production.	14,700,000

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions,	Comment

	metric tons CO2e	
Chemicals production activities	14,700,000	<p>Hydrogen and export steam production</p> <p>Air Products supplies vast quantities of hydrogen (H2) to petroleum refiners to lower sulfur content and help in the making of cleaner-burning gasoline and diesel fuels that significantly reduce vehicle emissions. Export steam is a co-product of H2 manufacturing and has a significant energy efficiency advantage compared to steam produced in boilers.</p> <p>The majority of Air Products' Scope 1 emissions are related to hydrogen and steam production.</p>

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Americas	2,433,116		28,700,000	
Other, please specify Asia	5,719,943		14,000,000	
Europe, the Middle East, Africa and Russia (EMEAR)	1,006,184		5,500,000	

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By activity

C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Production of air gases (nitrogen, oxygen and argon) Emissions are associated with the electricity and steam used to compress air so it can be cryogenically distilled into oxygen, nitrogen and argon in air separation units.	9,159,243	0

<p>The majority of Air Products' Scope 2 emissions are related to air gas production.</p> <p>As indicated in question 6.2, Air Products has chosen to not report Scope 2, market-based emissions due to the lack of reliable and accurate emissions factors.</p>		
--	--	--

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization’s total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Chemicals production activities	9,159,243	0	<p>Production of air gases (nitrogen, oxygen and argon) Emissions are associated with the electricity and steam used to compress air so it can be cryogenically distilled into oxygen, nitrogen and argon in air separation units.</p> <p>As indicated in question 6.2, Air Products has chosen to not report Scope 2, market-based emissions due to the lack of reliable and accurate emissions factors.</p>

C-CH7.8

(C-CH7.8) Disclose the percentage of your organization’s Scope 3, Category 1 emissions by purchased chemical feedstock.

Purchased feedstock	Percentage of Scope 3, Category 1 tCO2e from purchased feedstock	Explain calculation methodology
Natural gas	56	Natural gas consumption for each facility was summed by country or region as the embedded carbon in natural gas can vary by location. Cradle-to-gate emissions factors related to the production of natural gas were obtained from life-cycle assessment databases for each country or region. For each

		<p>country or region, the amount of natural gas consumed was multiplied by its cradle-to-gate emissions factor and the products were summed to determine the total emissions related to natural gas. These emissions were added to previously estimated Scope 3, Category 1 emissions to obtain the total emissions for this category. Emissions related to natural gas were divided by the total and represent 56% of the emissions.</p> <p>Air Products does not disclose the amount of natural gas used as a feedstock because it would enable the estimation of the Company's hydrogen production volume, which is company confidential.</p>
Other (please specify) Industrial gases	44	Air Products purchases various industrial gases that it purifies and/or repackages and sells. These gases represent the remaining Scope 3, Category 1 emissions.

C-CH7.8a

(C-CH7.8a) Disclose sales of products that are greenhouse gases.

	Sales, metric tons	Comment
Carbon dioxide (CO ₂)	0	Air Products provides CO ₂ to customers for a variety of applications including beverages, chemicals, food and horticulture. Sales volumes of CO ₂ are considered company confidential. Scope 3 emissions related to the use of CO ₂ are included in the response to question C6.5 under the Use of Sold Products category.
Methane (CH ₄)	0	Sales volumes are considered company confidential.
Nitrous oxide (N ₂ O)	0	Nitrous oxide is used as an inhalant anesthetic and analgesic drug with other anesthetic agents and oxygen. It is also used in liquid form to create a source of cold in cryotherapy, among other uses. Sales volumes of N ₂ O are considered company confidential. Scope 3 emissions related to the use of N ₂ O are included in the response to question C6.5 under Use of Sold Products category.
Hydrofluorocarbons (HFC)	0	Sales volumes are considered company confidential.
Perfluorocarbons (PFC)	0	Air Products does not sell PFCs.
Sulphur hexafluoride (SF ₆)	0	Sales volumes are considered company confidential.
Nitrogen trifluoride (NF ₃)	0	Sales volumes are considered company confidential.

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	No change	0	<p>The use of renewable energy on a percentage basis increased compared to prior year with 24% of our electricity purchases from renewable sources in 2020. We purchase renewable electricity directly through our energy suppliers or by buying Renewable Energy Certificates (RECs) that link our power consumption to a specific asset that generates renewable electricity. For example, in 2020 we signed a long-term agreement to purchase electricity from a new large-scale solar plant in the southwest U.S. for a large ASU. We also purchase renewable electricity directly in the United Kingdom, and through Renewable Energy Guarantees of Origin (REGOs), a type of REC. In other parts of Europe, the RECs are called Guarantees of Origin (GOs) that demonstrate the electricity we use comes from renewable sources. Carbueros Metálicos, our wholly owned subsidiary in Spain, began procuring GOs for its production plants in 2020. We also continued to purchase electricity covered by GOs in France.</p> <p>Due to lower plant loadings in 2020 from COVID-19, the total amount of electricity we used was lower than in</p>

				2019 while the direct purchased and solar energy produced were essentially flat, resulting in no change to this metric.
Other emissions reduction activities	113,500	Decreased	0.4	<p>Each year, Air Products undertakes improvement projects to increase energy efficiency, improve process material efficiency, optimize distribution and reduce CO2 emissions. These projects are tracked in a database that includes active and completed projects by year. In 2020, 134 projects were implemented and saved an estimated 113,500 metric tons of CO2 (as reported in the response to questions 4.3a and 4.3b). Emissions were estimated by multiplying energy savings due to project improvements by relevant emissions factors.</p> <p>The emissions value percentage was calculated as the emissions saved divided by Air Products' total emissions in 2019, or:</p> $113,500 \text{ MT} / 26,500,000 \text{ MT} = 0.4\%$ <p>In 2020, the improvement projects contributed to Air Products' 2020 goals (from 2015 baseline) to improve energy efficiency and reduce CO2 emissions intensity. They also supported Air Products' new "Third by '30" CO2 emissions intensity reduction goal that is aimed at reducing the Company's CO2 emissions intensity by one-third by 2030 from a 2015 baseline.</p>
Divestment	0	No change	0	Air Products did not make any divestitures in 2020.
Acquisitions	0	No change	0	Air Products did not make any acquisitions in 2020.
Mergers	0	No change	0	Air Products was not involved in any mergers in 2020.
Change in output	2,186,500	Decreased	8.3	Output declined in 2020 due to lower plant loadings resulting from COVID-19.

				<p>For example, in the first quarter of calendar year 2020 our merchant gases volumes in Asia declined due to COVID-19 by about 25% for approximately six weeks following the Lunar New Year holiday before recovering in late March (as reported in our Q2FY20 earning release).</p> <p>The emissions value percentage was calculated as the emissions saved divided by Air Products' total emissions in 2019, or:</p> $2,186,500 \text{ MT} / 26,500,000 \text{ MT} = 8.3\%$
Change in methodology	0	No change	0	Air Products made some changes to its GHG inventory methodology in 2020. As per our GHG inventory protocol, prior year emissions were restated to reflect these changes. As a result, the year-over-year change in emissions was zero.
Change in boundary	0	No change	0	Air Products did not change its boundary for GHG emissions in 2020. The Company continues to report using the financial control approach.
Change in physical operating conditions	0	No change	0	Air Products did not experience any changes in weather that influenced how the Company operated.
Unidentified	0	No change	0	All changes in emissions have been accounted for in the above categories.
Other	0	No change	0	All changes in emissions have been accounted for in the above categories.

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 30% but less than or equal to 35%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)		27,010,000	27,010,000
Consumption of purchased or acquired electricity		3,645,000	11,820,000	15,465,000
Consumption of purchased or acquired steam			5,720,000	5,720,000

Consumption of self-generated non-fuel renewable energy		5,000		5,000
Total energy consumption		3,650,000	44,550,000	48,200,000

C-CH8.2a

(C-CH8.2a) Report your organization's energy consumption totals (excluding feedstocks) for chemical production activities in MWh.

	Heating value	Total MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	27,010,000
Consumption of purchased or acquired electricity		15,465,000
Consumption of purchased or acquired steam		5,720,000
Consumption of self-generated non-fuel renewable energy		5,000
Total energy consumption		48,200,000

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)

Natural Gas

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

26,400,000

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Emission factor

117.1

Unit

lb CO2e per million Btu

Emissions factor source

Air Products uses publicly available global warming potentials and emissions factors, primarily from the Intergovernmental Panel on Climate Change, International Energy Agency, and U.S. Energy Information Administration. The emissions factor used for natural gas is from the U.S. Energy Information Administration (https://www.eia.gov/environment/emissions/co2_vol_mass.php).

Comment

Fuel consumption is tracked at the facility level. The breakdown of fuel consumed by end use at the facility or corporate level is not available.

C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	5,000	5,000	5,000	5,000
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C-CH8.2d

(C-CH8.2d) Provide details on electricity, heat, steam, and cooling your organization has generated and consumed for chemical production activities.

	Total gross generation (MWh) inside chemicals sector boundary	Generation that is consumed (MWh) inside chemicals sector boundary
Electricity	5,000	5,000
Heat	0	0
Steam	0	0
Cooling	0	0

C-CH8.3

(C-CH8.3) Does your organization consume fuels as feedstocks for chemical production activities?

Yes

C-CH8.3a

(C-CH8.3a) Disclose details on your organization's consumption of fuels as feedstocks for chemical production activities.

Fuels used as feedstocks

Natural gas

Total consumption

0

Total consumption unit

thousand cubic feet

Inherent carbon dioxide emission factor of feedstock, metric tons CO₂ per consumption unit

0.05

Heating value of feedstock, MWh per consumption unit

1.05

Heating value

Unable to confirm heating value

Comment

Air Products uses publicly available global warming potentials and emissions factors, primarily from the Intergovernmental Panel on Climate Change, International Energy Agency, and U.S. Energy Information Administration. The emissions factor used for natural gas is from the U.S. Energy Information Administration (https://www.eia.gov/environment/emissions/co2_vol_mass.php).

The heat value for natural gas provided above is a standard value as the actual heat value varies by supply source. Air Products does not disclose the amount of natural gas

used as a feedstock because it would enable the estimation of the Company's hydrogen production volume, which is company confidential. Likewise, the percentage of natural gas consumed in question C-CH8.3b is considered confidential.

C-CH8.3b

(C-CH8.3b) State the percentage, by mass, of primary resource from which your chemical feedstocks derive.

	Percentage of total chemical feedstock (%)
Oil	0
Natural Gas	68
Coal	0
Biomass	0
Waste (non-biomass)	0
Fossil fuel (where coal, gas, oil cannot be distinguished)	0
Unknown source or unable to disaggregate	32

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Other, please specify
Water Intensity

Metric value

0.74

Metric numerator

Water Intensity in current year

Metric denominator (intensity metric only)

Water Intensity in baseline year

% change from previous year

4

Direction of change

Decreased

Please explain

We use water primarily for cooling, to make hydrogen using the steam methane reforming (SMR) process, and to provide steam and water to our customers. The steam is a co-product of our SMRs and has a significant energy efficiency advantage and related environmental benefits when compared to steam generated in boilers. Because of these uses, our water consumption is tied closely to energy use; therefore, improvements in energy efficiency can also reduce water consumption. We have also saved water by improving cooling tower operations and converting to recycled gray water in our plants, particularly in Southern California where water is stressed. Across our plants, we estimate that 7% of our water was from recycled sources in 2020.

In 2016, Air Products established a goal to reduce water consumption by 5% on an indexed basis by 2020 from a 2015 baseline. We achieved this goal in 2017 and continued to improve water efficiency through subsequent years, reducing our water intensity by 4% in 2020 compared to 2019 for a total reduction of 26% since the baseline year.

C-CH9.3a

(C-CH9.3a) Provide details on your organization's chemical products.

Output product

Other, please specify
Industrial Gases

Production (metric tons)

0

Capacity (metric tons)

0

Direct emissions intensity (metric tons CO₂e per metric ton of product)

0

Electricity intensity (MWh per metric ton of product)

0

Steam intensity (MWh per metric ton of product)

0

Steam/ heat recovered (MWh per metric ton of product)

0

Comment

Air Products considers the following values to be company confidential: production, capacity, direct emissions intensity, electricity intensity and steam intensity. Steam/heat recovered per ton of product is not applicable.

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	Yes	Our research groups are aligned with our businesses and focus on improving our processes and helping our customers. Research and Development (R&D) concentrates on new and improved processes and equipment for the production and delivery of industrial gases and new or improved applications for industrial gas products that help our customers improve sustainability. In 2020, more than half of our R&D budget of \$83.9 million supported products and processes that improved energy efficiency and/or benefitted the environment.

C-CH9.6a

(C-CH9.6a) Provide details of your organization's investments in low-carbon R&D for chemical production activities over the last three years.

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Other, please specify Process improvements related to technologies and equipment	Large scale commercial deployment	41 - 60%	83,900,000	Our research groups are aligned with our businesses and focus on improving our processes and helping our customers. Research and Development (R&D) concentrates on new and improved processes and equipment for the production and delivery of industrial gases and new or improved applications for industrial gas products that help our customers improve sustainability. In 2020, more than half of our R&D budget of

			<p>\$83.9 million supported products and processes that improved energy efficiency and/or benefitted the environment. This was also true for 2019 and 2018 when half of our R&D budgets of \$72 million and \$65 million, respectively we related to energy efficiency or environmental benefits.</p> <p>In 2020, Air Products continued to focus on key innovation areas that are also opportunities to enhance the sustainability of our customers, including:</p> <p>Carbon Capture Carbon capture is a high-impact opportunity to help tackle climate change and will be essential to meet the Paris climate goals. We see significant opportunities to capture CO₂ from gasifiers and hydrogen plants for use in sequestration, enhanced oil recovery and productive use of CO₂. We can deploy these carbon capture technologies in new plants or in retrofits of existing facilities. The stage of development for this technology is large scale commercial deployment.</p> <p>Hydrogen and the Energy Transition As the world's largest hydrogen producer, we are a significant contributor to bringing hydrogen to scale on the way to a clean energy future. Our team is working on reducing the emissions created in the production of hydrogen. We are</p>
--	--	--	--

				also increasing the volume of lower-carbon hydrogen we produce and are investing in new, clean hydrogen solutions for our customers, as exemplified by our agreement with ACWA Power and NEOM for a \$5 billion world-scale green hydrogen-based ammonia production facility powered by renewable energy. The stage of development for this technology is large scale commercial deployment.
--	--	--	--	--

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process


Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

 2020-greenhouse-gas-inventory-verification.pdf

Page/ section reference

See the attached assurance letter (2020-greenhouse-gas-inventory-verification.pdf) for details on our assurance for 2020. The first page of the letter shows the verification has been completed, the scopes of emissions verified and the application of limited assurance and the ISO 14064-3 verification standard. Numeric values for the verified emissions are on the second page of the letter. Air Products has voluntarily verified its Scope 1 GHG emissions each year since 2011.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process


Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

 2020-greenhouse-gas-inventory-verification.pdf

Page/ section reference

See the attached assurance letter (2020-greenhouse-gas-inventory-verification.pdf) for details on our assurance for 2020. The first page of the letter shows the verification has been completed, the scopes of emissions verified and the application of limited assurance and the ISO 14064-3 verification standard. Numeric values for the verified emissions are on the second page of the letter. Air Products has voluntarily verified its Scope 2 GHG emissions each year since 2011.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)

Verification or assurance cycle in place

Annual process


Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

 2020-greenhouse-gas-inventory-verification.pdf

Page/section reference

See the attached assurance letter (2020-greenhouse-gas-inventory-verification.pdf) for details on our assurance for 2020. The first page of the letter shows the verification has been completed, the scopes of emissions verified and the application of limited assurance and the ISO 14064-3 verification standard. Numeric values for the verified emissions are on the second page of the letter.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

42

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

No, but we are actively considering verifying within the next two years

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

Alberta Carbon Competitive Incentive Regulation (CCIR) – ETS

California CaT - ETS

Canada federal Output Based Pricing System (OBPS) - ETS

EU ETS

Korea ETS

Tianjin pilot ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

Alberta Carbon Competitive Incentive Regulation (CCIR) – ETS

% of Scope 1 emissions covered by the ETS

6

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1, 2020

Period end date

December 31, 2020

Allowances allocated

0

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO₂e

0

Verified Scope 2 emissions in metric tons CO₂e

0

Details of ownership

Facilities we own and operate

Comment

Allowances allocated and purchased, as well as verified Scope 1 emissions for this program, are considered Company confidential.

California CaT

% of Scope 1 emissions covered by the ETS

12

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1, 2020

Period end date

December 31, 2020

Allowances allocated

0

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO₂e

0

Verified Scope 2 emissions in metric tons CO₂e

0

Details of ownership

Facilities we own and operate

Comment

Allowances allocated and purchased are considered Company confidential. Verified emissions are publicly reported by the California Air Resources Board (see <https://ww2.arb.ca.gov/mrr-data>). CHECK EMISSIONS DATA

Canada federal OBPS - ETS

% of Scope 1 emissions covered by the ETS

1

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1, 2020

Period end date

December 31, 2020

Allowances allocated

0

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO₂e

0

Verified Scope 2 emissions in metric tons CO₂e

0

Details of ownership

Facilities we own and operate

Comment

Allowances allocated and purchased, as well as verified Scope 1 emissions for this program, are considered Company confidential.

EU ETS

% of Scope 1 emissions covered by the ETS

7

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1, 2020

Period end date

December 31, 2020

Allowances allocated

1,047,140

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO₂e

1,020,409

Verified Scope 2 emissions in metric tons CO₂e

0

Details of ownership

Facilities we own and operate

Comment

Data has been provided because it is available in the public domain (see https://ec.europa.eu/clima/policies/ets/registry_en). EU ETS is related to Scope 1 emissions, therefore values for Scope 2 emissions have been set to zero. No allowances were purchased, therefore the allowances purchased value has also been set to zero.

Korea ETS

% of Scope 1 emissions covered by the ETS

0

% of Scope 2 emissions covered by the ETS

1

Period start date

January 1, 2020

Period end date

December 31, 2020

Allowances allocated

0

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO₂e

0

Verified Scope 2 emissions in metric tons CO₂e

0

Details of ownership

Facilities we own and operate

Comment

Allowances allocated and purchased, as well as verified Scope 2 emissions for this program, are considered Company confidential.

Tianjin pilot ETS

% of Scope 1 emissions covered by the ETS

0

% of Scope 2 emissions covered by the ETS

1

Period start date

January 1, 2020

Period end date

December 31, 2020

Allowances allocated

0

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO₂e

0

Verified Scope 2 emissions in metric tons CO₂e

0

Details of ownership

Facilities we own and operate

Comment

Allowances allocated and purchased, as well as verified Scope 2 emissions for this program, are considered Company confidential.

C11.1d**(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?**

Our current strategy regarding allowance trading under the various emission trading schemes is to properly manage the compliance obligations of each of our facilities. Air Products pursues operating efficiency improvements wherever possible to minimize our compliance obligation. Where necessary, Air Products will purchase allowances/compliance instruments to satisfy its compliance obligations. If allowances allocated to the Company exceed the current compliance obligations, allowances will be retained for future compliance needs. Air Products is not trading allowances speculatively.

An example of the execution of this strategy is our approach to the EU Emissions Trading System (ETS). Air Products has three facilities in the EU that are subject to the EU ETS. The total emissions of these facilities exceeded the allowances allocated. As a result, Air Products worked with its customers to ensure the appropriate allowances were purchased to cover our obligations. Air Products mitigates some of the costs of purchasing allowances through contractual terms.

C11.2**(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?**

No

C11.3**(C11.3) Does your organization use an internal price on carbon?**

No, and we do not currently anticipate doing so in the next two years

C12. Engagement**C12.1****(C12.1) Do you engage with your value chain on climate-related issues?**

Yes, our suppliers

Yes, our customers

Yes, other partners in the value chain

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Collect climate change and carbon information at least annually from suppliers

% of suppliers by number

1

% total procurement spend (direct and indirect)

60

% of supplier-related Scope 3 emissions as reported in C6.5

0

Rationale for the coverage of your engagement

Each year our Sustainability Team reviews the sustainability programs of suppliers that comprise a portion of our procurement spend to understand the suppliers' approach to sustainable supply and actions being taken to address climate change. Of these suppliers, over 50% have sustainability programs and communicate their progress on sustainability. Ninety percent of our largest energy suppliers have demonstrated their commitment to sustainability through energy efficiency programs and transparency. The Company has over 30,000 suppliers globally, which results in the low percentage of suppliers by number.

Impact of engagement, including measures of success

Measure of success

The measure of success for engaging with our suppliers is an increase in renewable energy procured and/or produced.

Impact of engagement

Understanding our suppliers' commitments to sustainability enables us to identify the companies we should engage on energy projects that can help reduce our GHG emissions. For example, we are working with several suppliers on procuring renewable energy. Air Products France is using renewable electricity from to produce merchant industrial and medical gases and to power its sales and administrative offices. The renewable electricity is validated by the purchase of GO (Guarantee of Origin) certificates from ENGIE that are registered on the National Registry for Guarantees of Origin. Wind power is used in the United Kingdom for our merchant gas production through our partnership with Ørsted (formerly DONG Energy), a global leader in offshore wind power.

In 2020 we signed a long-term agreement to purchase electricity from a new large-scale solar plant in the southwest U.S. for a large air separation unit. We also installed two new solar arrays in Europe, one in the Netherlands and the other in Spain.

Comment

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement

Education/information sharing

Details of engagement

Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

% of customers by number

100

% of customer - related Scope 3 emissions as reported in C6.5

0

Please explain the rationale for selecting this group of customers and scope of engagement

At Air Products, we help our customers improve their sustainability performance. Our products enable our customers to be more productive and efficient – to make more with less while reducing their impact on the environment. In 2020, our products enabled our customers and downstream users to avoid the equivalent of 72 million metric tons of carbon dioxide emissions. This figure is three times our own direct and indirect CO₂e emissions.

We provide our customers with information about our products including our sustainable offerings, which are products that can help them improve energy efficiency, reduce environmental impact, and/or address a societal need. For example, hydrogen is a sustainable offering that is used to refine heavier, sour crudes, increase refinery yields and reduce emissions through cleaner transportation fuels including ultralow sulfur diesel fuel and hydrogen powered electric fuel cell vehicles. Air Products' oxy-fuel combustion technologies are also sustainable offerings and are used in energy intensive applications like cement, metals and glass manufacturing to increase production, lower fuel use and costs, reduce emissions and optimize efficiency.

Sales of gases such as hydrogen and oxygen enhance our bottom line. In fiscal year 2020, sales of atmospheric gases such as oxygen, nitrogen, argon, and rare gases constituted approximately 47% of our consolidated sales. Sales of tonnage hydrogen,

syngas, and related products constituted approximately 22% of consolidated sales in fiscal 2020.

Impact of engagement, including measures of success

Measure of success

The measure of success for engaging with our customers is their increasing level of interest in how we can help them achieve their sustainability goals and meeting our sustainable offering revenue goal of 50%.

Impact of engagement

Air Products has been building its business over time with the focus on helping our customers achieve their business outcomes in a more sustainable way – whether that is by increasing productivity, producing better quality products, reducing energy use or lowering emissions. We believe increased customer understanding of Air Products as a sustainable solutions provider has driven new business and created opportunities to innovate with customers as they realize their energy strategies alongside economic growth and social development. In 2020 we saw an increase in customer interest in energy and emissions and particularly how we could help them meet their sustainability goals, consistent with our measure of success.

Each year we estimate the revenues related to products and applications that drive sustainability-related value for our customers and help them improve energy efficiency, reduce environmental impact, or address a societal need. In 2020, 57% of our revenues were derived from these sustainable offerings, exceeding our goal of 50%.

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

Where appropriate, Air Products participates in government-mediated forums with major customers where these forums are part of broader consultation processes leading to new environmental policy, for example, in The Netherlands, on the development of the country's Klimaatakkoord (Climate Accord). Through the vehicle of industrial gases industry associations, Air Products also cooperates with representative associations of customer sectors, such as Phase IV of the Emissions Trading System in the EU. In both cases, we seek to ensure that new environmental legislation is constructed so as to respect the environmental value brought by our business model.

Air Products has also engaged directly with contract hauliers, encouraging them to increase the efficiency of their fleets and consider alternative transportation fuels. Similarly, we have worked with tanker manufacturers to design jumbo trailers for some of our products that can reduce the distance travelled per volume of gas delivered. The measures of success for these efforts are improved fuel efficiency and reduced distribution distances, both of which reduce greenhouse gas emissions. For example, the use of the new trailers improved distribution efficiency by 26%. Overall, these efforts and other distribution-related programs have enabled Air Products

to improve distribution efficiency by 20% since 2015 and avoid over 80,000 metric tons of CO₂e emissions.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

- Direct engagement with policy makers
- Trade associations
- Funding research organizations
- Other

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Clean energy generation	Support	As part of the normal legislative process, Air Products directly engages policy makers through consultation and meetings to ensure that developing energy and related policies take appropriate account of the specific characteristics of renewable energy technology that forms the basis of our investment intentions. As an example of those efforts, Air Products has engaged with the UK government on matters concerning the Renewables Obligation Scheme, and the rollout of the Energy Market Reform policy and attendant regulations.	Air Products supports the development and use of renewable, clean energy, and has helped educate policy makers on the benefits of this energy.
Mandatory carbon reporting	Support with minor exceptions	Air Products engages with various agencies on mandatory carbon reporting, particularly the U.S. EPA Greenhouse Gas Reporting Rules (Greenhouse Gas Reporting Rule 40CFR Part 98), California's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions, Ontario Ministry of the Environment and Climate Change, Alberta Environment and Parks and Environment Canada. The Company periodically meets directly with regulatory staff, participates in public regulatory workshops and	Air Products seeks to ensure reporting methodologies define reasonable measurement requirements, accuracy expectations and alternatives to address missing data points.

		submits formal and informal comments to regulators.	
Cap and trade	Support with minor exceptions	Through the vehicles of the European Industrial Gas Association (EIGA) and selected European national industrial gases associations, Air Products has responded to consultations and met directly with EU policy-makers to ensure that the role of our industry in achieving the aims of EU environmental policies can more easily and more cost-effectively be achieved. One example of this is policies relating to emissions trading.	Air Products seeks comparable treatment under the regulations (e.g., consistent basis for allocation of free allowances) to all producers, regardless of ownership structure, to not unduly disadvantage the over-the-fence supply model for hydrogen.

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

European Industrial Gases Association

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The European Industrial Gases Association (EIGA) is a safety and technically oriented organization representing the vast majority of European and a number of non-European companies producing and distributing industrial, medical and food gases. EIGA actively promotes safety, health and environmental care through working groups at management and technical expert levels, through the publication of a wide-range of technical literature, and through the organization of conferences and seminars. They provide information and recommendations to local, national and international authorities and organizations for their guidance in the preparation of laws, regulations and standards which are both practical and effective.

How have you influenced, or are you attempting to influence their position?

Member companies of EIGA, including Air Products, closely co-operate in matters concerning production, transport, storage and application to achieve the highest level of safety and environmental care in the handling of gases. EIGA also initiates the development of appropriate standards and provides standardization bodies with technological expertise.

Through EIGA Air Products has responded to consultations and met directly with EU policy-makers to ensure that the role of our industry in achieving the aims of EU environmental policies can more easily and more cost-effectively be achieved.

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?

No

C12.3e

(C12.3e) Provide details of the other engagement activities that you undertake.

Air Products is engaged in many industry associations around the world that have supportive environmental positions. These include, but are not limited to, the Fuel Cell and Hydrogen Energy Association (FCHEA), Hydrogen and Fuel Cell Technical Advisory Committee (HTAC), the Hydrogen Council and the National Alliance of Hydrogen and Fuel Cell organization (NAHFC).

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Air Products' regional environmental specialists and Government Relations Team members provide expertise for matters related to greenhouse gases and climate change including internal policy development, regulations, and legislation. These experts contribute to and are aware of Air Products' position and goals related to greenhouse gases and climate change, which are articulated on our website, in our annual Sustainability Report, and through employee electronic communications. The experts also share information and best practices across regions to promote consistent approaches to climate change developments. In addition, all employees must follow Air Products' Code of Conduct and Business Ethics, which notes that it is the responsibility of every employee to protect our Company by conducting ourselves in strict compliance with the letter and spirit of the Code, as well as with all applicable laws.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In voluntary sustainability report

Status

Complete

Attach the document

 2021 Sustainability Report.pdf

Page/Section reference

Pages 26-30 provide details on our energy efficiency and carbon emissions efforts. Data is also summarized in the table on page 55.

Content elements

- Governance
- Strategy
- Risks & opportunities
- Emissions figures
- Emission targets
- Other metrics

Comment

The report also provided information on emissions avoided by customers and downstream users of our products. In 2020 these emissions totaled 72 million metric tons of CO2e, which is three times our own direct and indirect CO2e emissions.

C15. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C15.1

(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Executive Vice President and Chief Financial Officer	Chief Financial Officer (CFO)