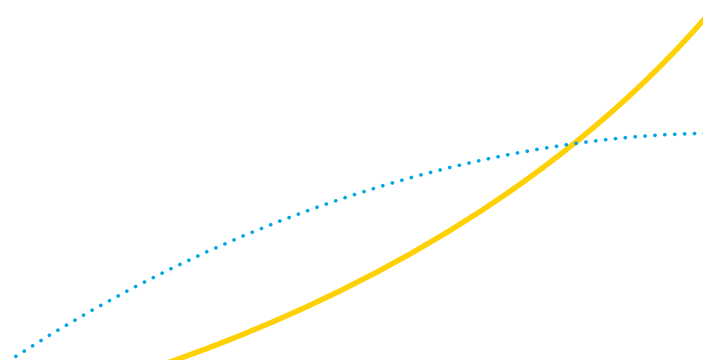




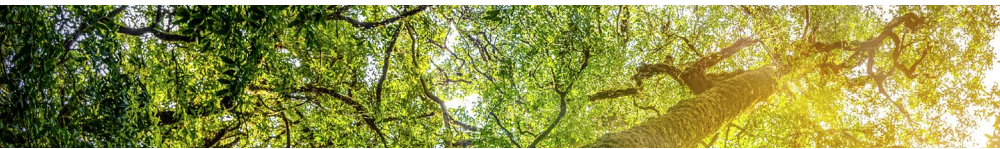
# Sustainability in Action

2022 Sustainability Report





# Contents



## Forward-looking statements

This Sustainability Report (this “Report”) contains “forward-looking statements” within the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on management’s reasonable expectations and assumptions as of the date of this Report and are not guarantees of future performance. Actual performance may differ materially from projections and estimates expressed in the forward-looking statements because of many factors, including, without limitation, the risk factors described in the Company’s Annual Report on Form 10-K for its fiscal year ended September 30, 2021 and subsequent filings with the U.S. Securities and Exchange Commission. Except as required by law, the Company disclaims any obligation or undertaking to update or revise any forward-looking statements contained herein to reflect any change in the assumptions, beliefs or expectations or any change in events, conditions or circumstances upon which any such forward-looking statements are based.

Unless noted, all values in this report are for calendar year 2021.

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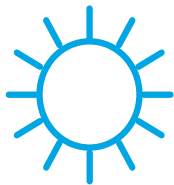


## Approach to Sustainability



**Grow** responsibly through sustainability-driven opportunities that benefit our customers and our world.

We help customers improve their sustainability performance through higher productivity, better quality products, reduced energy use, and lower emissions.



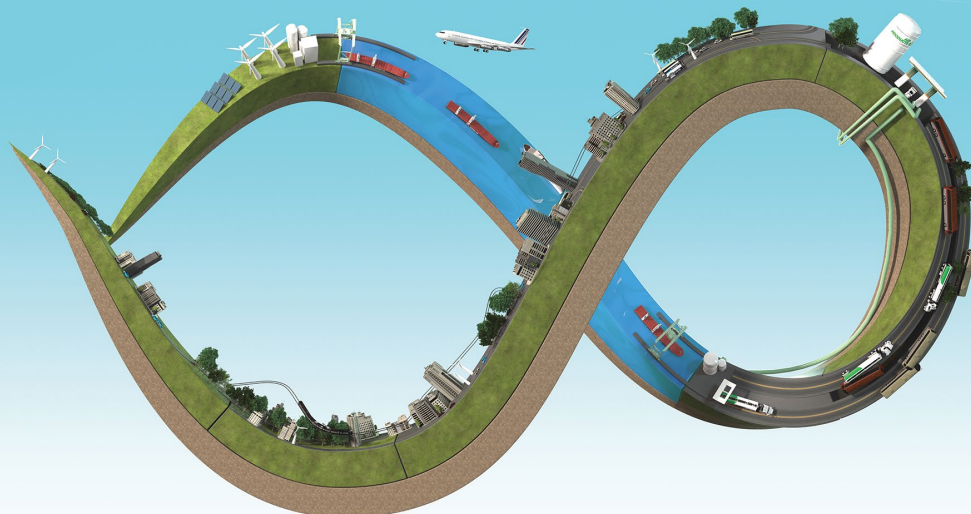
**Conserve** resources and reduce environmental footprints through cost-effective improvements.

We are committed to reducing our carbon dioxide (CO<sub>2</sub>) emissions intensity by one-third by 2030 and conserving resources by continually improving our operations.



**Care** for our employees, customers and communities — protecting our license to operate and grow.

Our goal is always zero accidents and zero incidents. We continue to build on our culture of diversity, inclusion and belonging. We are committed to supporting our communities, engaging suppliers, and upholding our integrity.







## A Message from Seifi Ghasemi

At this writing, our world is confronted by incomparable challenges. Regions of the world still face the COVID-19 pandemic or variants. We remain deeply concerned by tragic human suffering in Ukraine and condemn actions of war when the world should be making greater efforts for peace.

The global threat of climate change also remains very real. There is much talk about the energy transition but talk alone is insufficient to address climate change. Companies and countries taking real action through real investment in real projects is what will make a meaningful difference. At Air Products, I am proud that our more than 20,000 worldwide employees are taking real action, developing and executing first-mover projects providing real sustainability benefits. In doing so, they are living our higher purpose as a Company and bringing lower-carbon forms of energy to the world.

For example, Air Products is teaming up with World Energy to build a new \$2 billion major expansion project at World Energy's California Sustainable Aviation Fuel (SAF) production and distribution hub. It will be the world's first commercial scale and North America's only SAF production facility, expanding total fuel capacity to 340 million gallons annually. Air Products is building a \$4.5 billion clean energy complex in Louisiana to produce low-carbon hydrogen that will reduce our customers' carbon intensity and reduce transportation emissions. We are also building a multi-billion-dollar net-zero hydrogen energy complex in Edmonton, Alberta, Canada that will help our customers reduce carbon intensities, provide emissions-free fuel in the transportation sector, and generate clean electricity. These projects complement our multi-billion-dollar green ammonia production facility joint venture in NEOM, Saudi Arabia that will make and export carbon-free hydrogen to global transportation markets. These projects are tangible energy transition difference makers.

Importantly, Air Products already makes a difference every day through the industrial gases and technologies we supply our customers to improve the sustainability of their operations. In 2021, Air Products' customer-avoided carbon dioxide emissions (CO<sub>2</sub>e) totaled 82 million metric tons, or more than three times our own combined Scope 1 and 2 CO<sub>2</sub>e emissions.

We remain confident in meeting our challenging "Third by '30" carbon intensity reduction goal while we reimagine what's possible in the future.

While working to support the energy transition and our customers, we also remain committed to our employees. Safety will forever be a priority at Air Products, with the ultimate goal of zero injuries. To drive our goal to be the world's most diverse industrial gas company we set goals for female representation globally and for minority representation in the U.S. in our professional and managerial population by 2025. In 2021, we exceeded our previous goal for minority representation in U.S. professional and managerial roles and set a new, stretch goal.

These achievements are only possible through the commitment and motivation of the team at Air Products. Our people are the real enablers of a cleaner future, working alongside our customers to help solve pressing energy and environmental challenges.

We appreciate you taking the time to read this report, which shows sustainability in action at Air Products.

As always, we thank you for your interest in our Company.

Seifi Ghasemi

Chairman, President and Chief Executive Officer of Air Products





“ Safety will forever be a top focus and priority at Air Products. And being the world’s most diverse industrial gas company is also part of our Corporate goal. ”

Seifi Ghasemi  
Chairman, President and CEO



# Sustainability Highlights for 2021

## Grow .....



**14% increase**  
in CO<sub>2</sub>e emissions  
avoided by customers



**82 million**  
metric tons of CO<sub>2</sub>e  
avoided due to our products



**56%**  
of revenues from  
sustainable offerings

## Conserve .....



**3.6% decrease**  
in CO<sub>2</sub>e emissions intensity\*



**1.5 million**  
metric tons of CO<sub>2</sub>e  
avoided at facilities



**3 times**  
the ratio of CO<sub>2</sub>e  
avoided to emitted

## Care .....



**18% increase**  
in U.S. minorities in  
professional and managerial  
roles in FY21



**22%**  
improvement in employee  
lost time injury rate

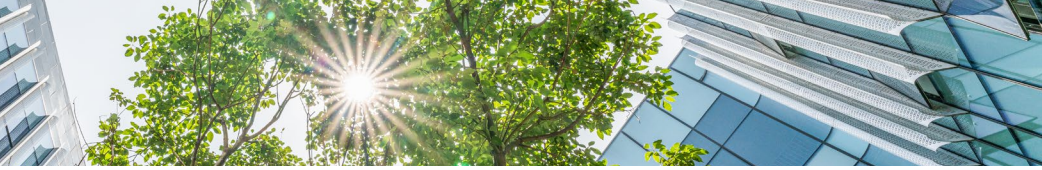


**\$7 million**  
donated to  
communities

\*Cumulative since 2015



# Our Purpose and Strategy



Air Products' higher purpose is to bring people together to collaborate and innovate solutions to the world's most significant energy and environmental sustainability challenges.

We live our purpose through our business strategy and our efforts to protect the environment and care for our stakeholders. These are the underlying concepts of our **Grow – Conserve – Care** sustainability approach shared throughout this Report. Our sustainability priorities reflect this approach and include topics such as Energy & Climate; Diversity, Inclusion & Belonging; and Innovation.

Sustainability is embedded in our business strategy, which is focused on serving energy, environmental and emerging markets. Our strategy is evidenced through the products, technologies, and services we offer, and the projects we carry out. These are supported by our innovation capabilities and our desire to collaborate on real solutions for our customers and the world. Our core competency is our ability to develop, execute, own, and operate complex process facilities that can transform local economies through cleaner energy and environmental solutions.

## Industrial Gases – Essential to Modern Life

Industrial gases are used to make materials that go into our homes and businesses, cars and fuels, health care, food and more. Their use also helps companies across dozens of industries to improve yields, reduce energy consumption and lower emissions.

Air Products is the world's largest supplier of hydrogen, which is discussed in greater detail in this report, and continues to be a leader in liquefied natural gas (LNG) equipment, air separation plants, and hydrocarbon recovery and purification equipment.



Our products enable our customers to be more productive and efficient – to make more with less while reducing their impact on the environment. We estimate that in 2021 our products enabled our customers and their customers to **avoid the equivalent of 82 million metric tons** of carbon dioxide emissions. This figure is more than **three times** our own direct and indirect CO<sub>2</sub> emissions.

## Addressing the World's Need for Clean Energy and Materials

Our technologies for gasification, carbon capture, and lower carbon hydrogen put us 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. As a result, we are developing and delivering some of the largest and most complex projects in Company history while fulfilling our core values of safety and integrity and providing reliability and operational excellence to our customers.

“Sustainability creates our growth opportunities, and our growth opportunities support our sustainability focus and goals. We believe that solving sustainability challenges is good business and the right thing to do.”

Seifi Ghasemi  
Chairman, President and CEO





# Our Purpose and Strategy

## Gasification



## Carbon Capture



## Hydrogen for Mobility



### Hydrogen for Mobility and the Energy Transition

Hydrogen plays a key role in helping the world move forward with the energy transition and in building a cleaner, more sustainable future. As the world’s leading producer of hydrogen, Air Products is playing a major role in making that happen. We have more than six decades of experience and knowledge of every facet of the hydrogen value chain, from production to distribution to storage and dispensing. With over 110 hydrogen production facilities, we have nearly 9,000 tons of daily capacity. From small onsite generators to world-scale steam methane reformers, gasifiers and electrolyzers, hydrogen production is core to Air Products’ business.

We have already taken major steps to build the hydrogen economy and have hands-on operating experience on over 250 hydrogen fueling station projects in 20 countries. Our hydrogen dispensing technology, which mirrors traditional consumer gasoline fueling, is used in more than 1.5 million fueling operations annually. Buses, trucks, and other heavy-duty vehicles from Asia to Europe to North America are fueled with hydrogen produced, distributed and supplied by Air Products.

The key now is scaling up to create the hydrogen infrastructure that businesses and governments need to make the switch to this clean energy on a major scale, giving users confidence in a secure, reliable and consistent source of hydrogen. Air Products’ landmark investments in green and blue hydrogen will help deliver carbon-free and low-carbon hydrogen to the world.

At NEOM in Saudi Arabia, we and our partners have committed billions to create the world’s largest green hydrogen project. When that facility comes onstream in 2026 it will supply 650 tons per day of carbon-free hydrogen to power buses and trucks around the world and eliminate three million tons of CO<sub>2</sub> annually, which is equivalent to eliminating the emissions from 700,000 cars. Air Products will be the global leader in green hydrogen after commercializing the NEOM project.

Air Products’ blue hydrogen projects in Canada and the U.S. combine our advanced technologies for gasification, carbon capture and storage, and lower carbon hydrogen. In Canada, these technologies plus hydrogen-fueled power generation make it possible to operate the facility with a net-zero carbon footprint. After executing these projects, Air Products will be the global leader in blue hydrogen. Please see “Landmark blue hydrogen projects” for additional details.

Air Products is also building a green liquid hydrogen production facility in Arizona that will produce liquid hydrogen to be sold to the hydrogen for mobility market in California and other locations requiring zero-carbon hydrogen fuel.

Our goal is to meet our customers wherever they are along their sustainability journey and provide the hydrogen they need. As interest in sustainability continues to grow, so will interest in hydrogen.



# Our Purpose and Strategy

## Driving the use of hydrogen around the world

Interest in hydrogen for mobility increased substantially in 2021, prompting many projects that demonstrated the benefits and viability of using hydrogen fuel cell technology. For example, we commissioned new fueling stations and supported the expansion of others, such as the “United Kingdom” (UK) fueling station at Heathrow Airport. Our Carbueros Metálicos team in Spain initiated an intercity green hydrogen bus tour to highlight its ease of use and ability to enable a zero-emissions public transportation system. Carbueros Metálicos also commissioned a hydrogen fueling station to supply renewable hydrogen to city buses in Madrid. In addition, Air Products supported demonstration projects for using hydrogen in locomotives and buses in Poland, and heavy-duty trucks in France. In the U.S., Air Products fueled hydrogen bus demonstrations in several cities in Oregon and Washington to showcase a zero-emission fleet

option for local transit agencies. In China, Air Products installed its first hydrogen fueling station in Shandong Province, which supports China’s “Hydrogen into Ten Thousand Homes” project and supplied hydrogen for fuel cell electric vehicles used to shuttle athletes at the Beijing Olympic games. The Company also unveiled a new hydrogen fueling station at its industrial gas facility in Ulsan City, South Korea.



## Carbon Capture

We view carbon capture as a necessary and high-impact way to tackle climate change and essential to meeting the Paris climate goals and beyond. At the same time, we understand that implementation of carbon capture requires supportive policies, favorable project economics, and strong partnerships with governments and our customers. Air Products is developing proprietary carbon dioxide storage and utilization technologies that we plan to deploy in high return carbon capture projects. We have demonstrated the viability of capturing carbon from hydrogen plants through our Port Arthur, Texas CO<sub>2</sub> purification and capture project. This facility, the largest of its type in the industrial gas industry, captures nearly one million tons of CO<sub>2</sub> annually that is used in enhanced oil recovery.

## Gasification

We view gasification as one of the many tools necessary to help countries and customers meet the world’s growing need for cleaner, sustainable chemicals and materials. Gasification plants typically convert low value hydrocarbons into useful chemicals and energy while significantly reducing harmful pollutants like sulfur oxides. The process produces carbon dioxide as a by-product that can be easily captured in a concentrated form, providing a pathway to reduce emissions where market conditions support carbon sequestration or utilization. New gasification technologies continue to emerge, opening routes to alternative feedstocks such as sustainable biomass and the use of waste materials in support of the circular economy.



# Our Purpose and Strategy

## Landmark blue hydrogen projects

Air Products is demonstrating its commitment to the energy transition and hydrogen through two landmark blue hydrogen projects announced in 2021.

### Alberta, Canada

Air Products is building a multi-billion dollar landmark hydrogen energy complex that will begin with a transformative net-zero hydrogen production and liquefaction facility expected onstream in 2024.

Air Products will deploy advanced hydrogen technology and an innovative design to deliver net-zero emissions. The new facility will capture over 95 percent of the CO<sub>2</sub> from the feedstock natural gas and store it safely back underground. Hydrogen-fueled electricity will offset the remaining five percent of emissions.

The clean energy complex will help refining and petrochemical customers served by the Air Products Heartland Hydrogen Pipeline to reduce their carbon intensity. The complex also marks a first in the wider use of hydrogen in Alberta, enabling the production of liquid hydrogen to be an emissions-free fuel in the transportation sector, and to generate clean electricity. This facility will make Alberta a leading supplier of liquid hydrogen to western Canada and the Pacific Northwest of the United States, with enough liquid hydrogen capacity to fuel every public transit agency across Alberta.

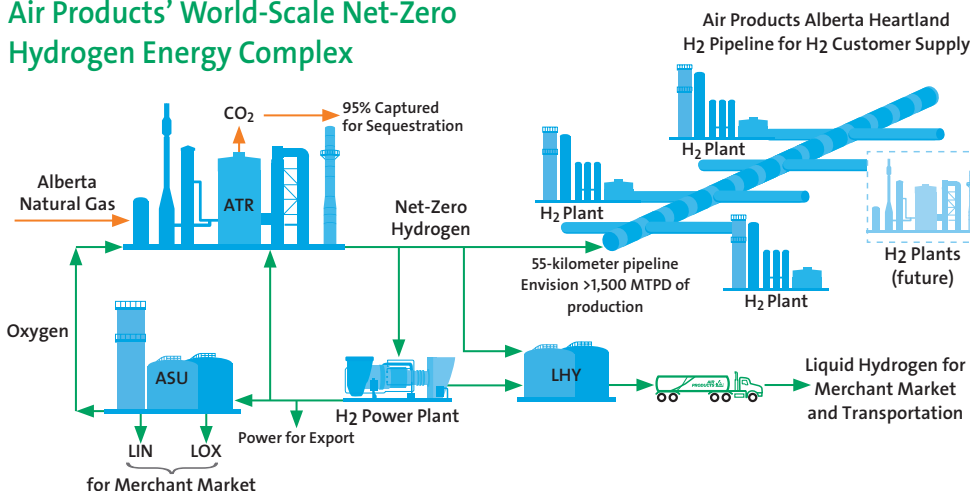


### Louisiana, United States

Air Products is investing \$4.5 billion (USD) to build, own and operate a clean energy complex that will produce over 750 million standard cubic feet per day of blue hydrogen in Louisiana. A portion of the blue hydrogen will be compressed and supplied to customers by our U.S. Gulf Coast hydrogen pipeline network – the world’s largest. The balance will be used to make blue ammonia that will be transported around the globe and converted back to blue hydrogen for transportation and other markets. The Louisiana project is expected to be operational in 2026.

This megaproject will also capture and permanently sequester over five million metric tons per year of CO<sub>2</sub>, making it the largest carbon capture for sequestration facility in the world. Numerous studies have shown that Louisiana’s geology is among the best in the world for permanent geologic sequestration.

## Air Products’ World-Scale Net-Zero Hydrogen Energy Complex



- LHY – liquid hydrogen
- LIN – liquid nitrogen
- LOX – liquid oxygen
- ATR – autothermal reformer
- ASU – air separation unit
- CO<sub>2</sub> – carbon dioxide
- H<sub>2</sub> – hydrogen





# Commitments and Contributions



Air Products' sustainability goals reflect our sustainability priorities, incorporate stakeholder input, and are aligned with our overarching Company goal to be the safest, most diverse, and most profitable industrial gas company in the world, providing excellent service to our customers. Here's our progress in 2021:

Goal	2021 Results	Status
<b>GROW</b>		
Economic Performance - Lead the industrial gas industry in profitability	Increased adjusted EBITDA <sup>a</sup> by 7% and adjusted operating income <sup>a</sup> by 3%	On track
Customer Sustainability - Annually increase the total CO <sub>2</sub> emissions avoided by our customers	Enabled customers to avoid 82 million metric tons of CO <sub>2</sub> e emissions, an improvement of 14% compared to 2020	On track
<b>CONSERVE</b>		
CO <sub>2</sub> Intensity - Reduce our CO <sub>2</sub> emissions intensity by one-third by 2030	Continued to reduce CO <sub>2</sub> e emissions intensity, reaching a reduction of 4%	On track
Resource Conservation - Increase energy efficiency and promote the responsible use of water	Improved year-on-year water intensity by 16% and maintained energy efficiency	On track
<b>CARE</b>		
Safety - Lead the industrial gas industry in safety	Reduced employee lost time injury rate by 22% and recordable injury rate by 2.5%	On track
Talent and Diversity - Increase diversity in professional and managerial roles	Achieved U.S. minority goal of 22% and set a new target to reach 30% minority representation by 2025	On track

For additional details about our goal performance, please see the relevant sections of this Report.

<sup>a</sup> Amounts are non-GAAP financial measures. See "[Reconciliations of Non-GAAP Financial Measures](#)" for reconciliation to the comparable GAAP measures.



# Sustainable Development Goals

Established by the United Nations in 2015, the Sustainable Development Goals (SDGs) aim to create a world without poverty, inequality, unrest, and environmental stress. Businesses can play a critical role in providing solutions to these sustainability concerns while also generating new opportunities.

Air Products is contributing to these goals across nine areas aligned with our **Grow-Conserve-Care** sustainability framework. Our alignment with the SDGs is shown here and indicated in the relevant sections of this Report.

## GROW



### How we contribute

- Productivity improvements
- Technology developments
- Job creation
- Human rights programs

### Related goals

- Lead the industrial gas industry in profitability
- Annually increase customer avoided emissions

## CONSERVE



### How we contribute

- Clean energy production and energy efficiencies
- Climate change mitigation
- Water quality improvements and use efficiencies
- Effective waste management

### Related goals

- Reduce our CO<sub>2</sub> emissions intensity by one-third by 2030
- Increase energy efficiency and promote the responsible use of water

## CARE



### How we contribute

- Make products that enable health
- Safety improvements
- Zero tolerance for discrimination
- Representation of women and minorities in our businesses

### Related goals

- Lead the industrial gas industry in safety
- Increase diversity in professional and managerial roles





# GROW

## Sustainable Offerings for Sustainable Growth

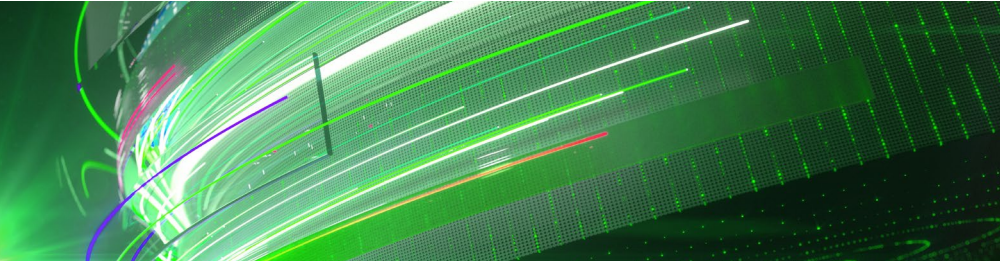
Sustainability is our growth strategy at Air Products. Sustainability creates our growth opportunities, and our growth opportunities support our sustainability focus and goals.







# Economic Performance



## Why It's Important

For a business to sustainably operate, grow and contribute to society, it must be financially sound. Competitive compensation and attractive benefits are needed to recruit and retain talented employees, as are investments in employee development and programs that ensure safety, human rights, and ethical business practices. Likewise, the health of local operating communities underpins economic and business success.

## What We're Doing

Air Products is a global company with local businesses. Our Industrial Gases business is organized and operated regionally. This enables us to be close to our customers, improve service and reduce distribution costs and emissions.

We have more than 20,000 passionate, talented and committed employees across more than 750 operating facilities in over 50 countries. As a result, our operations provide substantial economic support to our host communities around the globe.

## Our Commitments and Contributions

We aspire to be the most profitable industrial gas company in the world. Having a strong financial position allows us to continue to commit significant capital to grow Air Products into the future, creating value for our shareholders and society. We also:

- Promote the safety of our employees, contractors, customers and communities;
- Offer rewarding jobs with competitive pay and benefits;
- Strive to uphold human rights in our operations, businesses, communities, and supply chains;
- Invest in technologies, products, and our operating plants; and
- Contribute in several ways to the well-being of our host communities.

### The economic value we generated in fiscal year 2021:

Sales: **\$10,323.0 million**

Cost of sales<sup>a</sup>: **\$7,209.3 million**

Capital expenditures<sup>b</sup>: **\$2,550.7 million**

Selling and administrative: **\$828.4 million**

Research and development: **\$93.5 million**

Income tax provision: **\$462.8 million**

Donations to communities: **\$7 million**

<sup>a</sup> Includes a charge of \$23.2 million for a facility closure, which was separately presented on the consolidated income statements.

<sup>b</sup> Amount is a non-GAAP financial measure. See “[Reconciliations of Non-GAAP financial measures](#)” for reconciliation to the comparable GAAP measures.



750+

operating facilities in

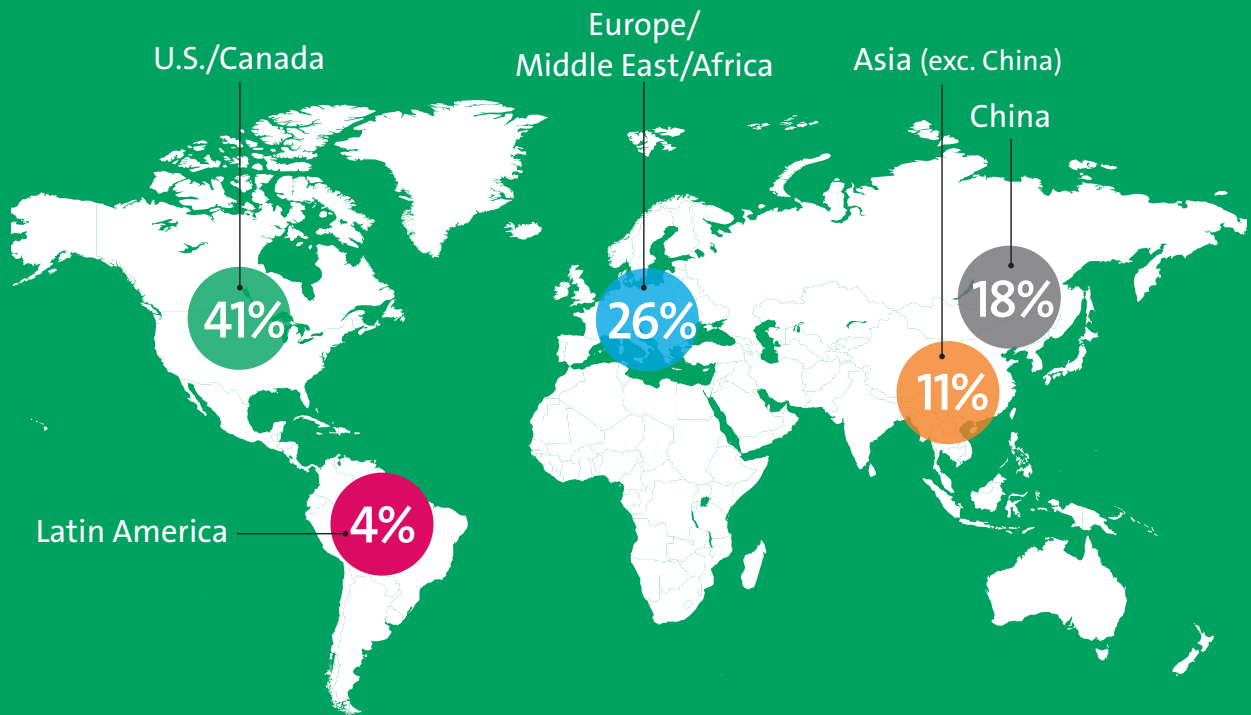
50 countries

### Our Businesses:

- **Regional Industrial Gases Segments** includes the production and supply of atmospheric gases such as oxygen, nitrogen, argon and other gases; process gases, such as hydrogen, helium, carbon dioxide, carbon monoxide, and syngas (a mixture of hydrogen and carbon monoxide); and specialty gases. In FY21 our regional segments were Americas, Europe/Middle East/Africa (EMEA) and Asia. Beginning in Q1 of FY22, Air Products' EMEA segment was separated into Europe and a Middle East and India segment to reflect the addition of the significant Jazan project in the Middle East and to provide more visibility for our geographic regions.
- **Industrial Gases - Global** includes activity related to the sale of cryogenic and gas processing equipment for air separation.
- **Corporate and Other** includes our liquified natural gas process technology and equipment, turbomachinery equipment and services, and distribution sale of equipment businesses, as well as corporate support functions that benefit all segments.

## APD Global Presence

FY21 Sales = \$10.3 billion



\*Consolidated sales by region. Europe, Middle East and Africa includes India



# Customer Sustainability

## Why It's Important

Interest in sustainability continues to grow as society addresses the risks and opportunities associated with global challenges such as climate change, population growth and increasing water scarcity. Forward-looking companies are continually working to improve their productivity, reduce resource consumption, transition to lower carbon energy sources, and reduce the environmental impact of their operations while maintaining product quality and profitability.

## What We're Doing

Air Products' business strategy is to provide sustainable solutions to customers and help them achieve their objectives. We are driven by an important ambition: to innovate alongside our customers and help them be more sustainable. We aim to produce products that improve energy efficiency, reduce environmental impact, and address societal needs such as health, safety and improving quality of life. Air Products is helping to build a cleaner energy future for our customers and the world through mega-scale projects that will produce and distribute lower carbon hydrogen for transportation, industrial applications including decarbonization, and energy storage. Our products and applications and their benefits are described in this Report.

### We also:

- Work closely with customers to develop products and applications that improve productivity, conserve energy and reduce emissions;
- Help customers decarbonize their manufacturing processes as they strive to reduce their environmental impact;
- Construct facilities on or near customer sites to enable products to be distributed efficiently through pipelines to take delivery vehicles and their emissions off the road, and to recycle steam and water for reuse at multiple plants;
- Conduct life-cycle assessments of products and processes to determine environmental impacts; and
- Dedicate efforts to continually improve our quality performance and customer satisfaction, which ranged from 86-100 percent across our regional businesses in 2021.



## Our Products:

- Atmospheric gases - oxygen, nitrogen, argon, and other gases
- Process gases - hydrogen, helium, carbon dioxide, carbon monoxide, syngas, and specialty gases
- Equipment for the production or processing of gases, such as air separation units (ASUs), turbomachinery, non-cryogenic generators and LNG heat exchangers

## Our Commitments and Contributions

We are committed to enabling our customers to enhance their sustainability. We track our progress through avoided CO<sub>2</sub> emissions that our customers and their customers would otherwise emit if not for the products we produce and supply. In 2021, we made progress toward our goal of annually increasing avoided CO<sub>2</sub> emissions, with total avoided emissions increasing from 72 to 82 million metric tons of CO<sub>2</sub>e avoided.

## Our Customers:

- Refining
- Chemicals
- Gasification
- Natural gas liquefaction
- Metals
- Glass
- Electronics
- Healthcare
- Food and Beverage
- Water Treatment

Over 170,000 customers  
in 30+ industries







# Sustainable Offerings that Benefit our Customers Around the World

“Sustainable Offerings” are gases, equipment and applications that enable our customers and their customers to improve sustainability performance by **increasing productivity, producing better quality products, reducing energy use, and lowering emissions.**

Air Products evaluates these offerings using a consistent life-cycle derived approach that compares the offerings to equivalent benchmark technologies across key sustainability criteria such as resource use, emissions, safety, customer productivity, and societal factors, among others. Offerings have been considered across all segments of our businesses, and over 100 offerings have been reviewed with our Customer Technology Team. The offerings that have the most significant positive impacts on sustainability are categorized as Sustainable Offerings.

Sales of Sustainable Offerings provide the basis for our customer avoided emissions, which represent reductions in carbon intensity compared to benchmark technologies. Included in our avoided emissions are several of the Sustainable Offerings described in this section, such as the production of cleaner transportation fuels using hydrogen, the reduction of food waste due to the use of our gases and lower energy consumption from the use of oxyfuel and argon for window insulation.



## Hydrogen

Much of Air Products’ hydrogen supply today is used in the production of cleaner traditional transportation fuels. It is used to refine heavier, sour crudes to increase refinery yields and reduce emissions through the production of cleaner fuels including ultra-low sulfur diesel fuel. As noted in “Our Purpose and Strategy” hydrogen is an essential part of decarbonizing the transportation sector, particularly heavy-duty vehicles.

Many other industries such as electronics, food, glass, chemicals, and more also benefit from hydrogen’s unique properties to improve quality, optimize performance, and reduce costs. As the world’s largest provider of hydrogen, Air Products operates over 110 hydrogen plants, including some with liquefaction capabilities, and which have the equivalent of a combined 1,500 years of safe and reliable operating experience. In many cases, we provide hydrogen from pipeline systems around the globe, including the world’s largest hydrogen pipeline network and system located in the U.S. Gulf Coast.

## Helium

Helium and our high purity medical gases help sustain life. Magnetic resonance imaging (MRI) is dependent on helium, which is used to keep MRI magnets cold and superconducting. Helium is also valued as a gas for lifting, breathing, leak detection, space exploration, semiconductor manufacturing, scientific applications, and shielding. It has unique properties that optimize performance and productivity, reduce labor costs, and improve safety. As a leading producer and supplier of helium, Air Products has pioneered many of the helium extraction, production, distribution, and storage technologies still in use – including cryogenic equipment for most of the world’s helium recovery plants.





# Sustainable Offerings that Benefit our Customers Around the World



## LNG Process Technology and Equipment

The use of LNG continues to increase globally with strong energy demand in growing economies. Air Products' LNG technology and equipment enable the efficient and economic production and transport of this critical energy resource, including from stranded locations and 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 around the world. We manufacture this efficient and reliable equipment at our state-of-the-art facility in Florida, U.S.

## Modified Atmosphere Packaging (MAP) and Freshline® Solutions

Gases for MAP and Freshline® solutions use high-purity gases and equipment to extend the shelf-life of food, improve taste, reduce waste, and help reduce production costs. The research and development team at Air Products has been at the forefront of food freezing for over 50 years, pioneering cryogenic technology, and continuing to push the boundaries of efficiency and versatility while working to ensure safety and hygiene.



## Helping Customers Avoid CO<sub>2</sub> Emissions

Our products are used in hundreds of different applications. Some of these uses result in significantly lower carbon emissions compared to baseline technologies they replace or improve upon. Each year Air Products tracks emissions avoided by our customers, and in some cases, users further downstream in the supply chain. Emissions are estimated based on the emissions avoided per unit of gas and then multiplied by the amount of gas sold in a year. Included are the emissions avoided through integration of Air Products with its customers, including the use of customer waste gases as feeds to our processes and providing customers with efficiently produced by-product steam from our hydrogen plants.

In 2021, we enabled 82 million metric tons of CO<sub>2</sub>e to be avoided by our customers and their customers, which is approximately equivalent to the emissions from almost 18 million cars and more than three times our own direct and indirect CO<sub>2</sub>e emissions.



## 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. A leader in oxy-fuel technology since it was first introduced over 50 years ago, Air Products continues to help customers improve operations and efficiency through new burner designs and performance testing at our world-class combustion laboratory facilities.



# Innovation

## Why It's Important

Addressing sustainability challenges requires ingenuity, innovation, and partnership. For example, as population and prosperity increase around the world, including in emerging markets, so will the demand for energy. This higher demand must be met through cleaner energy solutions and improved energy efficiency. The same is needed to address climate change and increased demand for food, water, and other valuable resources.

**\$93.5 million**  
in R&D was spent in 2021. Nearly 70% of this spending supported products and processes that improved sustainability.

## What We're Doing

Our research groups are aligned with our businesses and focus on improving our processes and innovating for our customers. Research and Development (R&D) concentrates on new and improved production and delivery of industrial gases and new or improved applications for industrial gas products that help our customers improve sustainability. Air Products also funds and cooperates in R&D programs conducted by world-renowned universities and other technology organizations. R&D is conducted principally at our Technology Centers in the United States (Allentown, Pennsylvania), the United Kingdom (Basingstoke, Hersham and Carrington), China (Shanghai), and Saudi Arabia (Dhahran).

Our R&D strategy reflects our support of the global energy transition by emphasizing the optimization and integration of technologies needed for the success of our world-scale energy projects. Specifically, our R&D teams are focused on developing and enhancing technologies related to hydrogen, gasification, electrolysis, and ammonia as a hydrogen carrier, which are key to executing our business strategy.

In addition to our significant R&D efforts, Air Products continues to innovate through new projects, particularly through the commercialization of cutting-edge green and blue hydrogen production technology and carbon capture technologies. Due to regulatory and market demands, Air Products will help supply a growing need for lower carbon intensity hydrogen, both in existing applications and innovative expanded uses, such as the growing hydrogen for mobility market.



## Reduced flaring during LNG plant start-up

During the startup of an LNG facility, natural gas must be flared as the plant is brought onstream. This flaring consumes excess feed gas, creating CO<sub>2</sub> emissions in the process.

Air Products has developed an improved start-up method that reduces flaring. The new method, termed reduced flaring cooldown, eliminates the pre-cooldown step and results in less flaring and faster, more consistent start-ups. The process has been successfully implemented in several operating facilities where the cooldown time has been reduced by up to 25 percent while reducing the amount of natural gas flared and CO<sub>2</sub> emissions during

the 12-hour cooldown. The reduced flaring cooldown method has been utilized at new facilities and retrofitted to existing ones, with excellent feedback from customers.

Innovations continue with the new development of an automated cooldown process resulting in even greater flare reduction and reduced thermal stress on equipment. Air Products has patented the AP-AutoCool™ Program which allows the main cryogenic heat exchanger to be cooled automatically with minimal human interaction. Air Products is currently working with customers to implement the AP-AutoCool Program.





# Innovation

## Our Commitments and Contributions

We continue to innovate across our product lines and in support of our customers:

- **Carbon Capture:** We will deliver world-scale blue hydrogen projects in Alberta, Canada and Louisiana, U.S., which will rely on state-of-the-art carbon capture and permanent sequestration technologies.
- **Hydrogen for Mobility and Energy Transition:** We are expanding technologies to increase hydrogen availability, and scaling electrolyzers to produce green hydrogen.
- **Industrial Gases:** We continue to improve the design and operations of our facilities while collaborating with our customers to meet their energy and environmental goals.
- **Liquefied Natural Gas Technology and Equipment:** We are improving the efficiency of our LNG liquefaction equipment that is used globally to supply cleaner burning natural gas.
- **Gasification:** We are improving carbon conversion efficiency and scalability in gasification by enhancing the designs of our injectors, burners, and reactors.



## Marine nitrogen generators for hybrid propulsion

As the global shipping industry moves toward decarbonization, the integration of alternative fuels and use of hybrid-fueled engines is increasing rapidly. Driven by International Maritime Organization (IMO) targets, which call for 40 and 70 percent reductions in greenhouse gas (GHG) emissions by 2030 and 2050 respectively, the shipping industry is undergoing significant change.

Alternative fuels, such as LNG, petroleum gas and methanol, can offer over 20 percent reduction in emissions compared to traditional fuels. Inert nitrogen gas is required for safe operation of engines that utilize these “low flashpoint fuels.” Given the limited space on ships and the changes driven by decarbonization

regulations, Air Products’ small-sized, marine nitrogen systems have seen increased demand for on-board production of this inert gas for use in container ships, dry bulk carriers, cruise ships and car carriers.

In the more distant future, long distance shipping will most likely involve hydrogen, including ammonia and synthetic fuels, as the most practical pathway toward gaining zero emissions for ships. This will eventually shift ships’ motor propulsion systems toward hydrogen fuel cell technology. Further on-ship nitrogen generation will continue to be important for the shipping industry, as nitrogen will be required for the safe handling of these fuels regardless of fuel source.



## Ethics and Integrity

### Why It's Important

A company's success is built on the trust of its employees, customers, communities, and other stakeholders where it operates. Unethical behavior violates that trust and negatively impacts reputation, relationships, and performance.

### What We're Doing

Integrity is a core value at Air Products. We do not tolerate ethics violations and have strong policies and programs in place to prevent, detect, report, and address these issues. This includes Air Products' Code of Conduct and Business Ethics ([Code of Conduct](#)). Every employee is required to comply with the Code of Conduct, complete mandatory training, and annually certify understanding of the Code of Conduct.

Air Products encourages individuals to report, as allowed by local law, misconduct or ethics violations, and every allegation is reviewed and investigated. The Company has a disciplinary process to address allegations that have been confirmed and takes actions up to and including termination of employment.

We also conduct assessments globally for the potential of corruption risks through our compliance function and our internal audit processes. Significant risks that have been identified, and for which global processes have been established, include relationships and transactions with governmental authorities and the use of third-party intermediaries.

### Our Commitments and Contributions

Our goals are twofold – to achieve 100 percent of our employees to be annually trained and certified in our Code of Conduct and to continuously improve our compliance systems and performance. To that end, the annual Code of Conduct training and certification are combined into a comprehensive online program that each employee is required to complete. All employees met this requirement in 2021.



## Data Privacy and Cybersecurity

Information security and privacy are of utmost importance to the Company to maintain the trust and confidence of our customers, employees and other stakeholders. We understand it is our responsibility to safeguard, in accordance with applicable laws, the personal information of our employees, customers, partners, suppliers and contractors. This commitment is documented in our [Global Data Privacy Policy](#). In fiscal 2021 we again had no material complaints regarding breaches of privacy, infringement of privacy rights, or losses of customer data.

Our Chief Information Officer and Chief Information Security Officer advise our Board of Directors at least quarterly on our cybersecurity risk management strategy and overall program status. The Company continuously assesses industry best practices and standards and leverages them to continually advance cybersecurity risk management maturity with a focus on utilizing such practices and standards to predict, prevent, detect and respond to potential security threats.

Air Products maintains an updated information security policy and incident response plan. As part of the Company's information security training program, all employees participate in various cybersecurity awareness activities, including formal training exercises and simulated email phishing events. In 2021, we achieved our primary cybersecurity risk management objective of no material cybersecurity incidents. Over the past three years we have not incurred material expenses from cybersecurity incidents.



# CONSERVE

## Protecting the Environment through Responsible Consumption and Production

The world faces a huge challenge in shifting toward clean, sustainable energy sources, and we believe we have the diverse mix of solutions to meet these clean energy needs.







## Protecting the Environment

Air Products is making significant investments in lower carbon hydrogen for the world, including our share of the \$7 billion (USD) NEOM project, the world's largest green hydrogen energy project. Through this project, we will supply carbon-free green hydrogen to power buses and trucks around the world by 2026, eliminating three million tons per year of CO<sub>2</sub> emissions, the equivalent of emissions from over 700,000 cars. We are also investing in blue hydrogen projects in Canada and the U.S. to support the world's transition to lower carbon energy.

We are committed to improving our own performance by operating efficiently, incorporating environmental considerations into the design of our facilities and products, effectively managing environmental risks, and transparently communicating our environmental performance. While our resource consumption and emissions may increase due to growing societal and customer demands for our products, our efficiency and environmental improvements enable us to make our customers' processes and products better through higher productivity, improved energy efficiency, and lower emissions.

We encourage suppliers to incorporate environmental sustainability into their operations and supply chains as described in the principles outlined in our sustainability expectations of our suppliers.



### Efficient Use of Resources

The principal raw materials for making atmospheric gases and hydrogen are air, energy as electricity or steam, and natural gas and other hydrocarbons. Air, which is considered by many to be a renewable resource, represents more than 95 percent of the raw material we use on a weight basis. Similarly, more than 80 percent of the raw material used for our carbon dioxide business is from renewable sources.

Industrial gas manufacturing is energy intensive. ASUs require electricity or steam to compress air so it can be cryogenically distilled into oxygen, nitrogen, and argon. Likewise, the production of hydrogen consumes natural gas, and in some cases refinery off-gas, as a feedstock and/or fuel in the production process.

Packaging is not a significant issue for Air Products because we supply most of our products in two-way bulk containers, semi-bulk containers or via pipelines. For small-scale supply in certain regions of the world, we use cylinders that are long life, returnable, and reusable transportable pressure vessels with typical life spans of 20+ years.



## Environmental Management at Air Products

- Global Environmental, Health and Safety (EHS) Policy
- Reduce CO<sub>2</sub> emissions intensity through our “Third by ‘30” goal
- Increase energy efficiency and promote the responsible use of water
- Global EHS Management System, applicable to all operations, which contains environmental standards and procedures, and which is aligned with ISO 14001
- Employee training requirements based on job function
- Risk assessment processes for products, processes, and regulatory requirements
- Compliance audits conducted by our EHS Assurance Team
- Review of performance by our Board of Directors, Sustainability Leadership Council, Businesses and Operations, and members of our Environmental Centers of Excellence at least annually
- Internal reporting to senior management of results on a monthly basis
- External reporting on environmental performance through our annual Sustainability Report, public website, and responses to various stakeholders
- Management engagement with key shareholders on sustainability

## Building sustainability into our new global corporate headquarters

From the beginning of the Global Headquarters project, sustainability has been a central driver for design decisions. For example, the vertical structure of the building lessens the “heat island” effect, which is typically caused by large expanses of asphalt being heated by the sun. It also improves storm water run-off and drainage management, and the collected water is used for irrigation purposes. Likewise, the use of local species of plants and amended soil help retain water and increase nutrients.

Other aspects of our sustainable design include the installation of solar panels on the garage walls and roof. Those panels will supply a portion of the energy required onsite. A light harvesting system uses daylight to offset the amount of electric lighting needed and lighting control systems dim brightness in response to changing daylight and occupancy. Other features of the building include the use of recycled materials in its design and ongoing operation, as well as low-water-use fixtures to help minimize water consumption.

Safety and security have also been considered at every step in the project, from handrails on the stairs to security systems that help keep our people safe. We also built features into the site that promote employee health

and wellness, such as healthy food and beverages and opportunities for exercise through the fitness center, walking paths and sidewalks. At our new headquarters, we are able to do the same great work while using less energy and water, emitting less carbon, and ensuring a safe, secure, and healthy work environment.

We had been in our prior headquarters for 60 years. It served us well, and now we are repurposing what we can from our prior home by finding new uses for the furniture and other equipment, supporting non-profit organizations in nearby communities.





# Energy and Climate Change/CO<sub>2</sub>

## Why It's Important

Energy consumption and CO<sub>2</sub> emissions are inextricably linked. We are supporting the world's need for clean, sustainable energy – and energy that protects our environment and moves us all toward a better future.

“ Creating a cleaner future requires experience, investment, and innovation on a world-scale. At Air Products, we have the technology, the track record, the capital and the ambition to be a first-mover in pursuit of this goal. ”

Seifi Ghasemi  
Chairman, President and CEO

## What We're Doing

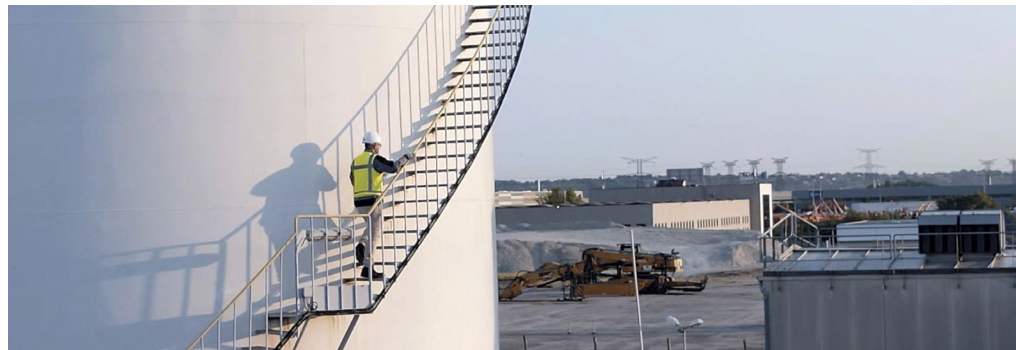
As the world transitions to lower carbon energy sources, Air Products will lead the way by producing and distributing clean hydrogen energy solutions for use in heavy-duty fuel cell vehicles, industrial applications and energy storage. We are helping to build a vibrant pathway to a cleaner energy future.

We believe a diverse mix of solutions is needed to meet clean energy needs while reducing GHGs. For example, we supply vast quantities of hydrogen to petroleum refiners to lower sulfur content and produce cleaner-burning gasoline and diesel fuels. Likewise, our oxy-fuel burners improve productivity for glass and metal manufacturers while reducing energy consumption and emissions. We also have leading technologies for gasification, carbon capture and hydrogen for mobility and the broader energy transition.

The production of industrial gases is energy intensive, which is why we have continually increased the energy efficiency of our ASU and hydrogen and carbon monoxide (HyCO) facilities through improved plant designs and efficient operations. These efforts also reduce CO<sub>2</sub> emissions and water consumption. In fact, improving energy efficiency is one of the five mechanisms we are focused on to meet our “Third by ‘30” CO<sub>2</sub> emissions intensity reduction goal.

Energy consumption is the most significant variable in the cost of our production processes. We carefully track and manage energy purchases, and our conservation programs are focused on continually improving energy efficiency across our plants, particularly larger facilities. Efficiency improvements are realized through higher plant utilization, increased production at new, larger, and more efficient facilities and through facility improvement projects. Several of our facilities have been certified to the ISO 50001 Energy Standard.

Additional information about how we manage climate change risks is provided in our Task Force on Climate-related Financial Disclosures (TCFD) summary.







# Energy and Climate Change/CO<sub>2</sub>

## Air Products at COP26

Air Products was proud to be the headline partner of Climate Action’s Hydrogen Transition Summit at COP26. Seifi Ghasemi, Air Products’ Chairman, President and CEO delivered the opening keynote speech, which positioned hydrogen as the energy source for the future and highlighted what governments can do to help further stimulate the transition to green energy. Ivo Bols, Air Products’ President for Europe and Africa, participated in a Climate Leaders Live Fireside Chat at the Hydrogen Transition Summit and discussed the steps needed to build a hydrogen economy and how quickly the economy can be established. Bols also participated on a panel at the Sustainable Innovation Forum about “game changers” in the Hydrogen Economy that focused on the innovation and technological acceleration needed to make the hydrogen economy work for heavy industry and transport.

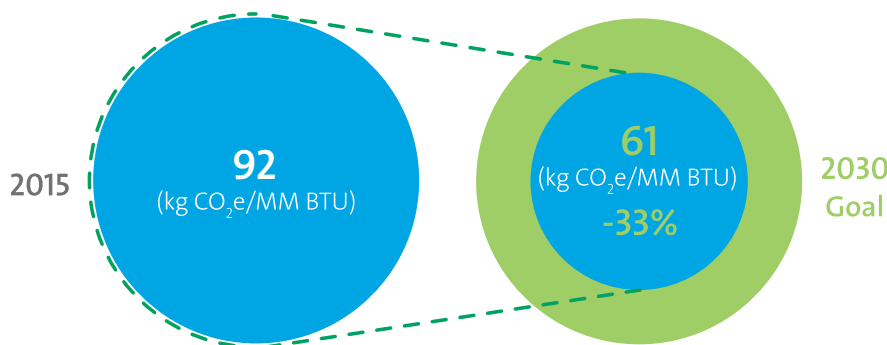
While world leaders discussed key climate change issues at COP26, young people from across the United Kingdom came together virtually at ‘STEM Ambassadors: Careers in Climate Change.’ This 360° online careers exhibition was aimed at 13–18-year-olds who were interested in pursuing a sustainability-related career and enabled them to explore the work of 30 companies adapting to the challenges of climate change. Air Products’ successful virtual stand at the event focused on who we are, our sustainable solutions, and Hydrogen for Mobility projects, and drew over 2,900 unique users and over 500 different UK schools and colleges and overseas visitors from as far away as Australia, Pakistan, and the United States.



## Our Commitments and Contributions

Through our “Third by ‘30” CO<sub>2</sub> emissions intensity reduction goal, Air Products aims to reduce our CO<sub>2</sub> 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, and holds us accountable for delivering. We plan to deliver on our CO<sub>2</sub> 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. Air Products does not purchase carbon offsets to lower its emissions. Air Products calculates carbon intensity as the total of our Scope 1 and 2 emissions divided by the energy equivalents of the products we sell.



2021 Reduction of 4% Significant improvement later in decade as key projects come onstream



# Energy and Climate Change/CO<sub>2</sub>

## Mechanisms to meet our CO<sub>2</sub> intensity reduction goal

As a company, we are never satisfied with our current performance. Therefore, we are further assessing our opportunities to make even more meaningful progress towards higher environmental growth.

In 2021, Air Products realized a CO<sub>2</sub> emissions intensity improvement of four percent compared to the baseline year (2015). We expect the reduction of our CO<sub>2</sub> emissions intensity to accelerate in 2025 and beyond as we bring our blue and green hydrogen megaprojects onstream and continue working across the five areas related to our goal:

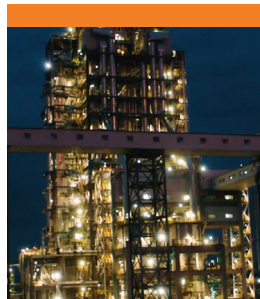
Carbon capture



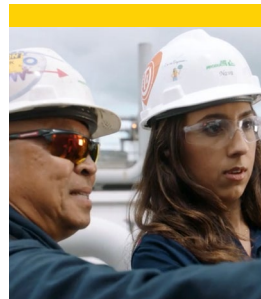
Carbon-free hydrogen



Low-carbon projects



Operational efficiency



Renewable energy



## Carbon Productivity

Carbon productivity is a measure of how much value is generated from the consumption of energy. We are working to improve our carbon productivity through several mechanisms including: improving the energy efficiency of our production processes and product distribution; increasing our use of renewable energy; pursuing opportunities to further deploy our carbon capture technology and expertise; and enabling our customers and their customers to avoid CO<sub>2</sub> emissions. Below are carbon productivity results for 2021, with improvements in efficiencies, intensities and costs avoided since our 2015 baseline year.

**3.6%** improvement in ASU energy efficiency

**>\$220 million** in cumulative energy and water costs avoided

**4%** improvement in CO<sub>2</sub> emissions intensity<sup>a</sup>

**27%** of purchased electricity from renewable sources

**>1.5 million** metric tons of CO<sub>2</sub>e avoided through efficiency improvements<sup>a</sup>

**>3 times** the ratio of CO<sub>2</sub>e avoided by our customers to our own emissions<sup>a</sup>

<sup>a</sup> Includes Scope 1 and 2 emissions



# Energy and Climate Change/CO<sub>2</sub>

Our total energy consumption across our businesses in 2021 was 52.7 terawatt hours (TWh), representing a nine percent increase from 2020. The increase was a result of higher ASU plant loadings as the economy recovered from COVID-19 and acquisitions.

As a result of this increased demand and energy usage, our total CO<sub>2</sub> emissions increased slightly in 2021.

Our direct (Scope 1) and indirect (Scope 2) CO<sub>2</sub> emissions are related to the energy we consume. In 2021, our Scope 1 GHG emissions, which are primarily from our HyCO operations were 14.8 million metric tons (MT), representing a 1.5 percent decrease from the prior year. Our Scope 2 emissions, which are due in large part to the electricity and steam we consume in our ASUs, were 9.4 million MT in 2021, which was an 2.4 percent increase from 2020. In 2021, Air Products enabled its customers and their customers to avoid 82 million MT of CO<sub>2</sub>e, which was more than three times Air Products' combined Scope 1 and 2 emissions.

Our Scope 3 emissions were 7.6 million MT and included three categories: upstream fuel and energy related activities, use of sold products, and investments. We have initiated discussions with some of our largest suppliers and equity affiliates on reducing Scope 3 CO<sub>2</sub> emissions. Please see the [GRI Content Index](#) for additional information on the breakdown of our GHG data.

Our CO<sub>2</sub> emissions for 2021 were externally verified by [GHD Limited](#).

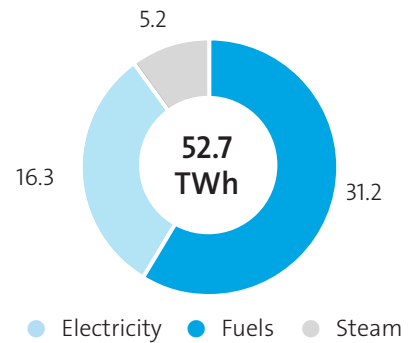
## Energizing with Renewables

Increasing our renewable energy use is a key mechanism in progressing toward our new "Third by '30" CO<sub>2</sub> emissions intensity reduction goal. In 2021, we increased global procurement of renewable electricity by 14 percent compared to 2020.

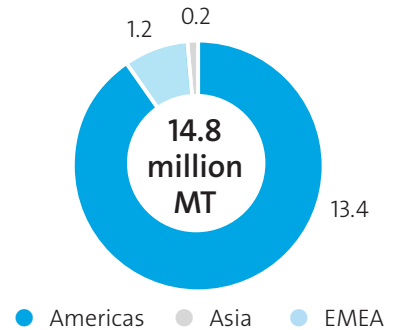
Overall, 27 percent of our electricity was from renewable sources in 2021.

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 2021 we began receiving electricity purchased from a new large-scale solar plant in the southwest U.S. for a large ASU. In Poland we signed a virtual power purchase agreement for wind energy, the CO<sub>2</sub> savings from which equate to the emissions of 8,500 passenger cars driven over one year or CO<sub>2</sub> sequestered by over 650,000 trees in 10 years.

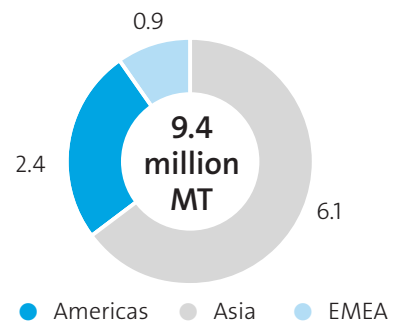
Energy Consumption



Scope 1 CO<sub>2</sub> Emissions



Scope 2 CO<sub>2</sub> Emissions



14% increase



in renewable electricity used.





## Energy and Climate Change/CO<sub>2</sub>

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. In 2021, we continued to purchase electricity covered by GOs in Spain and France, where we have linked to ENGIE's The Energy Origin (TEO), a blockchain approach that substantiates the renewable origin of the electricity we consume and is the first renewable energy blockchain to be validated by an independent third-party.

Air Products has installed solar arrays at several of its facilities around the world to generate renewable electricity for use at our sites. Company facilities with solar arrays include:

- Keumiée, Belgium
- Zoldar, Belgium
- Araraquara, Brazil
- Belo Horizonte, Brazil
- Pyeongtaek, Korea
- Botlek, The Netherlands
- Halfweg, The Netherlands
- Allentown, Pennsylvania, U.S.
- Massalfassar, Spain
- Tainan, Taiwan
- Kuan Yin, Taiwan

### Improving Distribution Efficiency

We have trucking fleets around the world that are focused on safely and efficiently delivering our products to our customers. To improve our distribution efficiency and reduce our Scope 1 CO<sub>2</sub> emissions, we have many initiatives underway, including investments in new trucks, trailers, technology, and facilities.

Continuing 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. In 2021 we launched a program to convert our distribution fleet to hydrogen. We also have increased the number of hybrid cars in our vehicle fleet.

Technology is also key to improving distribution efficiency and we are using data to help our truck delivery drivers be more agile in addressing driving parameters they can control, such as revving and idling. This is complemented by improvements in scheduling that improve efficiency, reduce miles, and decrease return trips.

### Climate Scenario Analysis

Scenario analysis is a tool that evaluates the potential effects of future events on an organization, such as climate change. Air Products has continued to evaluate climate scenarios that are in line with the recommendations of the Intergovernmental Panel on Climate Change (IPCC) and TCFD, examining potential climate-related risks and opportunities on our businesses.

## Converting our distribution fleet to hydrogen

Air Products believes hydrogen is the future for heavy duty segments of the transportation market. We are demonstrating the merits of hydrogen by being a first-mover in transitioning our heavy-duty fleet of trucks to hydrogen fuel cell electric vehicles. In 2021, we signed a memorandum of understanding with Cummins, Inc. to work together to accelerate the integration of hydrogen fuel cell trucks in the Americas, Europe and Asia. Cummins, Inc. will provide hydrogen fuel cell electric powertrains integrated into selected Original Equipment Manufacturer (OEM) partners' heavy-duty trucks for Air Products, as Air Products begins the process of converting its global fleet of distribution vehicles to hydrogen fuel cell vehicles. Following a successful demonstration and pilot phase, Air Products plans to convert its global fleet of approximately 2,000 trucks to hydrogen fuel cell zero-emission vehicles. Air Products is also pursuing new hydrogen fueling stations to support its growing fleet of hydrogen fuel cell electric vehicles.





# Water Conservation

## Why It's Important

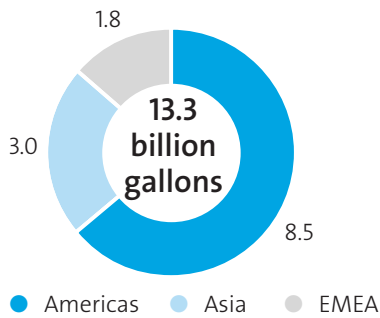
Water is critical to the health and sustainability of our world. Unlike climate change, which is a global issue, water is a local concern as consumers rely on nearby sources for this important resource. Efforts to conserve water are needed, particularly in areas where water demand is high or exceeds supply.

## What We're Doing

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 the way we use water, 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 the use of recycled gray water in our plants, when possible, particularly in Southern California where water is stressed. Across our plants, we estimate that four percent of our water was from recycled sources in 2021.

Water Consumed\*



\* Includes water discharged but not returned to source



We construct our facilities on or near customer sites to enable products to be distributed efficiently. As a result, some of our operations are located in water stressed areas, particularly those where the baseline water stress is high or extremely high according to the World Resources Institute Aqueduct Water Risk Atlas. In 2021, 22 percent of our facilities, based on our overall number of sites, were in water stressed areas.

## Our Commitments and Contributions

Air Products is committed to increasing energy efficiency and promoting the responsible use of water. In 2021, our water consumption declined by 16 percent on an intensity basis compared to 2020.

Our consumption of water, on an absolute basis, was 13.3 billion gallons in 2021. Additional data on water withdrawals, consumption and discharges is provided in the [GRI Content Index](#) to this Report.



# Water Conservation

## Business Opportunities for Water Treatment

Customers use our technologies to improve water quality and treat wastewater. Our offerings include: pure oxygen aeration systems for wastewater treatment and aquaculture; oxygen for ozone generation; carbon dioxide for pH adjustment and drinking water remineralization; and ozone and advanced oxidation systems for wastewater treatment.

## Saving water while reducing hazardous chemicals

Cooling towers are used to remove heat from industrial processes and represent a significant use of water and water treatment chemicals for Air Products. To minimize resource consumption, optimize heat transfer, and comply with regulatory requirements, the water flowing through the tower must be effectively managed and treated. For example, one of the most critical elements of cooling tower water treatment is to prevent the spread of Legionella bacteria.

In 2021, Air Products tested several water treatment chemicals and systems with the goals of reducing chemical use and water consumption. One of the trials demonstrated the successful use of a chemical that could replace benzotriazole, which may be classified as a carcinogen, mutagen, reproductive toxin. The treatment was successful – it used less and safer chemicals and did not increase water consumption. Another trial proved that super-chlorination of cooling tower water could be replaced with a monitoring and dosing system that prevented corrosion of the system, which can lead to leaks and increased water usage, as well as ensured the bacteria in the water was controlled. The final trial was successful in reducing the use of sulfuric acid in the water treatment and saved water. Air Products is looking to extend the use of these alternatives and processes at additional facilities.







## Additional Environmental Measures

### Waste

Industrial gas production does not generate significant waste. Acetylene manufacturing results in a by-product lime slurry that is considered a hazardous waste in some jurisdictions. This slurry is often beneficially reused in other processes, such as water neutralization, brick production, and in hardening materials in landfills.

Other sources of hazardous waste include spent catalysts, waste oils and solvents, waste paint, and materials used to clean up small spills. All waste is managed and treated in accordance with the regulatory requirements of the jurisdiction in which the waste is generated. Waste that cannot be recycled is disposed of in an environmentally sound and regulatory compliant manner.

In 2021, the amount of hazardous waste we generated globally was 10.9 million pounds, and our non-hazardous waste in North America totaled 13.9 million pounds. Hazardous waste volumes decreased in 2021 due to fewer construction and maintenance projects. Additional waste data is provided in the [GRI Content Index](#).

### Air Emissions

The manufacture of atmospheric gases produces negligible Scope 1 and other air emissions. Most of our air emissions are from hydrogen manufacturing and utility operations that support our facilities. We monitor and report air emissions in accordance with applicable regulations.

- Nitrogen Oxides (NO<sub>x</sub>) and Sulfur Oxides (SO<sub>x</sub>) are products of combustion and are primarily from fuel used in our boilers and steam methane reformers.
- Other air pollutants result from the minor loss of materials used in our processes or solvents used in the maintenance of equipment. These include toxics under the U.S. Environmental Protection Agency (EPA) Toxic Release Inventory (TRI) program, other criteria pollutants, hazardous air pollutants (HAPs) and volatile organic chemicals (VOCs).

Additional data on air emissions is provided in the [GRI Content Index](#) to this Report.

### Cerrillos, Chile Waste Minimization

Air Products is committed to driving continuous improvement in our facilities around the world, particularly when it comes to the efficient use of resources, minimizing the environmental impacts of our operations, and contributing to the circular economy. This philosophy has been on display over the past year in our Cerrillos, Chile electrode manufacturing facility, where the local team developed an innovative solution to eliminate steel waste.

Until recently, the plant generated steel scrap from their production process, which could not be reincorporated in the production process. To compound that issue, a lack of an appropriate recycler meant that steel scrap had to be disposed of as solid waste.

Seeing an opportunity to recycle the steel, the Cerrillos team created an improved segregation system for metal waste at the plant. Additionally, the team engaged with one of the largest steel producing companies in Chile to recycle this metal waste stream. The Air Products Cerrillos plant is now capable of recycling more than 300 tons of steel per year from its operations, and essentially 100 percent of the steel from the electrode plant is now recycled back into raw materials.



## Additional Environmental Measures

### Ozone Depleting Substances

Air Products does not manufacture ozone depleting substances, fluorinated gases or refrigerants. We do sell gas mixtures that contain small quantities of these substances, as well as some pure refrigerants, as permitted by applicable regulations. We also recover, recycle, and reclaim fluorinated gases for destruction.

### Environmental Compliance

Regulatory fines increased slightly in FY21 to \$8,500 (USD) and 18 notices of violation were received in FY21 compared to 17 the prior year. There were no reportable spills.

### Environmental Justice

Air Products views environmental justice as an opportunity to engage with our host communities in inclusive and transparent dialogue, enabling our neighbors to inform activities and policies that may impact them. This is grounded in our belief that when companies and communities work together, local issues can be more effectively identified and addressed. It's also why we have been building relationships and contributing to the well-being of our communities for over 80 years. We are committed to protecting the environment and the health, safety, and security of our employees, contractors, and the public as stated in our [EHS Policy](#). The Policy also demonstrates our commitment to comply with all applicable environmental, health, and safety laws and regulations while continually improving our performance in these areas. We believe these commitments – to our communities and to EHS – provide a strong foundation for engaging on and addressing environmental justice.



### Biodiversity

Biodiversity is essential for life on Earth. Biodiverse ecosystems provide critical resources, such as clean air and water. Climate change and biodiversity are also linked, as ecosystems help regulate the global climate and biodiverse ecosystems are more resilient to climate change.

Air Products' commitment to biodiversity is embodied in our EHS Policy through which we commit to designing and operating our facilities in a manner that protects the environment and continually reduce the environmental impacts of our operations. Underpinning this policy is Air Products' EHS Management System, which contains numerous procedures designed to protect the environment and minimize potential ecosystem impacts.

Air Products' operations do not have a significant impact on biodiversity based on the Company's environmental risk assessments and evaluation of Key Biodiversity Areas (KBAs). These assessments show that energy use has the highest potential for ecosystem impact followed by water consumption. Approximately 30 percent of our hydrogen facilities, which are among our largest consumers of energy and water, are within a 10 kilometer buffer zone of a KBA. From a water perspective, Air Products discharges water into eight Conservation International Biodiversity Hotspots, although discharge volumes were insignificant in 2021.

For new projects, Air Products assesses potential health and safety, socioeconomic, cultural, and environmental impacts, including ecosystem considerations such as threatened and endangered species and wetlands. These assessments can influence where projects are located or require mitigation strategies to ensure the ecological health of the location and region is maintained or enhanced. In 2021, we initiated environmental site assessments of several major projects, including our new blue and green hydrogen facilities. We also develop and follow environmental mitigation plans to minimize impacts during construction.

From a supply chain perspective, Air Products has identified energy sourcing as the area with the most significant potential for impact on biodiversity and has initiated a program to evaluate the biodiversity efforts of its key energy suppliers.





# CARE

## Caring for Our Employees, Customers and Communities

Ensuring the safety of our employees, customers and the communities where we work is fundamental to our daily operations around the world.







## Caring for our Employees, Customers, and Communities

Our products and projects enable economic opportunities and foster healthy communities. We develop, execute, own, and operate complex process facilities that can transform local economies. Likewise, we take materials that are plentiful in emerging markets and help transform them into high-value products that enable these countries to grow and improve standards of living.

We innovate alongside our customers to help make their energy projects more sustainable, create efficiencies, improve quality of life, and support the social development of communities around the globe. Our megaprojects are job creators and provide direct economic benefits to local communities and indirect economic benefits through the supply chains needed to build them. The high-value products produced through these projects often become the backbone for economies. For example, our new clean energy complex in Louisiana, U.S. will create 170 permanent jobs with a total annual payroll of \$15.9 million (USD) and more than 2,000 construction jobs over three years.

Recognizing that we cannot do this alone, we engage with key stakeholders, working with our customers to improve sustainability, engaging with governments to understand their development and energy goals, and building projects to help them meet these goals. We also partner with civil society organizations to understand how we can work with them to amplify the social benefits of our projects and be better stewards of the environment.

Throughout these efforts we strive to promote safety, health, our people, and our communities.

Safety is fundamental to who we are as a company. Safety is a shared value, and our employees' commitment to safety is demonstrated in many ways every day. Safety is a critical component of everything we do, everywhere in the world.

- We promote the health of our employees, on and off the job by requiring healthy practices at our sites, on the road, and encouraging them at home.
- We are focused on enabling our employees to thrive and excel at Air Products.
- We have a tradition of excellence that has been built by passionate, talented people who are driven to succeed.
- We continue to invest in the communities in which we live and work.





# Safety and Health

## Why It's Important

Ensuring the safety of our employees and customers and the communities where we work is fundamental to our core mission. Excellent safety performance can lower business costs related to missed work, productivity impacts, and workers' compensation. It also has been shown that safe workplaces build employee trust, reduce absenteeism, and result in higher quality products that enhance business and society.

### Safety Performance in Fiscal 2021 vs. Prior Year

	2021	2020
Fatalities	1	1
Employee Recordable Rate	0.39	0.40
Employee Lost Time Incident (LTI) Rate	0.07	0.09
Contractor Recordable Rate	0.43	0.39
Contractor LTI Rate	0.06	0.10

## What We're Doing

Safety is central to our Company goal of being the safest, most diverse, and most profitable industrial gas company in the world. We also believe it is a moral obligation. We want our employees to return home to their families safe and healthy. Our goal remains zero accidents and zero incidents.

Our beliefs about safety have been instituted for decades through our Total Safety Values, which stress that nothing is more important than safety and that adherence to safety is a condition of employment. Our current leadership has built on this strong foundation, making us an even safer company.

Year-on-year, we strive to improve safety for our colleagues, contractors, customers, and host communities. In 2021 we worked to enhance the safety of our industry, assuming leadership roles in all the major industrial gas trade associations and helping to improve and harmonize safety standards around the world.

## Our Commitments and Contributions

Our goal is to be the safest industrial gas company. We have improved our employee lost-time injury rate by 75 percent and our recordable injury rate by 33 percent since 2014. Regrettably, we had a contractor fatality in 2021, and steps were taken to ensure the risks associated with this incident were identified, addressed, and communicated.

## Worker Safety

Our Basic Safety Process (BSP), which has been continuously improved over its 15 years in existence, provides the framework for employee engagement in upholding and continually strengthening our safety performance. BSP is focused on preventative activities, such as planned inspections, observations, and behavior-based activities. Employees at all levels of the Company, including those under collective bargaining agreements, engage in coordinated BSP activities, such as sequential safety meetings that are held monthly for supervisors and their employees.

Our "Master the Basics" mindset takes BSP one step further by giving employees a mental checklist to use before undertaking any task. That checklist includes being aware of surroundings, knowing physical limitations, following procedures, using the proper personal protective equipment (PPE), and thinking before acting. This mindset makes safety personal and actionable.





# Safety and Health

## Safety and Health Management at Air Products

- Global Environmental, Health and Safety (EHS) Policy
- Goals for employee, contractor, and transportation safety
- Global EHS Management System, applicable to all operations, which contains safety and health standards and procedures, and which is aligned with ISO 45001
- Employee training based on job function
- Risk assessment processes for workers, processes, products, transportation, and regulatory requirements
- Compliance audits conducted by our EHS Assurance Team
- Review of performance by our Board of Directors, Sustainability Leadership Council, Businesses and Operations, and members of our Safety and Health Centers of Excellence
- Internal reporting of results on a monthly basis
- External reporting on safety performance through our annual Sustainability Report, public website, and responses to various stakeholders
- Management engagement with key shareholders on sustainability and safety

## Process Safety

Staying on top of potential process safety hazards is one of the most important aspects of managing safety. To promote process safety, we apply sound engineering principles to design, construct, operate and maintain our plants and equipment while minimizing process related hazards. Our program considers regulatory requirements, such as the Occupational Safety and Health Administration's (OSHA) Process Safety Management in the U.S. and the European Union's Seveso Directive, and includes procedures, training, hazard assessments and quantified risk analysis.

## Product Safety

Essential to product safety is ensuring customers and others handling our products have complete safety information. To prepare this information, we have conducted product safety reviews for our commercial products.

These reviews include characterizing the intrinsic environmental and health hazards of the products, examining product uses and creating management actions to address potential concerns. Likewise, our phased process for new technology development has been used to identify and address potential risks of new products and applications.

Our high-volume liquid/bulk industrial gas products are non-toxic and can be handled safely with the appropriate procedures, equipment, and training. Less than one percent of Company revenues are from sales of toxic substances.



Safety information from our product safety reviews is used in safety data sheets (SDS), which are a primary vehicle for communicating hazards information. We also share product hazards through labels that are compliant with the Globally Harmonized System (GHS), as well as internally developed Safetygrams and customer training. Fines related to product safety in 2021 were less than \$300 (USD).





# Safety and Health

## Transportation Safety

Air Products' drivers are the "face of the Company" to our customers and the public. Driver safety is supported through the safety features of our delivery vehicles, driver training, and our Data Enabled Coaching Program (DECP).

The DECP relies on safety performance and vehicle efficiency data that are collected, recorded, and transmitted by event recording cameras in our trucks. DECP coaches use the data, including the videos, to help drivers be even safer and more efficient through preventative coaching and training.

## EHS Assurance

In a typical year, our EHS Assurance Team will audit 30-40 facilities around the world for compliance with governmental requirements and our internal EHS procedures. In 2021, COVID-19 continued to impact our ability to visit some plants, especially those outside of the U.S. Despite these challenges, we completed all audits for the year either by our internal Assurance Team attending audits onsite or by leveraging regional EHS resources and third-party consultants with remote participation by our Assurance Team.

Within the U.S., we completed all mandatory OSHA Process Safety Management and U.S. Environmental Protection Agency Risk Management Plan audits within the three-year time requirement. During the year we also added an internal Assurance Team member based in Shanghai to strengthen our EHS audit program across the Asia region.

## Emergency Preparedness and Crisis Management

A critical part of BSP and our risk management effort is preparing for potential emergencies and crisis events. Every facility is required to have a site emergency plan, which employees train and practice. If a crisis involving one of our facilities or products occurs, our Crisis Management System is activated through our Global Security Operations Center (GSOC) that is available 24 hours a day, seven days a week and 365 days a year. The GSOC is the critical communication hub for Air Products' global emergency and crisis response to activate management resources. The Air Products Crisis Management System involves employees at all levels of the Company and marshals the resources and skills necessary to effectively lead in a crisis.

## Air Products' people support Malaysia flood relief efforts

In late December 2021, Malaysia experienced torrential rain that caused a "100 year" flood and forced more than 70,000 people from their homes. Klang Valley, where Air Products has several operations and where many of our employees live, was the most affected area. All employees were accounted for and safe, but many had damage to their homes and had to move to temporary shelters or relief centers. Air Products' operations and assets were also impacted by flood water or distribution disruptions due to landslides and road closures.

In the face of this natural disaster, the Southeast Asia team immediately set up a crisis management team, including members from management, Human Resources, EHS, Operations, and Supply Chain, and

worked closely together to ensure our people and assets were protected and safe. The team worked tirelessly to return our facilities to normal operation while helping affected employees and the community where we operate. An employee volunteer drive was launched to help employees rebuild their homes, and monetary contributions received were matched by Air Products. The team also supported community relief efforts, assisting nearly 250 families in the community. These efforts clearly demonstrated Air Products' commitment to safety and our community approach of "working here, living here, and giving here."



# Safety and Health

## Security

Protecting our people, property, information and corporate reputation are top priorities at Air Products. Ensuring our assets and the communities where we operate are safe and secure is of paramount importance. Leading this effort is our Global Asset Protection (GAP) team, a diverse group of asset protection managers who are tasked with executing the foundational elements of risk and threat mitigation strategies for the corporation. GAP team members are strategically positioned in Asia, Europe, South America and the Middle East in support of our regional businesses.

In fiscal 2021 our GAP team completed over 50 security vulnerability assessments to evaluate the security risks, vulnerabilities, consequences and mitigation measures relevant to Company operations. They also supported the Company's Emergency Response and Crisis Management systems through drills and activations, nearly 40 of which were related to the ongoing COVID-19 pandemic. Their in-depth travel security briefings and physical security protection measures promoted employee security. The GAP team also evaluated and engaged in the resolution of allegations submitted to our IntegrityLine.

Many of the services provided by our security resources are coordinated through our GSOC based out of our Global Headquarters in the U.S. in Allentown, Pennsylvania. Other regional security operations centers were recently established in Santiago, Chile and Dammam, Saudi Arabia.

## Employee Health and Wellness

We are committed to creating work environments and driving behaviors that sustain the health, safety, and wellness of our people. Our Global Health and Wellness Team, consisting of medical professionals globally, works closely with our Human Resources and EHS organizations. Since early in the pandemic, this Team has been focused on responding to COVID-19 and supporting Air Products' Crisis Management Teams globally. The Team supported the development of COVID-19 standards for PPE and other safety protections, and working with our Procurement Team, ensured that necessary PPE was available to employees. In many cases, the Company's COVID-19 standards exceeded local standards, such as mask specifications and wearing masks, deep cleaning protocols and social distancing, from the start of the pandemic.

While addressing COVID-19, our Global Health and Wellness Team continued to roll out other initiatives, including a driver sleep apnea program in North America. This voluntary program helps company drivers determine if they have sleep apnea and then assists them in obtaining treatment and equipment as needed. Likewise, the Team supported efforts to help employees improve the ergonomics of their workstations, particularly as many were working from home.

## Supporting employee health in the Middle East

Air Products is committed to the safety and health of our employees globally. As we grow in the Middle East, so have our health and wellness programs for employees. For example, in NEOM we are prioritizing employee health and wellness by ensuring remote medical infrastructure is in place to offer primary healthcare and emergency services. This is being accomplished by assessing needs for medical care and facilities, evaluating the capabilities of these facilities, defining medical coverage and approved healthcare providers, and defining a medical emergency response plan that can be integrated within the overall NEOM community plan. Moreover, we are striving for a proactive, holistic approach that supports the occupational health and wellness of our workforce, which is supported by our programs, regional healthcare network, and collaborations with our partners on our health and well-being vision.

## Our Products Promote Health and Well-Being

For over 80 years, we've supplied medical grade gases, equipment, turnkey services, and cryogenic services for MRIs at hospitals and institutions globally. Our medical gases are used in secondary care centers, surgical centers, extended care facilities, research laboratories, at home, and in stand-alone MRI imaging centers.



# Talent and Diversity

## Why It's Important

Our differences drive and inspire our innovation, creating a substantial competitive advantage. At Air Products, our talented, diverse, and motivated team of people in more than 50 countries help us fulfill our higher purpose to develop innovative solutions to the world's most significant energy and environmental challenges. Our employees work with customers to effectively execute world-scale megaprojects to produce and deliver the products that make a difference in people's lives around the world.

We continue to provide challenging opportunities for our employees to grow and expand their capabilities and impact on our business, enabling us to sustain our leadership position in the market.

“ I truly believe that the only element of long-term competitive advantage is the degree of commitment and motivation of the people in the enterprise. So, the only way to have a competitive advantage is to create an environment, a culture, where your people want to come to work and contribute to a higher purpose. ”

Seifi Ghasemi  
Chairman, President and CEO

## What We're Doing

It is part of our higher purpose to create a work environment where every employee knows they belong and matter, to create a first-class company where employees enjoy coming to work and are proud of what they do. To do this, we have enhanced our way of leading to reflect the needs of our business and our employees today and into the future. The introduction of our new leadership model defines the capabilities and values required of our leaders to address global and regional strategic priorities. It shows our leaders how to shape our culture to enable the achievement of our goals and higher purpose.

We work every day to continue to build a culture that empowers and motivates employees. We continuously strive to create a culture where employees enjoy coming to work and are proud of their contributions. In 2021, we continued this commitment and expanded our workforce by almost 2,000 employees, growing to more than 20,000 globally. Through that growth we increased the percentage of U.S. minorities in professional and managerial roles and expanded our efforts to increase the percentage of women in these same roles around the world.

We took steps to embed our Diversity, Inclusion and Belonging (DIB) framework throughout the organization and to evolve our diversity conversations through companywide events, such as our annual Week of Inclusion. We continue to grow our leadership capabilities to reflect the importance of diversity, inclusion and belonging as a cornerstone of our company culture. We have expanded innovative employee benefit programs, such as our Legal Advocacy Program, which supports employees and their family members when facing discrimination outside the workplace. Initially launched in the U.S. and Canada, the program is now also available to employees in the Kingdom of Saudi Arabia, Bahrain, the United Arab Emirates, Oman and Egypt.

Our Talent Management processes, DIB strategy and Total Rewards offerings are centered on attracting, building, and retaining a world-class and highly skilled workforce, capable of delivering our growth ambitions and excellent service to our customers.







# Talent and Diversity

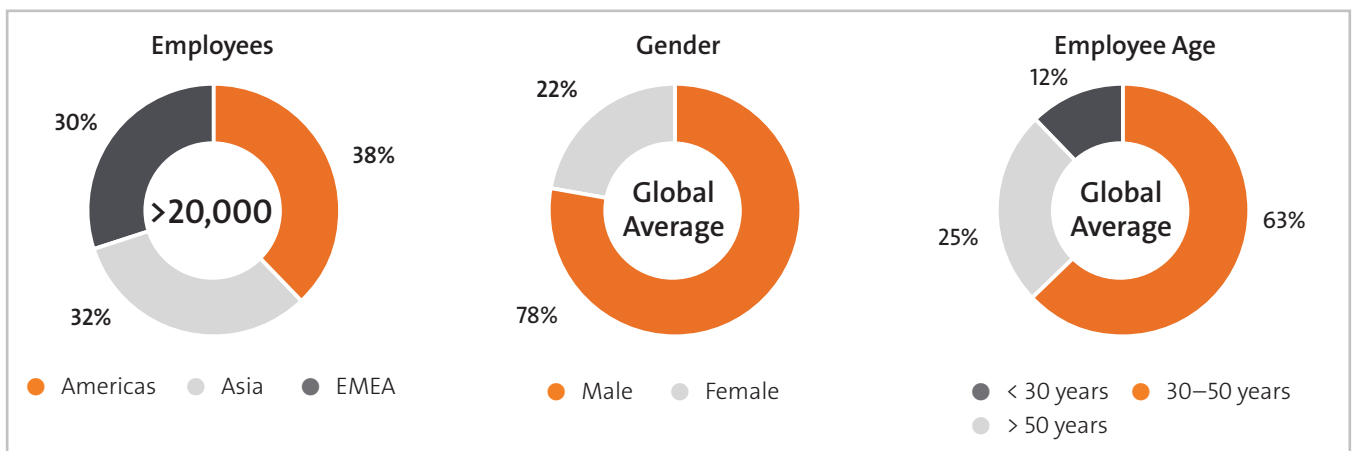
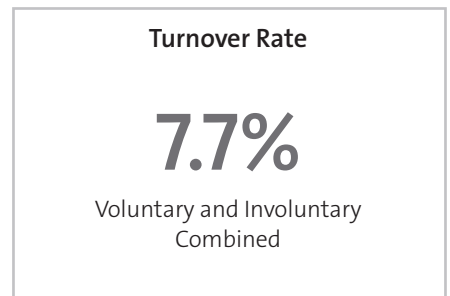
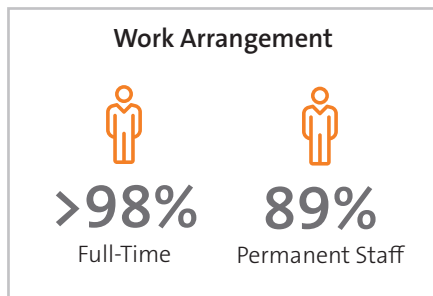
## Our Commitment and Contributions

Our continued leadership in competitive markets and achieving our higher purpose requires setting transparent, measurable diversity goals. In 2020, we announced new goals to increase the percentage of women and U.S. minorities in professional and managerial roles at the company by 2025. One year later, we demonstrated substantial success, surpassing our target and increasing the percentage of U.S. minorities in our professional and managerial population from a baseline of 17 percent to 22 percent. Based on that success, we set a new and more aggressive target of reaching 30 percent minority representation in these U.S. roles by 2025.

Additionally, we remain committed to our goal of achieving at least 28 percent female representation in the professional and managerial population globally by 2025. In 2021 the number of women in professional and managerial positions at Air Products was up slightly to 26 percent.

With a broad operating scope and more than 20,000 employees in over 50 countries, we established these targets following analysis of our global employee representation, future talent needs and by assessing industry benchmarks and peer companies. Setting these goals provided our organization with an increased focus on diverse talent. Our diversity targets coupled with the ongoing growth of our employee population enabled us to make significant progress in a short period of time. Our continued public commitment to create the world’s most diverse industrial gas workforce makes Air Products an attractive choice to prospective employees.

We strive to grow our global population of women in professional and managerial roles even as some of our worldwide locations traditionally have smaller female applicant pools. In response, we are driving growth in our female population around the globe through expanded training, internships, and apprenticeships, such as our Female Engineer and Technical Apprentices (FETA) program in the Kingdom of Saudi Arabia. We also partner with educational institutions to expand opportunities for women studying in fields traditionally held by male populations.





# Talent and Diversity

## Diversity, Inclusion and Belonging

As we work to be the most diverse industrial gas company in the world, we are building a workforce that reflects the places we do business. By fully utilizing the diversity of the talent pools, and fostering a respectful and inclusive culture, employees feel empowered to seek out diverse perspectives, and confidently express their viewpoint, creating meaningful change in support of our higher purpose.

## Diversity in the Workplace

Our diversity in the workplace continues to see positive trends as we increased the percentage of women and U.S. minorities in our workforce, management and senior leadership. In fact in 2021, we met our 2025 goal of boosting the percentage of U.S. minorities in our professional and managerial population from 17 percent to 22 percent and set a new goal of 30 percent to be reached in the same timeframe.

We continue to engage with diversity partners to support talent and development within our organization. In 2021, Air Products was once again recognized for strong performance in Diversity and Inclusion, earning a perfect 100 percent score on the Human Rights Campaign Foundation’s 2021 Corporate Equality Index for the fifth consecutive year.

## Human Capital Resources

At the end of FY21, Air Products had over 20,000 employees worldwide of which over 15,000 were based outside of the U.S. Most employees had full-time and permanent work arrangements, and 18 percent were members of collective bargaining units. We are committed to an organizational culture that values diversity, inclusion and belonging, and have set goals to increase the diversity of our workforce. Our talent management and workforce planning programs are focused on employee attraction, development, and retention, providing numerous training opportunities to cultivate talent. We have created Employee Resource Groups that support our commitments and culture. As described elsewhere in our Report, we are committed to ethical behavior and the promotion of safety, health and well-being.

## Diversity in the Workforce FY21

**22%** Women in the workforce

**26%** U.S. minorities in workforce

**22%** Women in management

**23%** U.S. minorities in management

**20%** Women in senior leadership

**17%** U.S. minorities in senior leadership

**17%** Women in executive roles

**27%** U.S. minorities in executive roles



The data appearing to the left represents our employee population at the end of fiscal 2021 and is separated into various levels to show diversity across the organization. Our 2025 goals for diversity are specific to our professional and managerial population, which is included in the above data but not broken out separately. U.S. Minorities are defined as U.S. employees who self-identify as Black, Hispanic, American Indian or Alaskan Native, Asian or Pacific Islander or two or more races per the U.S. Equal Employment Opportunity Commission’s racial/ethnic categories.



# Talent and Diversity

## Talent Attraction and Management

In 2021, Air Products increased our employee population to respond to our growing business needs, specifically the need to increase the number of employees in highly skilled positions to execute on our many megaprojects around the world. Through intentional workforce planning, we ensure existing and new employees possess the skills and capabilities our business needs to deliver now and in the future.

Talent management goes beyond investing in our current workforce. It includes building and executing a competitive talent attraction strategy. We use innovative recruiting strategies and have long-standing partnerships with diversity recruiting organizations to strengthen our available pipeline of world-class diverse talent. In 2021, 38 percent of our college hires were women and 45 percent were U.S. minorities. Attracting, recruiting, sourcing and securing new and diverse talent is instrumental in building our workforce for the future. In a competitive market, our onboarding programs ensure we bring new talent into the company as part of a year-long acclimation and learning journey. These efforts were even more important throughout the Covid-19 pandemic and now with an increasingly competitive marketplace. Faced with these challenges, our efforts to build a workplace culture where every employee knows they belong and matter helped our company to continue to attract talent and to grow during 2021, with turnover remaining below industry benchmarks.

We continue to invest in our current talent through our Talent and Performance Development process. These efforts identify opportunities to upskill, reskill and build competencies through on-the-job development and formal training. Retaining our employees is important to Air Products, including those with critical capabilities and skills. For these reasons, we provide a competitive total rewards package. We also purposefully create a culture of care, where employees feel valued and know they belong and matter.

## Learning and Capability Development

We offer a variety of opportunities for employees to develop their capabilities, talents, and careers. Employees choose learning and development goals aligned to roles and responsibilities that support current and future business needs. We continue to invest in new learning platforms and learner-centric experiences that encourage employee development and skills retention.

Our people competencies are aligned with our “4S” culture of Safety, Speed, Simplicity, and Self-Confidence. Every employee focuses on mastering our core competencies and receives an annual coaching conversation to drive his or her development. Throughout the year, we use performance management, coaching, continuous conversations, and targeted training to help our employees grow in their careers.

## We Stand Together

### Message from Seifi Ghasemi:

- We stand together against the disease of racism.
- We stand together against the malady of hate.
- We stand together in our shared humanity and equality.
- We stand together on the fundamental right of every person to be treated with dignity and respect.
- We stand together.

### Safety

Safety is a moral responsibility. The only acceptable goal is zero accidents.

### Speed

We will act with urgency and respond quickly to our customers' needs.

### Simplicity

We will simplify our organization, work processes and decision-making.

### Self-confidence

We are a team working together to win. We will be the best in the industry.





## Growing Our Understanding . . . A Week of Inclusion

Air Products hosted a Day of Understanding as part of its Week of Inclusion in which employees participated in a series of discussions on diversity, inclusion and belonging.

For several years, The Day of Understanding has been held as part of Air Products’ commitment to CEO Action for Diversity and Inclusion. Seifi Ghasemi, Air Products’ Chairman, President and CEO, is one of nearly 2,000 leaders through this initiative who pledged to take action to support a more inclusive workplace. As part of the Day of Understanding, leaders throughout the Company took part and led conversations about inclusion and addressed potential bias in the workplace.

In 2021, Air Products expanded its Day of Understanding efforts to include a week of global activities and discussions under the theme of “Allyship and Advocacy.” Allyship is when any person takes or demonstrates action to support, empower or stand up for another person or group of people. Allyship is a key part of the Company’s goal to create a workplace where all employees know they belong and matter.

The week included a fireside chat with Ghasemi and Victoria Brifo, Air Products’ Senior Vice President and Chief Human Resources Officer. During the chat, they shared their view on why building an inclusive workplace is the right thing to do and a competitive advantage for the Company.

“When you look at Air Products, we operate not in isolation, we are part of the society we live in. If we are going to be an integral part of the ecosystem, it is only natural that our workforce should be representative of that society,” Ghasemi said. “When you have a diverse group of people, your probability of being innovative significantly increases.”

In addition to the fireside chat, employees had the opportunity to take part in numerous discussions and events, including sessions such as “We Stand Together – Supporting Our Employees Inside and Outside the Workplace,” and “Allyship Across Races: No Comfort Zones.”

### Examples of Our External Diversity Partners:

- Catalyst
- Out and Equal
- National Action Council on Minorities in Engineering (NACME)
- National Society of Black Engineers (NSBE)
- Society of Hispanic Professional Engineers (SHPE)
- Society of Women Engineers (SWE)
- Women in Science and Engineering (WISE)

## #YouBelongAndMatter





# Talent and Diversity

## Employee Resource Groups

The diversity of our employees is a source of strength for the company. And our strength and diversity continued to grow in 2021 with the expansion of a number of Air Products' Employee Resource Groups (ERGs). Air Products now has 12 ERGs and 24 total ERG chapters around the world. These ERGs form an Inclusion Network that partners with our Company's leadership to create supportive communities that raise cultural awareness, attract and retain talent, and serve as a think tank for people development and problem solving. Our network of ERGs enables the Company to better understand different cultures and connect with customers around the world. For our employees, the groups provide linkages and build affinity between broader groups of employees and enable exposure to different career paths.

Throughout the year, the Inclusion Network and ERGs sponsored activities and programs for all employees including workshops, panel discussions, awareness training and professional development sessions.

In 2021, two new ERGs, Fulcrum and NextGen, were launched.

### Our ERGs Include:

- AERO (Asian Employee Resource Organization)
- BERG (Black Employee Resource Group)
- EDGE (Ethnically Diverse Gulf Employees)
- Enable (Valuing employees of all abilities)
- Fulcrum (Ethnically and Culturally Diverse Employees and their Allies)
- HOLA (Hispanic Organization of Latinos and Amigos)
- ISERO (Indian Subcontinent Employee Resource Organization)
- MEERG (Middle East Employee Resource Group)
- NextGen (Promoting Understanding Among Different Generations of Employees)
- Spectrum (LGBTQ+ Resources Group)
- UDAAN (Women's Group in India)
- WSN (Women's Success Network)

## Strength Building Strength

A key benefit of Air Products' ERGs is the connections made between employees from different areas of the business and, in some cases, even different parts of the world.

In 2021, a member of the Middle East Employee Resource Group, reached out to a U.S.-based colleague in the Women's Success Network (WSN) seeking mentorship opportunities for female Air Products' employees based in the Middle East.

The result – 12 women in the Middle East, with roles ranging from administrative assistants to engineers, were paired with a U.S.-based colleague to talk, share work experiences, and discuss challenges they may face.

Lisa Shober, co-chair of WSN, said many of the women in the Middle East were early on in their Air Products' careers with one to four years of experience, so the mentorship program provided a great opportunity for one-on-one interaction with more experienced colleagues.

The program started in October 2021, with participants meeting virtually every four-to-six weeks. "Those taking part are very outgoing, very ambitious and want to reach outside of their scope and learn more," Shober said, adding the program will continue for at least one year.



# Talent and Diversity

## Total Rewards

Our Total Rewards approach consists of compensation that is fair and equitable and includes benefits to enable our employees to have physical, emotional, and financial wellness. Diversity and inclusion are integral to our total rewards and reinforces our belief that all employees belong and matter.

## Compensation

A work environment where employees know they belong and matter includes fair and equitable pay. Our pay practices apply equally to all employees irrespective of gender, race, religion, disability, age, or any other form of personal difference.

We strive to pay competitively in local markets where we do business and compete for talent. We benchmark our compensation to ensure that we are keeping pace with the market to provide competitive pay and benefits. Director and executive officer compensation and CEO pay ratio are available in our most recent proxy statement.

## Benefits

Rooted in our framework of Grow, Conserve, Care, our benefit offerings are intended to assist us in creating a work environment and driving behaviors that sustain the health, safety, and wellness of our people. We strive to offer our employees competitive retirement and health

benefits, which are provided as part of our employee value proposition. In the design of our benefit plans, we are mindful of the Company's goal to be the safest, most diverse, and most profitable industrial gas company in the world providing excellent customer service. We also look to the Company's commitment to sustainability and support of the communities where we operate—grounded in the theme of Grow, Conserve, Care. As our workforce is globally diverse, our benefit offerings are designed to meet a variety of needs. We are convinced that employees who experience this sense of security are more productive and will make strong contributions to the Company's financial success. The Company has embraced diversity by offering benefits where possible that consider the values of all individuals and families and are not limited by traditional definitions of "family" and traditional roles within a family. We also look to local values and customs to enhance our offerings.

While our benefits vary around the globe and across positions, some of the base benefits for full-time employees include:

- Retirement Benefits
- Health and Welfare Benefits
- Life Insurance Benefits
- Employee Assistance Program Benefits (Emotional Well-Being Support)
- Accident Insurance Benefits
- Educational Assistance Program
- Legal Advocacy Program
- Employee Recognition Programs
- Employee Referral Program
- Leaves of absence for medical, personal, family, military, and educational purposes
- Paid vacation and holidays
- Training and development
- Flexible Work Arrangements

## Promoting Human Rights

Air Products is committed to safeguarding the human rights of our employees, as well as in our business interactions. Our [Human Rights Policy](#) reflects our commitment and our expectation for equal opportunity, respectful work environments, prohibition of discrimination, freedom of association, prohibition of forced and child labor, compensation and working time, EHS and security anti-corruption. An anonymous call line, IntegrityLine, is always available for anyone who would like to report a potential issue, including human rights concerns.

We complete annual human rights assessments for our operations and supply chains. In 2021, we conducted a review of the potential for human rights issues in the highest risk countries in which we operate, and we did not identify any significant risks.





# Community Support

## Why It's Important

Working together, companies and communities can more effectively identify and address local social issues and help improve quality of life. Collaboration also builds trust, which is fundamental to the continued growth and operation of companies through giving back to the communities where employees live and work.

## What We're Doing

For over 80 years, Air Products has been building relationships and contributing to the well-being of our host communities around the world. We do this in a variety of ways: through financial contributions from the Air Products Foundation, in-kind donations, employee directed giving, and employee volunteerism with non-profit organizations. Our support priorities include education and workforce development, diversity and inclusion, health and human services, community and economic development, arts and culture and environment and safety. We work closely with community partners, including non-profit organizations, emergency responders, elected officials, and education, business, and community leaders to identify the highest impact opportunities.

In 2021, our efforts continued to focus on the ongoing COVID-19 pandemic, providing community support in the wake of the Delta and Omicron

variants, making much-needed deliveries of medical oxygen and helium to hospitals, providing the infrastructure needed for emergency pop-up hospitals, as well as making other donations for medical care.

In addition to our COVID-19 efforts, we continued to provide significant grants to support basic needs for the unsheltered, hungry, and unemployed, particularly in urban areas. We connected our employees to non-profits, virtually, to provide mentoring and advice regarding business processes related to accounting, finance, human resources and more.

## The Air Products Foundation

The mission of the Air Products Foundation is to build meaningful relationships with charitable organizations that share the values inherent in our higher purpose and to enhance positive relationships with Air Products' employees, communities, customers, and shareholders.

Using its mission as a guide, the Air Products Foundation supports programs in our host communities throughout the U.S., in global locations where we have employees and operations, at colleges and universities where we are strategically engaged, in national organizations committed to diversity and inclusion, and through employee- and retiree-directed matching gifts programs.

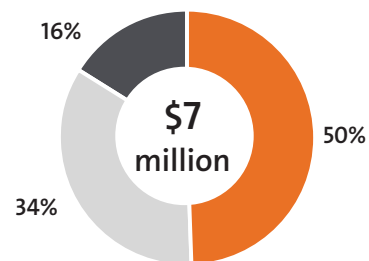
## Our Commitments and Contributions

In fiscal 2021, the Air Products Foundation made \$7 million in cash contributions including grants to organizations near our headquarters, throughout the U.S. and international communities. International giving increased by 40 percent in 2021. These grants reinforced our community outreach plans, responded to community needs, and supported eligible non-profits, particularly through matching gifts. Totaling \$2.4 million, the matching gift portion of the donations was distributed based on employee and retiree giving, thereby reflecting the organizations most important to our people.

In addition, the Air Products Foundation, consistent with its priority to support education and workforce development, provided talent grants to eligible institutions and organizations that help us attract, develop, and retain diverse talent.

### FY21 Contributions

- HQ Communities
- US Field/International Communities
- Talent





# Community Support

## Working, Living, and Giving Around the World

We develop stakeholder outreach plans aimed at addressing high priority needs and maintaining positive relationships with the communities near our largest operations globally. These plans include meetings with local leaders, facility tours, emergency response training, and support for education and philanthropy.

Our employees are also very engaged in their local communities. In 2021, Air Products' employees and retirees volunteered and were involved in hundreds of community programs.

## Science, Technology, Engineering and Math (STEM)

Many of our employees directly support STEM activities in collaboration with educational organizations including schools, colleges, universities, and community groups. By attracting people to STEM careers, we help build future career paths and develop strong talent pools. Our STEM efforts target diverse groups, including students at different education levels, workers, and community members. While COVID-19 continued to impact STEM programs in 2021, we were still able to reach nearly 17,000 students.

## #YouBelongAndMatter



## Leading the United Way Campaign



Across the U.S., Air Products is a proud supporter of the United Way. In 2021, Air Products' director of Community Relations and Philanthropy, Laurie Gostley Hackett, chaired the regional 2021 campaign for United Way. With the strong support of Air Products, she stepped into the role with great optimism and enthusiasm, and recognition of how much our communities had been through over the past year. The campaign raised funds to meet the community's emerging needs while investing in sustainable solutions to challenges in the areas of education, emergency services, food access and healthy aging. The campaign was a significant success, raising a record amount over \$19 million (USD) for the community, including \$5.5 million (USD) from Air Products' employees, retirees, and the Air Products Foundation.



# A Sampling of Community Projects Around the World

We continued to engage with our communities in 2021 while following COVID-19 protocols and using virtual technology.

## North America:

- **California:** The team in Santa Fe Springs participated in their sixth Annual Toy Drive benefitting the Boys & Girls Club in Whittier.
- **Pennsylvania:** Air Products chaired the Lehigh Valley United Way drive in 2021 and raised over \$19 million (USD), a record amount of funds which will help to meet community needs.
- **Texas:** Colleagues participated in community programs to illustrate the magic of science and engineering, including the Beaumont Children’s Museum Touch-a-Truck event.

## Europe:

- **United Kingdom:** Employees coordinated a UK-wide foodbank collection, during which over 300 kilograms, or more than 660 pounds of food were collected to help those in need.
- **Spain:** The team expedited the delivery of medical liquid oxygen to Tunisia and Algeria to support a sudden surge in demand during the spread of the Delta variant of COVID-19. Air Products has supported many similar medical oxygen requirements at locations around the world during the COVID-19 pandemic since 2020.

## Middle East & India:

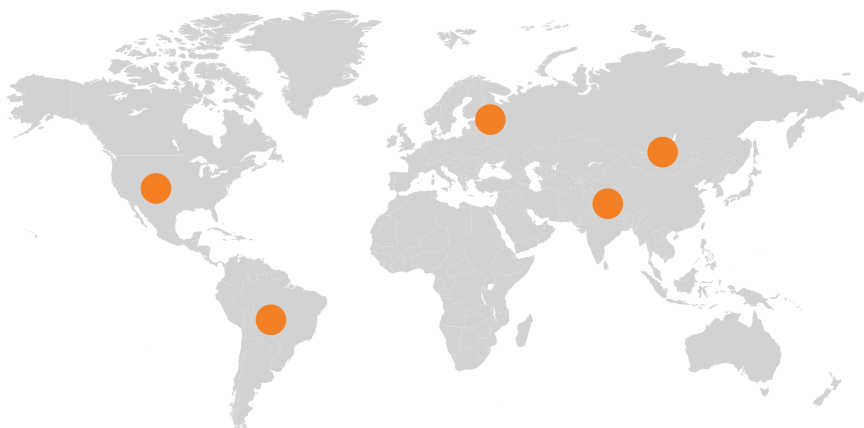
- **Saudi Arabia:** We awarded scholarships to engineering students in the final year of their studies in the King Fahad University Hydrogen Mobility Programme, the first of its kind in the region. We also hosted a week-long health campaign in November for employees and their families, which included complimentary health check-ups and seasonal vaccinations.
- **India:** Colleagues helped neighborhood communities by providing tailoring machines, health-kits, and wall paintings, as well as sponsoring the education of underserved children.

## South America:

- **Chile:** For the fourth consecutive year, employees supported World-Skills Olympics, a competition to inspire students to pursue technical professions such as welding.

## Asia:

- **China:** We continued to support the Healthy Drinking Water Initiative, donating 2.28 million Chinese Yuan (CNY) to provide clean water to 54 rural schools benefitting 33,500 local children.
- **Taiwan:** Employees hosted a “Traffic Safety Seminar” to educate local residents and share best practices and knowledge about road safety.
- **South Korea:** Team members sponsored a “Bookstart Project” book gifting program to help children develop strong reading habits.







# Partnerships

## Why It's Important

Solving the energy and environmental challenges of today and tomorrow requires ambition, ingenuity and partnership. Partnerships, between businesses, governments, and civil society, are needed to address the key sustainability issues facing people and our planet and to deliver on the SDGs.

## What We're Doing

Air Products engages with companies and organizations around the world on key sustainability concerns. These collaborations are aligned with the SDGs where we can have the most impact. As we expand our businesses in the developing world, we share our technologies, engineering expertise and safety, environmental, and diversity standards and approaches with our new partners.



## Our Commitments and Contributions

Examples of our contributions to the SDGs are highlighted throughout this Report. A sampling of partnerships include:

- Collaborating with the Government of Canada and the Province of Alberta to build a landmark net-zero hydrogen energy complex in Edmonton, Alberta
- Working with Baker Hughes to develop next generation hydrogen compression to lower the cost of production and accelerate the adoption of hydrogen as a zero-carbon fuel
- Creating an alliance with Haldor Topsoe on large-scale projects, including low carbon hydrogen production
- Supporting the use of hydrogen to transition to cleaner energy through organizations such as the Hydrogen Council
- Working with customers and governments in several regions to develop carbon capture, use and storage projects
- Partnering with institutes of higher education on technology research, such as the Technical University of Denmark, and the King Abdullah University of Science and Technology in Saudi Arabia
- Teaming up with companies to enable the use of recycled water in water stressed regions, such as Southern California in the U.S.
- Collaborating with local emergency responders, providing access, training and preparedness drills and activities
- Supporting gender equality through engagement in organizations and initiatives, such as the CEO Action for Diversity & Inclusion
- Engaging with Chambers of Commerce throughout the world to promote business growth



# Supply Chain Sustainability

Thousands of suppliers are essential to our success. We work with quality suppliers who help Air Products deliver value and excellent service to our customers and who share our commitment to ethical business practices. All suppliers are expected to abide by and conform to our Code of Conduct in their business dealings with us and to support sustainability through the principles outlined in our [Sustainability Expectations of Suppliers](#), which include environmental, human rights and community considerations.

In total, Air Products spent almost \$8 billion on energy, equipment, materials, and services with over 31,000 unique suppliers and service providers in 2021. Energy is the primary raw material purchased to manufacture industrial gases, particularly electricity and steam for our ASUs, and natural gas for our HyCO plants. Steel, aluminum, and capital equipment subcomponents are the primary materials procured for our equipment business. There were no significant changes in our supply chain year-over-year.

Because Air Products operates regionally, our procurement teams are primarily local to our businesses and work with regional and local suppliers. In addition, our corporate team supports procurement of capital equipment to construct large industrial gas production facilities and other global projects.

The supplier qualification process is a combination of prequalification and ongoing monitoring. New suppliers are qualified using criteria including commercial risk, safety, performance, and sustainability. If noncompliance is identified for an existing supplier through ongoing monitoring, our procurement teams work with the supplier to take proper corrective actions and rectify the issue.

## Human Rights and Conflict Minerals

We complete annual human rights assessments for our operations and supply chains. From a supply chain perspective, we examined human rights risks relative to procurement spend and supplier location using country-specific risk information from third parties. Most of our suppliers are in heavy industries that are not as susceptible to human rights violations as other industries. No significant risks were identified through our assessment, and we are not aware of any allegations of violations of human rights in our supply chain in 2021.

As a U.S. company, Air Products must ensure it does not transact with prohibited and sanctioned companies and countries. The Company uses a screening tool to vet its vendors and customers, which includes daily updates of prohibitions and sanctions lists. The tool is tied into Air Products' enterprise resource planning process (SAP) and automatically blocks transactions with companies engaged in forced labor as well as sanctioned parties.

In addition, Air Products specifically evaluates our supply chain for the presence of conflict minerals. The Conflict Minerals Rule under the Dodd Frank Act requires companies to perform and disclose due diligence on the source of minerals within its supply chain including tantalum, tin, gold, and tungsten. The purpose of this regulation is to ensure that the purchase of those materials does not support armed conflict and the associated emergency humanitarian crisis in the Democratic Republic of Congo. In response to customer requests, Air Products expanded its supply chain evaluation to include cobalt and mica.

To address the issue of conflict minerals, Air Products includes conflict minerals clauses in our standard contractual terms and conditions. We also comply with the Dodd Frank Act through the annual disclosure of our [Conflict Minerals Report](#).

## Supplier Diversity

It is our policy and practice to provide maximum practical opportunities to diverse suppliers. In 2021, approximately 20 percent of our procurement in the U.S. was from diverse suppliers, including small, socially and economically disadvantaged, and other minority-owned and women-owned U.S. businesses that can provide competitive sources of materials and services. We offer advice and guidance to assist minority business firms in building relationships and becoming successful suppliers to us.



# Appendix

## Stakeholder Engagement

We work closely with our key stakeholders – customers, employees, investors, communities, suppliers, and government regulators – to understand and respond to their needs and collaborate for shared benefit. Meetings, presentations, and ongoing dialogue with stakeholders throughout the year provide many opportunities for collaboration on sustainability.

## Stakeholder Assessment

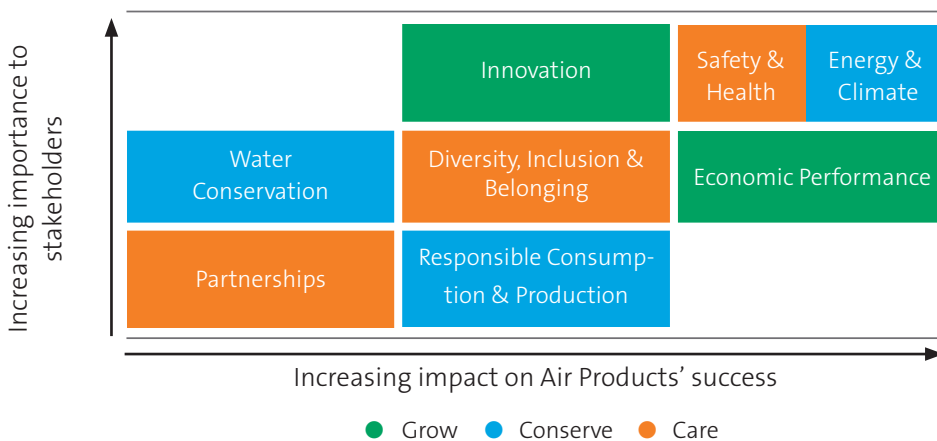
Air Products has been conducting stakeholder assessments since it began reporting in accordance with GRI guidelines. Stakeholder assessments have included:

- Evaluating sustainability issues identified in various frameworks, standards, questionnaires, customer, and other company reports and stakeholder questions
- Interviewing and/or surveying key stakeholders to understand their sustainability concerns and priorities
- Reviewing the results with our Sustainability Leadership Council to confirm the priorities and further shape our sustainability efforts

Topics for stakeholder assessments were taken from many sources, including the Sustainability Accounting Standards Board (SASB), TCFD, and CDP (see next page). Stakeholders reflected on these concerns and provided their feedback on the importance and potential impacts of the issues. The concerns rated by the stakeholders with the highest level of importance and impact are included in our Sustainability Priorities and frame our sustainability reporting.

The priorities for this Report have been updated slightly and at the direction of our Sustainability Leadership Council to specifically include CO<sub>2</sub> within the energy and climate priority.

# Our Sustainability Priorities







# Appendix

## About Our Report

Air Products has reported on its sustainability performance annually for the past 19 years, building on previous decades of environmental, health and safety disclosures and reporting. This is our 13<sup>th</sup> consecutive year reporting in accordance with GRI, which we believe is the most encompassing reporting standard for the sustainability aspects we consider. We also provide on our Sustainability Report webpage summaries of how our sustainability efforts are aligned with the reporting recommendations of [SASB](#) and [TCFD](#).

Air Products has been tracking developments of emerging sustainability and climate change reporting requirements, such as the U.S. Security and Exchange Commission's (SEC's) proposed rule on Climate Disclosures. The Company has a foundation for compliance with the new requirements when they come into force, having reported on sustainability matters for nearly thirty years, and carbon emissions for over a decade. In addition, the SEC's proposed rule is aligned with recommendations of the TCFD, which Air Products has published information on for several years.

This Report has been prepared in accordance with the GRI standards "Core option." The Core option is aimed at providing stakeholders with data and perspectives to understand and evaluate our performance, impacts and opportunities. This Report also contains supplemental information not specified by GRI that illustrates additional aspects of our sustainability efforts and impacts.

Air Products used GRI's Principles for Defining Report Content to develop this Report. These principles included: stakeholder inclusiveness, sustainability context, and coverage of aspects that reflect our significant economic, environmental, and social impacts. Our Sustainability Priorities, aspect boundaries, and related content within this Report are provided below:

### Sources for Air Products' Stakeholder Assessment Topics

- CDP (formerly the Carbon Disclosure Project)
- Dow Jones Sustainability Index (DJSI)
- EcoVadis
- Ethibel
- FTSE4Good
- GRI
- Institutional Shareholder Services (ISS)
- JUST Capital
- Key stakeholders
- MSCI
- Sustainability Accounting Standards Board (SASB)
- Sustainalytics
- Task Force for Climate-related Financial Disclosures (TCFD)
- UN Global Compact
- UN Sustainable Development Goals



# Appendix

This Report covers the period of January 1, 2021 to December 31, 2021, except where noted that fiscal year (October 1, 2020 to September 30, 2021) data is provided. Our prior year report was issued in June 2021 and reported on calendar year 2020 (except as so noted). [The GRI Content Index](#) for this Report is available online.

The scope of this Report is global for continuing operations including assets over which financial control is exercised and as reported in our consolidated audited financial statement. We exclude less than controlling interests in joint ventures or equity affiliates. Additional information about affiliates and subsidiaries is available in our 2021 Annual Report. Resources have been cited throughout this Report to provide additional information on our policies, programs and performance related to sustainability.

For this Report, Air Products has restated selected Scope 3 GHG data for prior years due to improved methodologies. There were no significant changes to operational boundaries, scope, or measurement methods.

Our Sustainability Director was accountable for overseeing the preparation of this Report, with significant data contributions provided by business, functional and sustainability related teams throughout the Company. This Report was prepared in conjunction with our Sustainability Leadership Council, which sets our sustainability strategy, reviews programs and performance, and is engaged in evaluating risks and opportunities.

No GRI sector standard exists for our industry; however, we have attempted to provide best possible disclosures based on the nature of our business and the related risks and opportunities. Questions or comments on this Report can be directed to Julie O'Brien, Air Products' Sustainability Director, at [obrienjk@airproducts.com](mailto:obrienjk@airproducts.com).

	Aspect Boundaries							Report pages
	Product Development	Sourcing	Production	Sales & Marketing	Distribution	Use/End of Life	Communities	
<b>Grow</b>								
Economic Performance	●	●	●	●	●		●	12
Innovation	●		●	●		●		17
<b>Conserve</b>								
Responsible Consumption and Production	●	●	●	●	●	●	●	20
Energy & Climate/CO <sub>2</sub>	●	●	●	●	●	●	●	23
Water Conservation	●	●	●			●	●	28
<b>Care</b>								
Safety & Health	●	●	●	●	●	●	●	34
Diversity, Inclusion & Belonging	●	●	●	●	●		●	38
Partnerships	●	●				●	●	48



## Key Performance Data

Provided below is data on key performance indicators (KPIs) for 2021 and 2020. Additional data for selected KPIs is available in the [GRI Content Index](#) for this report and listed under the relevant GRI indicator.

Grow	2021	2020
Economic Value		
Sales (\$ millions)	\$10,323	\$8,856
Adjusted EBITDA margin <sup>a</sup>	37.6%	40.9%
Adjusted operating margin <sup>a</sup>	22.0%	24.9%
Return on capital employed ("ROCE") <sup>a</sup>	10.1%	11.7%
Adjusted diluted earnings per share ("EPS") <sup>a</sup>	\$9.02	\$8.38
Dividends declared per common share	\$5.84	\$5.18
Customer Sustainability		
Customer CO <sub>2</sub> avoided (million MT CO <sub>2</sub> e)	82	72
Percent of revenues from Sustainable Offerings	56%	57%
Innovation		
R&D spending (\$ million)	\$93.5	\$83.9
Patents owned	4,260	4,450
Ethics and Integrity		
Annual Code of Conduct training and certification	100%	100%
Allegations of Code of Conduct violations	469	485
Conserve	2021	2020
Energy consumption (TWh)		
Total	52.7	49.3
Fuels	31.2	27.0
Electricity	16.3	15.6
Percent of electricity that is renewable	27%	24%
Steam	5.2	6.8
Greenhouse Gas Emissions (million MT)		
Scope 1	14.8	15.0
Scope 2	9.4	9.2
Scope 3 <sup>b</sup>	7.6	7.9

<sup>a</sup> Amounts are non-GAAP financial measures. See "[Reconciliations of Non-GAAP Financial Measures](#)" for reconciliation to the comparable GAAP measures.

<sup>b</sup> Restated for 2020





## Key Performance Data

Conserve	2021	2020
Waste (million pounds)		
Hazardous waste generated	10.9	14.1
Hazardous waste disposal	4.2	3.1
Non-hazardous waste disposal	13.9	11.1
Water (billion gallons)		
Water withdrawals <sup>b</sup>	15.9	18.1
Gross water consumption <sup>b</sup>	13.3	14.6
Water conservation intensity improvement	16%	28%
Other air emissions (metric tons)		
Nitrogen oxides (NOx)	1,288	1,366
Sulfur oxides (SOx)	65	58
Environmental fines	\$8,500 (USD)	\$3,300 (USD)

Care	2021	2020
Safety		
Employee recordables (number) and injury rate	80 / 0.39	78 / 0.40
Employee lost-time injuries (number) and rate	14 / 0.07	18 / 0.09
Employee fatalities	0	0
Contractor recordables (number) and injury rate	69 / 0.43	52 / 0.39
Contractor lost-time injuries (number) and rate	9 / 0.06	13 / 0.10
Contractor fatalities	1	1
Vehicle accident frequency rate (preventable accidents per one million kilometers)	1.52	1.41
Preventable road accident rate (preventable road accidents per one million kilometers)	0.34	0.34
Talent and Diversity		
Total employees at year end	>20,000	>19,000
Female share of workforce	22%	21%
Global employee turnover rate	7.7%	7.8%
Average formal training hours per employee	17	20
Percent of employees in collective bargaining units	18%	25%
Community Support		
Cash and product donations (\$ million)	\$7	\$6.4
United Way contributions (\$ million)	\$5.5	\$3.4



# Recognition for Our Sustainability Efforts

Air Products is proud to have our sustainability efforts and progress acknowledged by leading ratings and rankings agencies, including the following for 2021:



Member of  
**Dow Jones  
Sustainability Indices**  
Powered by the S&P Global CSA





## Glossary and Acronyms

Term	Definition
ASU	Air Separation Unit, the technology used to make atmospheric gases including nitrogen, oxygen and argon.
Blue Hydrogen	Produced from hydrocarbons with CO <sub>2</sub> captured and utilized or permanently stored
BSP	Basic Safety Process
Carbon capture	The activity of capturing from gas streams CO <sub>2</sub> that would otherwise be emitted, for the purposes of transport and geological storage in a storage site.
Carbon Capture and Storage (CCS)	Consists of the capture of CO <sub>2</sub> from installations, its transport to a storage site and its injection into a suitable underground geological formation for the purposes of permanent storage.
Carbon Capture and Use (CCU)	The capture of CO <sub>2</sub> and its subsequent use in a process that transforms the CO <sub>2</sub> into another product.
CDP	A not-for-profit organization with a global disclosure system for carbon and other environmental information (formerly Carbon Disclosure Project)
CFC	Chlorofluorocarbon
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	The universal unit of measurement of GHG emissions to indicate the global warming potential (GWP) of each of the six GHGs, expressed in terms of the GWP of one metric ton of carbon dioxide (MTCO <sub>2</sub> e).
DECP	Data Enabled Coaching Program
EBITDA	Earnings before interest, taxes, depreciation and amortization
EHS	Environment, Health and Safety
EMEA	Europe, Middle East and Africa
EOR	Enhanced oil recovery
EPA	Environmental Protection Agency (U.S.)
GHG	Greenhouse gases, including the six Kyoto-regulated gases (CO <sub>2</sub> , N <sub>2</sub> O, SF <sub>6</sub> , CH <sub>4</sub> , PFCs, HFCs)
Green Hydrogen	Made using water electrolysis and renewable electricity, or by reforming biogas, or by biochemical conversion of biomass; has the lowest carbon footprint of hydrogen produced
GRI	Global Reporting Initiative
HAPs	Hazardous air pollutants
HyCO	Hydrogen/carbon monoxide
LNG	Liquefied natural gas
LTI	Injuries or illnesses resulting in missed or restricted work. LTI rates are per 200,000 hours worked.
NOV	Notice of Violation - A deviation from a regulation or permit requirement that is formally cited by a government agency
NOx	Oxides of nitrogen including nitric oxide (NO) and nitrogen dioxide (NO <sub>2</sub> )
ODS	Ozone depleting substances
OSHA	Occupational Safety and Health Administration (U.S.)
Recordable Rate	A work-related injury that requires medical care beyond basic first aid treatment. Recordable rates are per 200,000 hours worked.



## Glossary and Acronyms

Term	Definition
ROCE	Return on capital employed
Scope 1 emissions	Direct GHG emissions that occur from sources owned or controlled by a company, for example, emissions from combustion or chemical production
Scope 2 emissions	Electricity indirect GHG emissions from the generation of purchased electricity consumed by the company
Scope 3 emissions	Other indirect GHG emissions that are a consequence of the activities of the company, but occur from sources not owned or controlled by the company
SDGs	Sustainable Development Goals
SDS	Safety data sheets
SOx	Oxides of sulfur including sulfur oxide, sulfur dioxide and others
SMR	Steam methane reforming, currently the most economical way to produce large volumes of hydrogen
STEM	Science, Technology, Engineering and Math
Sustainable Offerings	Products that improve energy efficiency, reduce environmental impact, and/or address a societal need
TRI	U.S. EPA Toxic Release Inventory
VOCs	Volatile organic chemicals
VSA	Vacuum swing adsorption



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