



Immingham Green Energy Terminal

9.3 Applicant's Responses to the Examining Authority's First Written Questions

(Responses to "Q1.17. Compulsory Acquisition and
Temporary Possession")

Infrastructure Planning (Examination Procedure) Rules 2010
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1 Introduction

Overview

- 1.1 This document has been prepared to accompany an application made to the Secretary of State for Transport (the "Application") under section 37 of the Planning Act 2008 ("PA 2008") for a development consent order ("DCO") to authorise the construction and operation of the proposed Immingham Green Energy Terminal ("the Project").
- 1.2 The Application is submitted by Associated British Ports ("the Applicant"). The Applicant was established in 1981 following the privatisation of the British Transport Docks Board. **The Funding Statement [APP-010]** provides further information.
- 1.3 The Project as proposed by the Applicant falls within the definition of a Nationally Significant Infrastructure Project ("NSIP") as set out in Sections 14(1)(j), 24(2) and 24(3)(c) of the PA 2008.

The Project

- 1.4 The Applicant is seeking to construct, operate and maintain the Immingham Green Energy Terminal, comprising a new multi-user liquid bulk green energy terminal located on the eastern side of the Port of Immingham (the "Port").
- 1.5 The Project includes the construction and operation of a green hydrogen production facility, which would be delivered and operated by Air Products (BR) Limited ("Air Products"). Air Products will be the first customer of the new terminal, whereby green ammonia will be imported via the jetty and converted on-site into green hydrogen, making a positive contribution to the UK's net zero agenda by helping to decarbonise the United Kingdom's ("UK") industrial activities and in particular the heavy transport sector.
- 1.6 A detailed description of the Project is included in **Chapter 2: The Project** of the Environmental Statement ("ES") **[APP-044]**.

Purpose and Structure of this Document

- 1.7 This document contains the Applicant's responses to those of the Examining Authority's Written Questions 1 **[PD-008]** grouped under the theme "Q1.17. Compulsory Acquisition and Temporary Possession". It represents one of a collection of eighteen such documents, each of which addresses a different theme.
- 1.8 Responses are ordered ascendingly by reference number, replicating the structure of the Examining Authority's Written Questions 1.
- 1.9 Responses are provided in a table. The text of the question appears on the left hand side, with the Applicant's answer to its right.
- 1.10 Further materials pertinent to the Applicant's response are included at the end of the document as appendices where necessary.

2 Applicant's Responses to the Examining Authority's First Round of Written Questions

Q1.17. Compulsory Acquisition and Temporary Possession	
Q1.17. Compulsory Acquisition and Temporary Possession	
Q1.17.1.1	
Question	Response
<p>Land Rights Tracker</p> <p>a) Complete the Land Rights Tracker which can be requested in editable Microsoft Excel format. The ExA has seen the Schedule of Negotiations and Powers Sought [APP-009, Appendix 1, Table 1 to 3], and requests the information be presented in the format set out in Annex A and updated at the relevant Examination Deadlines.</p> <p>b) Confirm the CA schedule provides an update on all affected persons and plots included in the Book of reference.</p> <p>c) Are there any instances where a plot number appears more than once in the BoR? Identify those plots and explain why?</p>	<p>a)</p> <p>The Land Rights Tracker (comprising the Individual Landowners Compulsory Acquisition Schedule [TR030008/EXAM/9.4.1], Statutory Undertakers Compulsory Acquisition Schedule [TR030008/EXAM/9.4.2], and Crown Land Schedule [TR030008/EXAM/9.4.3]) in the form requested has been submitted to the Examining Authority at Deadline 1 together with these responses to written questions. It will be updated at relevant Examination Deadlines as requested.</p> <p>b)</p> <p>The Land Rights Tracker (comprising the Individual Landowners Compulsory Acquisition Schedule [TR030008/EXAM/9.4.1], Statutory Undertakers Compulsory Acquisition Schedule [TR030008/EXAM/9.4.2], and Crown Land Schedule [TR030008/EXAM/9.4.3]) provides an update on all Category 1 and 2 interests and plots included in the Book of Reference [APP-008].</p> <p>c)</p>

	<p>Plot numbers do appear more than once in the Book of Reference due to the requirements of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 relating to the various parts of a Book of Reference (and as is standard practice in all Books of Reference submitted to the Planning Inspectorate in support of an application for development consent).</p> <p>For example, 104 out of 122 plots in the Applicant's Book of Reference are shown in both Part 1 and Part 3. Part 1 is required to show all Category 1 and 2 persons affected by the draft Development Consent Order (Regulation 7(1)(a)), and Part 3 is required to show all those entitled to enjoy easements or other private rights over land which it is proposed shall be extinguished, suspended or interfered with.</p> <p>Examples of persons falling within both Part 1 and Part 3 include tenants of the land and statutory undertakers with services in or under the land, whose rights over the land are likely to be affected where the land is required permanently or temporarily. The Book of Reference confirms that Category 2 persons included within Part 1 have also been included within Part 3 where their rights may be affected. Part 3 also provides the plot numbers against those Category 2 interests to ensure it is clear where they arise in relation to the Order Land.</p>
<p>Q1.17.2 Funding Statement</p>	
<p>Q1.17.2.1</p>	
<p>Question</p>	<p>Response</p>

Demonstration of commitment to funding the Proposed Development

- a) Provide evidence to demonstrate the commitment to funding the Proposed Development from (APCI) [APP-010, Section 3].
- b) You have stated that the funding required for CA compensation payments represents approximately 1% of the total level of funding available for delivery of the Proposed Development [APP-010, Section 4]. Does this include any blight claims that may come forward? Have you had any indication that blight claims may be brought forward and if so, provide your assessment of the validity of these claims?
- c) While the ExA understands commercial sensitivity, it would be necessary to see evidence of the kind of assessment conducted by Gateley Hamer to arrive at its conclusion that the estimated level of funding required for CA compensation payments represents approximately 1% of the total level of funding available for delivery of the Proposed Development, and that the funding for CA compensation is available [APP-010, Section 4]. Clarify that when you refer to funding available for delivery, you are talking about that funding being available with the Applicant.
- d) Given Air Products would have TP powers, provide evidence of the kind of assessment carried out to demonstrate its ability to pay TP compensation.

a)

Air Products & Chemicals Inc ("APCI") has publicly announced a commitment to invest \$15 billion (USD) by 2027 in the low carbon hydrogen economy including world scale production facilities, such as the Neom Green Hydrogen facility, and multiple Green Energy Import Terminals including Immingham, and similar terminals to that proposed at Immingham. Air Products' 2023 Sustainability Report (attached as **Appendix 4**) emphasises this commitment and confirms that as at 2022, \$11 billion had already been committed (see "capex for energy transition" on page 35 of **Appendix 4**).

As evidence of its commitment, Air Products (BR) Limited, funded by APCI, has already committed significant expenditure (c. \$30 million (USD) of the \$15 billion mentioned above) of those funds pursuing the Project over the last three years. In addition to the resource and cost incurred in pursuing the application for the Development Consent Order ("DCO"), the expenditure includes securing land, developing designs and engaging with stakeholders and contractors. To achieve its longer term investment commitment outlined above, APCI is fully committed to funding the development of the Project, subject to all necessary consents being obtained and no impediments to its delivery or its viability emerging.

b)

Statutory blight claims may be brought in respect of land which falls within Order limits of an application for development consent and over which compulsory acquisition powers are sought (or, similarly, in respect of land over which compulsory acquisition powers are authorised in a granted DCO) subject to the necessary tests being met. The assessment undertaken by Gateley Hamer of the likely quantum of compensation

<p>e) Provide a breakdown of project related costs, or signpost where in the application material this information can be found.</p> <p>f) In addition to the above question, provide a summary table identifying the cost of the port extension, the Associated Development, and any other components that you identify as being distinct in funding and delivery terms. Also identify who is funding each distinct component, alongside evidence to demonstrate the commitment for that funding from that party. Signpost the material already provided to demonstrate the adequacy of the funding available [APP-010, Section 3, Appendix 1 to 3]. Also identify the proportion of the project cost that would be required for CA compensations payments; you should provide this for each distinct identified component, if possible.</p>	<p>arising out of compulsory acquisition ("CA") (and therefore funding required for CA) addresses all interests within Order limits (save for those interests of the Applicant, Statutory Undertakers and the Crown). It includes any blight claims that could come forward. Gateley Hamer has been actively seeking to negotiate acquisition of the relevant Queens Road properties in relation to which compulsory acquisition powers are sought. To date, no blight claims have therefore been received and Gateley Hamer has confirmed that there is no indication of any claims being made.</p> <p>c)</p> <p>The 1% figure was calculated with reference to (a) the estimated total Project cost (for which funding is confirmed to be available) assessed by the Applicant and Air Products as opposed to Gateley Hamer; and (b) the assessment of the likely quantum of compensation by Gateley Hamer.</p> <p>With regard to the assessment undertaken of the likely quantum of compensation, Gateley Hamer has confirmed the following:</p> <ul style="list-style-type: none">• The assessment includes all interests within Order limits save for those interests of the Applicant, Statutory Undertakers and the Crown. Each individual interest was assessed on a line by line basis.• Gateley Hamer undertook due diligence to ascertain the owners and other parties with interests within Order limits, based on publicly accessible statutory and regulatory sources including HM Land Registry title documents (Paragraphs 7.2 to 7.4 of the Statement of Reasons [AS-008] set out in greater detail the diligent inquiry process undertaken by Gateley Hamer).
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	<ul style="list-style-type: none">• Compensation is assessed for all known third party property interests within Order limits as if acquired using compulsory acquisition powers or by agreement in the shadow of compulsory purchase.• The assessment estimated the total compensation payable in accordance with the compensation code (a collection of legislation and case law regarding compulsory purchase compensation).• Each interest to be acquired was considered in detail, taking account of:<ul style="list-style-type: none">○ The market value of their interest in the land;○ The compensation for any loss caused by being displaced from the land or any other matter not directly based on the market value (referred to as disturbance) or due to severance or injurious affection (if applicable);○ Statutory loss payments, where eligible; and○ Professional fees• The rules for assessing compensation under section 5 of the Land Compensation Act 1961 have been applied:<ul style="list-style-type: none">○ No allowance shall be made on account of the acquisition being compulsory.○ The value of land to be taken is the amount it may have sold for in the open market, if sold by a willing seller (i.e. the open market value).○ The special suitability or adaptability of the land for any statutory undertaker or the purpose, for which it is being compulsorily acquired, should not be taken into account in assessing the property's value.○ Any increase in the value of the land which is attributable to its use in a manner contrary to law will not be reflected in the assessment of compensation.
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- Where the land is used for a purpose that has no general demand (and therefore no market value under the second rule above) and its use as such would be continued but for the compulsory purchase, the assessment for compensation may be based upon the reasonable cost of equivalent reinstatement.
- The provisions in rule 2 shall not affect the assessment of compensation for disturbance or any other matter not directly based on the market value of the land.
- The assessment of market value was made following external inspection of all of the relevant properties. It also reflects Gateley Hamer's considerable experience of dealing with compensation claims, market knowledge and consultation with local agents.
- A contingency of 15% was applied to reflect any unknown interests, unknown matters, or general inflation on claims.

Funding for delivery of the Project (including payment of CA compensation) is available to ABP as the Applicant. As indicated at **Paragraph 2.3.2** of the **Funding Statement** submitted with the application **[APP-010]**, there are commercial agreements in place between ABP and Air Products in relation to the funding arrangements between the two parties for delivery of the infrastructure. As confirmed at **Paragraph 3.1.4** of the **Funding Statement**, "*the delivery of the Project and its subsequent operation and management is to be funded by a combination of funding from ABP and Air Products and is not dependent on external source of funds outside of the ABP and Air Products groups of companies*". The accounts information of both ABP and Air Products in **Appendices 1 to 3** of the **Funding Statement [APP-010]** demonstrates the adequacy of funding available for delivery of the Project and payment of any CA compensation.

d)

The assessment carried out by Gateley Hamer referred to above (and at **Paragraph 4.1.4** of the **Funding Statement [APP-010]**) included consideration of compensation payable relating to the use of temporary possession powers. The compensation was assessed with reference to a rental figure for the use of the land against the proposed construction programme and anticipated timescales for the use of the land during construction provided by Air Products. Paragraphs 3.1.10-3.1.13 of the Funding Statement [APP-010] confirm that funding will be available to Air Products via APCI which, as at 31 March 2023, had an estimated additional debt capacity of \$7.1 billion (USD) and also had a cash balance of \$2.2 billion (USD). The compensation costs for temporary possession assessed by Gateley Hamer represent approximately only 20% of the overall compensation liability; as confirmed above and in the Funding Statement, the total compensation liability represents approximately only 1% of the total project costs. Accordingly, the required funding which is available for delivery of the Project therefore includes compensation for temporary possession powers.

e)

The Guidance on procedures for compulsory acquisition at paragraph 17 states that the funding statement should provide "as much information as possible" about the resource implications of implementing the project (paragraph 17). That formulation recognises that there will be limits on how much information can reasonably be released, not least having regard to legitimate concerns about commercial sensitivity. Furthermore, the purpose of the exercise is to demonstrate that adequate funding is likely to be available to enable the CA within the statutory period and that there is sufficient likelihood that the project will be implemented. The level of detail reasonably required for those purposes will plainly vary

depending on the scale of the project and, critically, the covenant strength of those who will have the benefit of the Order and whether external sources of funding are expected to be required.

Neither the Applicant nor Air Products will be in a position to provide any further detail on project costs (including CA compensation) than has already been supplied/set out in this response as it is commercially sensitive information.

Efforts to acquire the remaining residential Queen's Road Property interests are ongoing by ABP and Air Products, and it remains both parties' intention to seek to acquire interests by private treaty wherever possible. Such ongoing negotiations are commercially sensitive and would be affected by release of further breakdown of anticipated CA compensation. That would be likely to prejudice attempts to avoid the need to resort to the use of CA powers and for that reason applicants are not normally expected to provide such information. Consequently the applicant does not consider it either appropriate in the public interest or necessary to provide breakdowns of anticipated CA compensation at this stage.

While the CA powers sought include, in addition to acquisition of land, acquisition of rights including in subsoil, interference, suspension or extinguishment of rights, and temporary possession, the acquisition of land represents the majority of the CA compensation liability. To that end, ABP would make clear that:

- There are only ten plots which may need to be compulsory acquired to deliver the Project. The vast majority of the site is owned by ABP (as indicated at **Paragraphs 3.1.1 and 4.1.1 of the Funding Statement [APP-010]**).

- Seven properties have already been acquired by private treaty and negotiations are ongoing with regard to the acquisition of the remaining three properties.
- As noted in the **Funding Statement** submitted with the application [APP-010], accounts information of both ABP and Air Products has been provided as appendices to the **Funding Statement** which show the significant funds available to ABP and Air Products for delivery of the Project and payment of any CA compensation.
- No external funding is required for delivery of the Project and consequently the requisite funds for payment of CA compensation will be available.

The accounts information provided can be considered against an estimated value of the contract for construction of the jetty and jetty access road of between £140 million and £170 million. The anticipated costs of delivering the Hydrogen Production Facility are up to £1 billion. Air Products is a private company operating in a very competitive environment which is also subject to competition laws and regulation. Pricing is an intrinsic part of project costs which goes to competition; it is therefore difficult to provide an unambiguous cost estimate for the Hydrogen Production Facility in a public arena given the regulatory constraints within which Air Products must operate.

f)

As identified in the question, the various components of delivery of the Project will include:

- The costs of delivering the Nationally Significant Infrastructure Project
- The costs of delivering the Associated Development

- The costs of delivering the various mitigations to be secured by the DCO
- Compensation costs for compulsory acquisition land and/or rights, including the acquisition of the ten Queens Road residential properties or alternatively costs of acquiring by private treaty where acquisition is agreed
- Compensation for temporary possession of land to deliver the Project
- Professional fees for applying for and securing the various consents necessary to deliver the Project.

This information is not provided in the application as it is commercially sensitive information. Nor is it reasonably required on the facts of this case in order for the Secretary of State to be satisfied that adequate funds are likely to be available to acquire the land and implement the Project. In particular, as confirmed in the application **[APP-010]** the Project is to be funded by ABP and Air Products and that no external source of funding will be necessary. The accounts information of both ABP and Air Products in **Appendices 1 to 3 of the Funding Statement [APP-010]** demonstrates there can be no doubt as to the adequacy of funding available for delivery of the Project and payment of any CA compensation. A substantial amount of land and interests required to deliver the Project is already under the control of the Applicant, ABP. As noted at **Paragraph 4.1.4 of the Funding Statement**, the analysis carried out by Gateley Hamer is confidential and commercially sensitive but it has been confirmed that the overall estimated level of CA compensation by Gateley Hamer represents only approximately 1% of the total level of funding available for delivery of the Project.

Q1.17.3 Crown land

Q1.17.3.1	
Question	Response
<p>Leasehold interest over Crown land</p> <p>a) Explain in some detail what you mean that you already have leasehold interest over the Crown land within the Order limits and are not seeking any interests in this land [APP-009].</p> <p>b) Provide evidence of the leasehold interest that you possess, and what that leasehold enables you to do on this land.</p> <p>c) Provide corroboration from the Crown Estate.</p> <p>d) Provide a plan of leasehold area, with a mark up showing the Order limits.</p> <p>e) Why do you need a written consent given (as you stated) that you already have leasehold interest from the Crown? Would any further permissions be required if development consent were granted?</p> <p>f) Provide written consent letter from the Crown Estate, that you have stated you have recently received.</p> <p>g) Provide details to confirm mechanism of transfer of lease to from Humber Conservancy to the Applicant.</p>	<p>a)</p> <p>A lease ("Lease") was entered into between The Queen's Most Excellent Majesty, the Board of Trade and the Humber Conservancy Commissioners on 1 January 1869 whereby the Board of Trade on behalf of Queen Victoria granted the Humber Conservancy Commissioners a 999 year lease of that part of the foreshore and bed of the Humber and its estuary shown on a plan which is appended to this note as Appendix 2. ABP is successor to the Humber Conservancy Commissioners. The Crown Estate is the successor to The Queen's Most Excellent Majesty and the Board of Trade. ABP therefore has the benefit of the residual term of 844 years.</p> <p>The Land Plans [APP-015] show Crown land as plots 1/1, 2/1, 3/3 and 4/31 within the Order limits shaded orange and label them "<i>Crown land with leasehold ownership of Associated British Ports not part of the Order land</i>". The Lease demise includes this land shaded orange. The draft Development Consent Order ("dDCO") [PDA-004], accordingly, does not seek to acquire any interests in this orange land. Only land shown shaded pink and blue or hatched blue on the Land Plans is subject to Articles 22 (Compulsory acquisition of land) and 24 (Compulsory acquisition of rights).</p> <p>b)</p> <p>The Lease is typical of a long lease granted for a term of 999 years and is, effectively, tantamount to a freehold interest, with very few limitations or restrictions on what ABP is able to do within the Lease demise. For example, there are no restrictions on what the demise may be used for.</p>

h) Explain how s135 of the PA2008 applies to your case given you are already in possession of the leasehold.

There are, however, a few limited matters which require the consent of the Crown Estate in order to be lawful, such as the need to obtain consent for the carrying out of certain works. This consent has, however, already been obtained in this case, as evidenced by the letter of the Crown Estate Commissioners dated 20 February 2024, submitted with the response to this question (the "Crown Letter") (**Appendix 1** of this document). The Lease is not registered at HM Land Registry and is not publicly available. The Lease is a confidential commercial document between ABP and the Crown Estate. In these circumstances, it is not appropriate for it to be disclosed into the Examination. The Crown Letter does, however, provide clear evidence of both (i) the existence of the Lease and (ii) that the Crown Estate has provided its consent, in its capacity as landlord, for the Project to be carried out within the Lease demise.

c)

If the Examining Authority considers it would assist the Examination further, the Applicant is willing to seek additional written corroboration from the Crown Estate's agent to confirm the matters to which parts (a) and (b) of this question relate. However, ABP would respectfully submit that the Crown Letter, which documents clearly the Crown's consent to this Project within the framework of the Lease, provides sufficient evidence of these matters.

d)

A plan (entitled ABP Crown Lease Demise Plan with drawing number GH-20156600001-LDP-1 P1) showing the extent of the lease demise overlaid with the Order limits is attached to this document as **Appendix 3**. To further assist, an inset sheet (entitled ABP Crown Lease Demise

	<p>Plan Inset Sheet with drawing number GH-20156600001-LDP-2) has also been submitted.</p> <p>e)</p> <p>This is because one of the few restrictions contained within the Lease relates to the carrying out of works. The Lease expressly provides that ABP must not execute any embankment or other work on the demised foreshore except with the consent of the Crown Estate in writing. ABP has therefore engaged with the Crown Estate on details of the authorised project, following which the Crown Estate Commissioners gave the required consent by way of the Crown Letter dated 20 February 2024, stipulating only (as set out on the face of the letter) that further permissions would only be needed if there are changes to the Project. Please note comments in respect of section 135(2) of the Planning Act 2008 at part (h) of this question below.</p> <p>f)</p> <p>Please see the response to paragraph (e) of this question.</p> <p>g)</p> <p>The River Humber Conservancy Act 1852 created a body known as the 'River Humber Conservancy Commissioners' and provided powers to those Commissioners to maintain and improve the channel and navigation of the River Humber. The Humber Conservancy Act 1868 provided for the Commissioners to be incorporated, under the name of the 'Humber Conservancy Commissioners'. That is the body granted the Lease. The Humber Conservancy Act 1907, amongst other things, dissolved the existing Humber Conservancy Commissioners and the pilotage commissioners and replaced both bodies with a 'Humber Conservancy</p>
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Board'. That Act incorporated the Humber Conservancy Board and transferred all powers, liabilities and property from the preceding bodies to it. The Humber Harbour Reorganisation Scheme 1966 Confirmation Order 1967 (SI 1968/237) confirmed a reorganisation scheme which dissolved the Humber Conservancy Board and ordered the transfer of all powers, duties, liabilities, property, staff, pension rights, etc. from the Humber Conservancy Board to the 'British Transport Docks Board'. The Transport Act 1981 reconstituted the British Transport Docks Board as 'Associated British Ports'. Associated British Ports is therefore the statutory successor to the River Humber Conservancy Commissioners and has the benefit of the Lease.

h)

Section 135(1) of the Planning Act 2008 provides that an order granting development consent may include provision authorising the compulsory acquisition of an interest in Crown land only if the appropriate Crown authority consents to the acquisition. Section 135(1) is not relevant to the **dDCO** or the Project. This is exactly because ABP has the benefit of the lease and the **dDCO**, as set out in part (a) of this question, does not need to seek to acquire any interests in Crown land. Section 135(2) of that Act, however, provides that an order granting development consent may include any other provision (i.e. except seeking to acquire interests over Crown land) in relation to Crown land only if the appropriate Crown authority consents to the inclusion of the provision. The existence of the Lease itself cannot be taken as consent from the Crown Estate that it is content with all provisions of the **dDCO** applying in respect of its land for the purposes of section 135. The Crown Letter is a consent granted pursuant to the Lease, satisfying the relevant land assembly requirements for the Project, so to speak, so far as the Crown Estate is concerned. It probably cannot be taken as consent from the Crown Estate that it is content with all provisions of the **dDCO** applying in respect of its land for

	<p>the purposes of section 135. ABP is informed by the Crown Estate's agent that the Crown Estate deals with such consents pursuant to section 135 separately to consents under its leases, and that it is dealing with a large number of section 135 requests from a range of DCO schemes at the moment. ABP will continue liaising with the Crown Estate in respect of a section 135 consent but does not envisage any particular impediment in obtaining this, particularly in circumstances where the Crown Estate has provided consent for the Project pursuant to the Lease with the Crown Letter and a section 135 consent must be, in that context, largely a formality.</p>																		
<p>Q1.17.4 Affected Persons' Site -specific Issues</p>																			
<p>Q1.17.4.1</p>																			
<p>Question</p>	<p>Response</p>																		
<p>Responses to Relevant Representations</p> <p>When responding to RRs relating to CA or TP matters, from both individual landowners and SUs, identify the relevant plot numbers as marked on Land Plans [APP-015]</p>	<p>We have inserted the following relevant plot numbers from the Land Plans into the Applicant's Responses to the Relevant Representations [TR03008/EXAM/9.2].</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Relevant Representation</th> <th>Plot number as marked on Land Plans [APP-015]</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>The Davey Family</td> <td>No known plots in the BoR</td> </tr> <tr> <td>2</td> <td>Mr and Mrs Elvans and Family</td> <td>5/3, 7/15, 7/16, 7/17, 7/18, 7/20, 7/21, 7/22, 7/23</td> </tr> <tr> <td>3</td> <td>National Highways</td> <td>No plots in BoR</td> </tr> <tr> <td>4</td> <td>Stena Line BV</td> <td>No plots in BoR</td> </tr> <tr> <td>5</td> <td>Network Rail Infrastructure Limited</td> <td>5/23, 5/24, 5/25, 5/26, 5/27, 5/28, 5/29, 5/30, 5/31, 5/32, 5/33, 5/34</td> </tr> </tbody> </table>	No.	Relevant Representation	Plot number as marked on Land Plans [APP-015]	1	The Davey Family	No known plots in the BoR	2	Mr and Mrs Elvans and Family	5/3, 7/15, 7/16, 7/17, 7/18, 7/20, 7/21, 7/22, 7/23	3	National Highways	No plots in BoR	4	Stena Line BV	No plots in BoR	5	Network Rail Infrastructure Limited	5/23, 5/24, 5/25, 5/26, 5/27, 5/28, 5/29, 5/30, 5/31, 5/32, 5/33, 5/34
No.	Relevant Representation	Plot number as marked on Land Plans [APP-015]																	
1	The Davey Family	No known plots in the BoR																	
2	Mr and Mrs Elvans and Family	5/3, 7/15, 7/16, 7/17, 7/18, 7/20, 7/21, 7/22, 7/23																	
3	National Highways	No plots in BoR																	
4	Stena Line BV	No plots in BoR																	
5	Network Rail Infrastructure Limited	5/23, 5/24, 5/25, 5/26, 5/27, 5/28, 5/29, 5/30, 5/31, 5/32, 5/33, 5/34																	

	6	North East Lindsey Drainage Board	No plots in BoR
	7	Captain Andrew Firman, Harbour Master, Humber	No plots in BoR
	8	Corporation of Trinity House of Deptford Strond	No plots in BoR
	9	Environment Agency	3/1, 3/2, 4/29, 4/30, 4/32
	10	Maritime and Coastguard Agency	No plots in BoR
	11	The IOT Operators	No plots in BoR
	12	Anglian Water Services	5/11, 5/12, 5/13, 5/14, 5/18, 5/19, 5/21, 5/22, 5/40, 5/41, 5/42, 6/18
	13	Cadent Gas	5/10, 5/11, 5/12, 5/18, 5/20, 5/22, 6/10, 6/17, 6/2, 6/5, 6/6, 6/8, 7/12, 7/13
	14	Chrysaor Production (U.K.) Limited	No plots in BoR
	15	CLdN Ports Killingholme Limited	No plots in BoR
	16	DFDS SEAWAYS PLC	No plots in BoR
	17	Historic England	No plots in BoR
	18	Hull City Council	No plots in BoR
	19	Knauf	7/11, 7/12
	20	Marine Management Organisation	No plots in BoR
	21	Natural England	No plots in BoR
	22	North Lincolnshire Council	No plots in BoR
	23	PD Port Services Limited	4/23

	24	Royal Mail	No plots in BoR
	25	Tronox Pigments UK Ltd	4/23, 4/26, 4/28, 4/29, 4/30, 4/32
	26	UK Health Security Agency	No plots in BoR
	27	Health and Safety Executive	No plots in BoR
	28	North East Lincolnshire Council	3/1, 3/2, 4/11, 4/12, 4/14, 4/16, 4/17, 4/18, 4/19, 4/2, 4/20, 4/21, 4/22, 4/23, 4/24, 4/27, 4/29, 4/3, 4/30, 4/32, 4/4, 4/5, 4/7, 4/8, 4/9, 5/1, 5/11, 5/12, 5/18, 5/20, 5/22, 5/30, 5/32, 5/33, 5/36, 5/37, 5/38, 5/39, 5/40, 5/41, 5/42, 5/43, 5/44, 5/9, 6/1, 6/10, 6/14, 6/15, 6/17, 6/18, 6/2, 6/3, 6/4, 6/5, 6/7, 6/8, 6/9, 7/11, 7/12, 7/13, 7/14, 7/19, 7/4, 7/8, 7/9

Q1.17.4.4

Question	Response
<p>Bona vacantia land</p> <p>Have you identified any bona vacantia land? Are there any plots where you have doubts about or there are unidentified registered owners?</p>	<p>The Applicant's land agent, Gateley Hamer has confirmed that, on the basis of its diligent inquiry, it does not consider any plots within the Order Limits to be bona vacantia land. Unregistered unknown land does not automatically become bona vacantia; it must have either been held by a company at the point of dissolution or by an individual who dies intestate.</p> <p>In terms of unregistered land, there are plots identified in the Book of Reference [APP-008] where the freehold interest is unregistered and the owner is unknown (i.e. Plots 3/2, 4/29, 5/10 (mines and minerals), 5/11 (subsoil up to halfwidth of highway), 5/13, 5/14, 5/15, and 6/16). Whilst the</p>

	<p>owners have not been identified despite ongoing diligent inquiry, Gateley Hamer do not consider that the land is bona vacantia because there is no evidence that the land or interests were held by a company at the point of dissolution or an individual at the point of death. Gateley Hamer's diligent inquiry has included contacting the Government legal division responsible for administrating bona vacantia land and the Crown Estates portfolio manager for the area.</p> <p>As is commonplace, the freehold interest in land forming public highway is not registered. There is a rebuttable presumption that the adjacent landowners own the land to the centre line of the highway. Persons who may have an interest in such land are identified in the Book of Reference [APP-008].</p> <p>Accordingly, Gateley Hamer is of the view that no plots within the Order Limits are bona vacantia land.</p>
<p>Q1.17.5 Human Rights</p>	
<p>Q1.17.5.1</p>	
<p>Question</p>	<p>Response</p>
<p>Queens Road Properties</p> <p>a) What alternatives did you consider to the CA of the Queens Road properties?</p> <p>b) Justify your case for the interference of Human Rights specifically with regards to the owners and residents of the Queens Road Properties?</p>	<p>a)</p> <p>The Applicant has considered all reasonable alternatives to compulsory acquisition ("CA"). The need for CA arises as a result of the safety implications of the proposed location of the Hydrogen Production Facility and its proximity to the residential properties on Queens Road.</p> <p>Alternative locations for the proposed development have been considered. Environmental Statement ("ES") Chapter 3: Need and Alternatives [APP-045] describes the alternative locations for the Project</p>

considered by the Applicant. **Paragraph 6.26** of the **Statement of Reasons [AS-008]** summarises this assessment which concluded that the proposed site is an appropriate location for the Project, taking account of the need for and objectives of the Project, and the impacts of the Project. In particular, **Paragraph 6.26.3** of the **Statement of Reasons** sets out the reasons given for the East Site and West Site being selected as suitable and **Paragraph 6.28** of the **Statement of Reasons** sets out the reasons given for the East Site and West Site being suitable for the hydrogen production facility specifically.

The Applicant has also considered the scope to modify the layout of the proposed Hydrogen Production Facility so as to avoid or minimise the impacts which lead to the need for CA. **Paragraph 6.28.3** of the **Statement of Reasons** describes how the site layout has been optimised to limit, as far as possible, effects on the Queens Road properties. Further modification of the layout so as to avoid the need for CA is not reasonably possible.

For the reasons set out in the response to Q1.12.1.2, continued residential use of the residential properties on the west side of Queens Road adjacent to the West Site is considered to be incompatible with the operation of the hydrogen production facility on the West Site and an impediment to the grant of hazardous substances consent.

Accordingly, in order for the Project to proceed, the only available, reasonable alternative to CA is acquisition by agreement. As shown in the Land Interest Tracker, the acquisition of seven of the ten Queens Road residential properties has now completed. In terms of the remaining three residential properties:

- 3 and 4 Queens Road are still subject to negotiations relating to purchase price

- The sale of 5 Queens Road is agreed in principle; however, the owner's onward purchase is subject to probate which is causing a delay to exchange of contracts and completion. The acquisition of this property is anticipated to take place later in March.

b)

The Applicant's case for the CA of the Queens Road Properties is as set out in the **Statement of Reasons [AS-008]**. **Section 8 of the Statement of Reasons** considers the proposed CA in the context of Human Rights, and for the reasons set out therein, the inclusion of powers of CA in the Development Consent Order ("DCO") would not constitute an unlawful interference with Human Rights and related provisions of UK law. It is appropriate and proportionate to make the DCO including the grant of powers of CA.

In the context of an application for powers of CA under the Planning Act 2008, the case is primarily directed to satisfying the statutory test that there is a compelling case in the public interest for granting such powers (section 122(3) Planning Act 2008). The courts have accepted that the 'compelling case' test fairly reflects the necessary balance required by the European Convention of Human Rights ("the Convention") (see *R (Hall) v. First Secretary of State* [2008] JPL 63 at [15] and *R (Clays Lane Housing Cooperative Ltd.) v. Housing Corporation* [2005] 1 WLR 2229 at 2236). Accordingly, there is no separate or different justification required to justify the proposed interference with the rights of the owners and residents of the Queens Road properties. In response to the ExA's question the Applicant's case is summarised below by reference to the relevant provisions of the Convention, but it is important to understand that the entirety of the Applicant's case justifying the use of CA by reference to the 'compelling case' test (summarised in **Section 6 of the Statement of**

Reasons) is necessarily of equal relevance when considering the provisions of the Convention.

The Department for Communities and Local Government Guidance related to procedures for the compulsory acquisition of land (dated September 2013) states that the Secretary of State must "*ultimately be persuaded that the purposes for which an order authorises the compulsory acquisition of land are legitimate and are sufficient to justify interfering with the human rights of those with an interest in the land affected. In particular, regard must be given to the provisions of Article 1 of the First Protocol to the European Convention on Human Rights and, in the case of acquisition of a dwelling, Article 8 of the Convention*". **Section 8** of the **Statement of Reasons** considers these Convention Rights and, for completeness, also considers Article 6: Right to a fair trial.

An assessment of interference of human rights must be considered in the context of the substantial public benefits that will be realised through the development of the Project.

In terms of the public interest, **ES Chapter 3: Need and Alternatives [APP-045]** and the **Planning Statement [APP-226]** establish the compelling need for the Project and the public benefits that it will deliver. **Section 6** of the **Statement of Reasons (Paragraph 6.42)** summarises the significant public benefits of the Project more particularly detailed in the **Planning Statement**: these can only be realised if acquisition of the land required for the Project can be guaranteed in a timely manner through the use of CA powers (where acquisition by agreement cannot be achieved). These are:

- Substantial new port capacity on the Humber designed and located to support the energy sector
- A significant contribution to achieving net zero by 2050

- A reliable supply of green hydrogen providing access nationally and locally to a low carbon fuel and contributing to national energy security
- Benefits from fuel switching
- Contribution to the regional and local economy

Section 8 of the **Statement of Reasons** considers the relevant Convention Rights. In summary:

- **Paragraphs 8.4–8.5** consider Article 1, First Protocol ECHR (right to peaceful enjoyment of property and possessions). This Article is not violated where the proposed interference has been demonstrated to be in the public interest and in accordance with law. There is a compelling need for the Project, and its public benefits have been described in the **Planning Statement [APP-226]** and **ES Chapter 3: Need and Alternatives [APP-045]**. There is a clear legal basis for the inclusion of compulsory acquisition powers in the DCO under section 120 and Part 1 of Schedule 5 of the Planning Act 2008 (subject to section 122 of the Planning Act 2008) and appropriate compensation will be available to those entitled to claim it. The proposed interference is therefore in the public interest and law and this Article is therefore not breached.
- **Paragraphs 8.10–8.12** consider Article 8 of the ECHR, which provides for the protection of private and family life, home and correspondence. This right is a qualified right in that it may be interfered with in specified circumstances as set out in Article 8(2) which provides for interference by a public authority where such interference is:
 - In accordance with the law;
 - For a legitimate aim (i.e. in the interests of national security, public safety or the economic wellbeing of the country, for

	<p>the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others); and</p> <ul style="list-style-type: none">○ Necessary in a democratic society. <ul style="list-style-type: none">● Taking these three in turn:<ul style="list-style-type: none">○ As above, there is a legal basis for the inclusion of CA powers in the DCO under the Planning Act 2008 (and compensation will be paid).○ The DCO seeks to achieve a legitimate aim in the public interest, being the delivery of the Project and the substantial public benefits that the Project will, in turn, deliver.○ A balancing exercise is required between the public interest (the compelling need to deliver more port infrastructure for the import and export of liquid bulk energy products from the Humber to support the transition to net zero and the decarbonisation of the Humber industrial cluster) and the rights of the individual to ascertain whether interference is necessary. The significant public benefits outweigh the effects upon persons who own property and rights within the Order Land. The making of the DCO with compulsory acquisition powers which would lead to an interference with the individuals' rights is justified, necessary and proportionate.● Paragraphs 8.6–8.9 consider Article 6 ECHR (right to a fair trial). This right is not infringed as the Queens Road residents whose properties are identified for compulsory acquisition have had the opportunity to object to the application for the Project and the inclusion of compulsory acquisition powers (in addition to engagement that has occurred throughout the pre-application period) and to have their objection considered at a fair and public hearing. The decision, once made, will be public and the residents
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have a statutory right to challenge that decision by way of judicial review on a point of law as set out under section 118 of the Planning Act 2008.

The Applicant has therefore carefully considered the balance to be struck between the individual rights of the owners and occupiers at Queens Road and the wider public interest and, as stated in **Paragraph 8.12** of the **Statement of Reasons**, the inclusion of powers of compulsory acquisition in the DCO would not constitute an unlawful interference with Convention Rights. It is therefore appropriate and proportionate to make the DCO, including the grant of powers of compulsory acquisition.

3 Appendices to the Applicant's Responses to the Examining Authority's First Round of Written Questions

Appendix 1 – Crown letter of the Crown Estate Commissioners dated 20 February 2024



20 February 2024

Paul Durrant
Associated British Ports
Port House
Northern Gateway Hull
HU9 5NS

Dear Paul,

Immingham RoRo Terminal Development

The Crown Estate Commissioners, so far only as the interests of the Crown under their charge are concerned and under the lease of the bed and foreshore of the River Humber to Humber Conservancy Commissioners dated 1st January 1869, consent is hereby given for work to the demise within the lease dated 1st January 1869, being the Immingham Ro Ro Terminal Development (application reference TR030007). This consent is subject to any changes to the scheme being communicated to and agreed with the Crown Estate and reflected in the commercial terms agreed thereafter.

The premises within the lease dated 1st January 1869 form part of the Crown Estate and, as such, the interest of the Crown in those premises is under the charge of the Crown Estate Commissioners in accordance with the Crown Estate Act 1961.

Associated British Ports is to indemnify The Crown Estate against all liabilities, actions, proceedings, costs, claims and demands arising from the exercise of the consent hereby given.

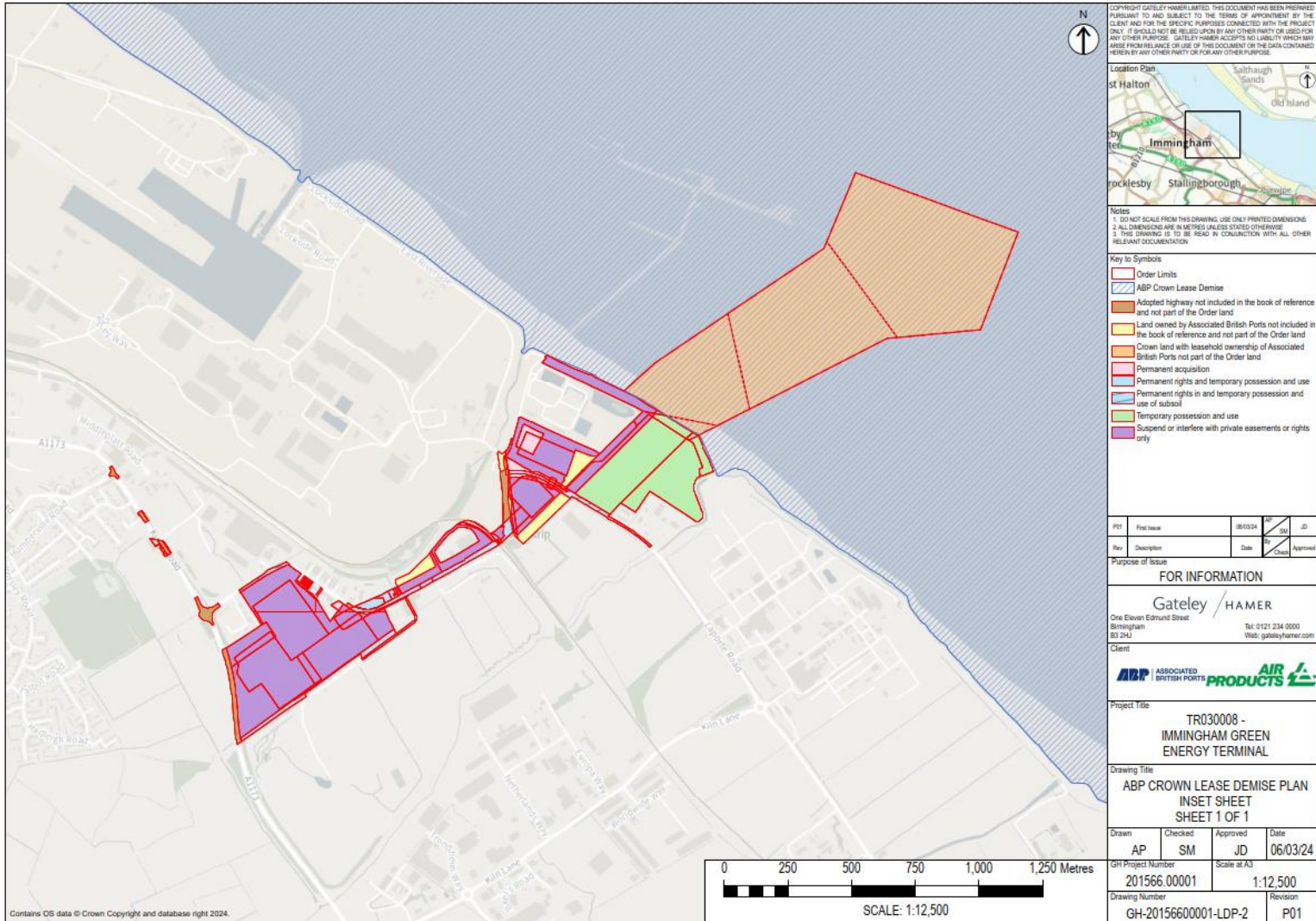
Yours sincerely,



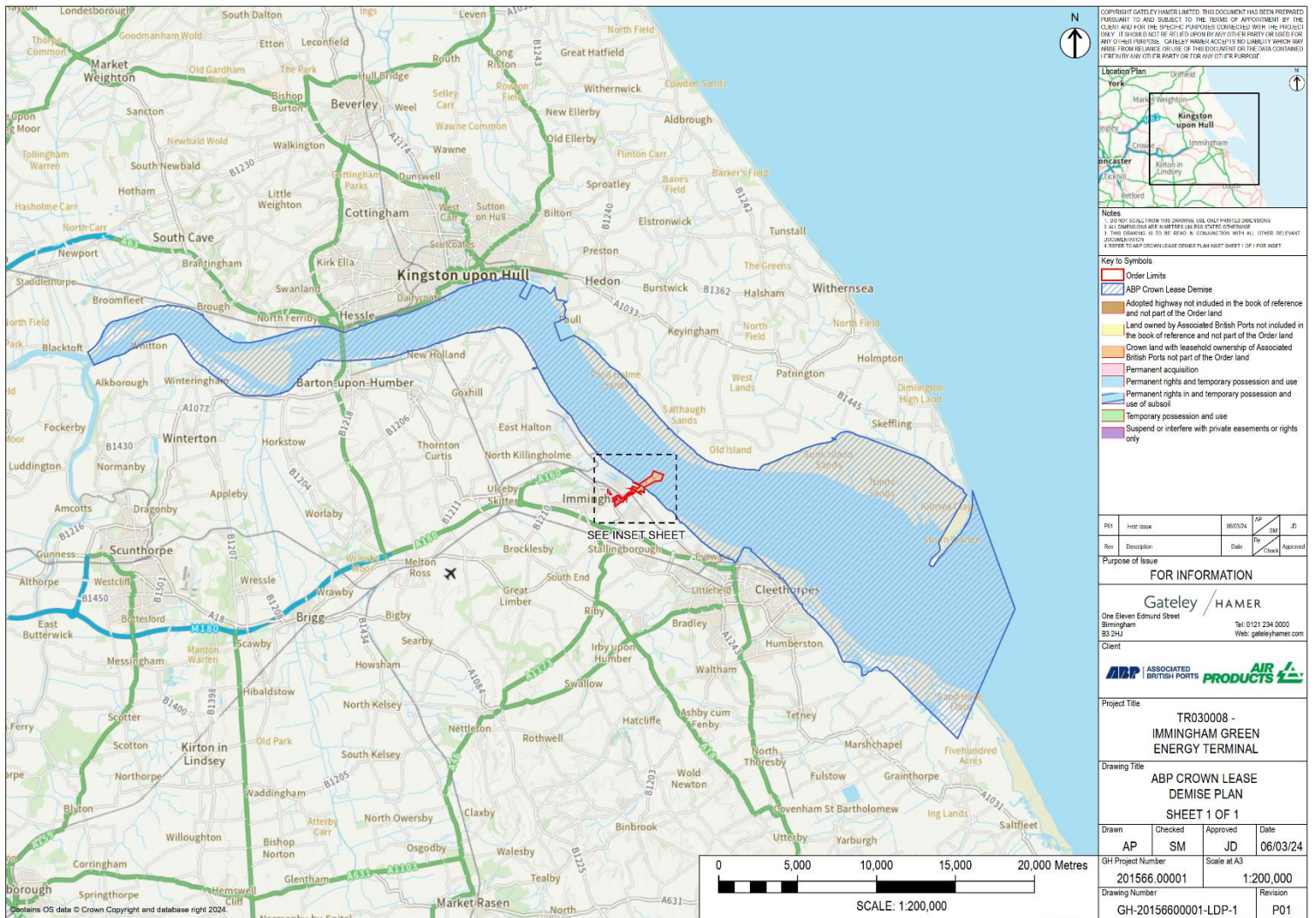
Charles Famure MRICS
Coastal Asset Manager, Marine

1 St James's Market, London, SW1Y 4AH
0207 851 5000
enquiries@thecrownestate.co.uk

Appendix 2 – Part of the foreshore and bed of the Humber and its estuary granted a 999-year lease



Appendix 3 – ABP Crown Lease Demise Plan with drawing number GH-2015660001-LDP-1 P1



Appendix 4 – Air Products' 2023 Sustainability Report



Sustainability in Action

2023 Sustainability Report



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• See back page for forward-looking statements



A Message from Seifi Ghasemi



Our growth strategy is good for the world

It is not always the case that a company's growth strategy is good for the world. However, at Air Products that certainly is the case, as sustainability is our growth strategy. Sustainability creates our growth opportunities, and our growth opportunities support our sustainability goals and focus.

During the past year we strengthened our sustainability goals for the future, announced impressive capital spending targets for energy transition projects, and continued work on several world-scale, first-mover clean energy projects focused on decarbonizing heavy-duty transportation and industrial sectors.

At the heart of all these undertakings are more than 21,000 employees who work hard every day to meet these goals and deliver these projects. Their dedication to making the world a better place through sustainable actions is all part of Air Products' Higher Purpose as a company.

New goals and net zero

In 2022, we announced our aim to reach net-zero emissions from our operations by 2050, underpinned by the supporting policy and regulatory actions needed to achieve this goal. The net-zero goal is on top of our previously announced "Third by '30" goal to reduce our Scope 1 and 2 carbon dioxide (CO₂e) emissions intensity by one-third by 2030. Additionally, in 2022 we set a similar "Third by '30" intensity reduction goal for Scope 3 emissions. We also are engaging with the Science Based Targets Initiative to support development of the sectoral framework that will shape the target-setting methodology for the chemicals sector.

During the past year we strengthened our sustainability goals for the future, announced impressive capital spending targets for energy transition projects, and continued work on several world-scale, first-mover clean energy projects focused on decarbonizing heavy-duty transportation and industrial sectors.

Energy transition and first-mover projects

Recognizing that every second of delay is a missed opportunity to drive decarbonization, Air Products announced in 2022 an increase in our capital commitment by \$4 billion to bring our overall planned spending for zero- and low-carbon hydrogen and first-mover projects to more than \$15 billion by 2027.

We have projects in execution in Alberta, Canada for a net-zero hydrogen energy complex; a blue hydrogen energy facility in Louisiana, United States; a green ammonia project in NEOM, Kingdom of Saudi Arabia; and a sustainable aviation fuel project in California, United States. These are all real projects under implementation. We have also announced a project in New York using hydropower, and a large-scale zero-carbon hydrogen project in Texas using solar and wind power.

Sustainability in action

Every day around the world we help our customers make their operations and products more efficient, productive, and sustainable. In 2022, we enabled our customers to avoid greenhouse gas emissions totaling 86 million tonnes of CO₂e, which is more than three times our own combined Scope 1 and 2 CO₂e emissions.

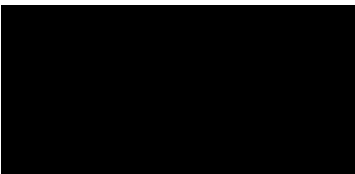
Striving to be the most diverse

We are creating a work environment where every employee knows they belong and matter. In 2022, Air Products again hosted its annual global Week of Inclusion to provide employees the opportunity to participate in sessions and courageous conversations on diversity, inclusion and belonging. And as we continue to strive to be the most diverse company in the industrial gas industry, we remain focused on achieving our 2025 diversity goals including increasing the percentage of professional and managerial roles for women globally and minorities in the United States at Air Products.

Safety is a moral responsibility

Our safety goal is always zero accidents and incidents, and at our Aberdeen, Scotland facility we marked 60 years without a recordable or lost time incident. This is a first for an Air Products' facility and any European Industrial Gas Association member. It is just one example to show that "zero" is achievable.

There are many great stories showing Air Products' sustainability in action in this Report. We hope you enjoy reading about them and, as always, we thank you for your interest in our Company.



Seifi Ghasemi
Chairman, President and Chief Executive Officer of Air Products

Sustainability Highlights for 2022

<p>86 million tonnes of CO₂e avoided due to our products</p>	<p>5% increase in CO₂e emissions avoided by customers¹</p>	<p>56% of revenues from Sustainable Offerings</p>
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<p>>2 million tonnes of CO₂e avoided at our facilities²</p>	<p>5% decrease in CO₂e Scope 1 and 2 emissions intensity²</p>	<p>28% decrease in CO₂e Scope 3 emissions intensity²</p>
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<p>3% increase in U.S. minorities in professional and managerial roles¹</p>	<p>8% decrease in employee lost time injury rate¹</p>	<p>\$7 million donated to communities</p>
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¹Compared to prior year. ²Cumulative since 2015.

Additional sustainability goals announced in 2022

- Increasing our capital commitment to first-mover **energy transition** projects to **\$15 billion** through 2027
- Pledging to reach **Net Zero** carbon emissions by 2050
- Adding a new “**Third by ‘30**” CO₂e emissions intensity (kg CO₂ /MM BTU) goal for **Scope 3** emissions – in addition to previously announced “Third by ‘30” goal for Scope 1 and 2 emissions

New zero- and low-carbon hydrogen projects announced in 2022

- Announced **35** tonne/day green³ liquid hydrogen plant in Massena, New York (**U.S.**), **~\$500 million** investment
- Jointly announced plans with AES for a **>200** tonne/day green hydrogen plant in Texas (**U.S.**), **~\$4 billion** investment
- Announced plans to build renewable energy import terminals in **Germany, The Netherlands, and the United Kingdom.**

³Hydrogen produced from renewable power via water electrolysis is often called green hydrogen. Hydrogen can also be made from fossil fuels with carbon capture and sequestration of CO₂ emissions. This type of hydrogen is frequently called blue hydrogen. One of the most important attributes of these types of hydrogen is their lower carbon intensity, so we often call them zero- or low- carbon hydrogen.

Note: Throughout this Report, the terms “tonnes” and “metric tons” are used interchangeably.

The background of the slide is a vibrant green, featuring a microscopic view of what appears to be a plant stem or leaf. The image shows intricate cellular structures, including large, rounded cells and smaller, more detailed structures, all bathed in a bright green light. A dark green rectangular box is centered on the page, containing the main text.

Sustainability

is the foundation of
our business

Our Higher Purpose

To bring people together to collaborate and innovate solutions to the world's most significant energy and environmental sustainability challenges.

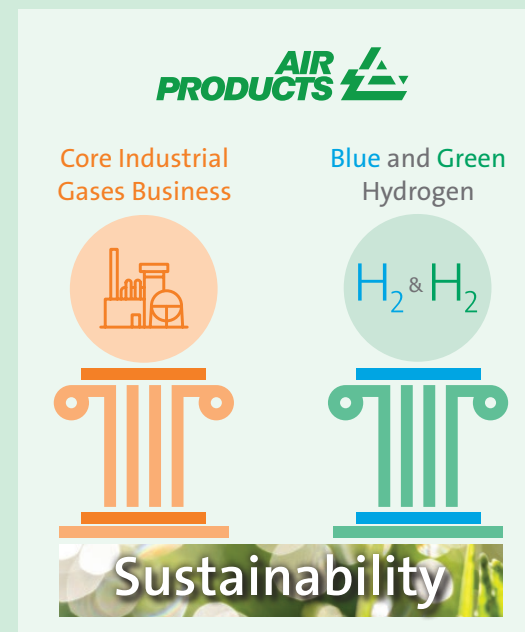
Sustainability is at the core of our Higher Purpose

Air Products' Higher Purpose reflects our aspirations to address the world's most important sustainability challenges.

We live our Higher Purpose through our business strategy

Sustainability is the foundation of the two pillars of our strategy: our **core industrial gases business** and our **blue and green hydrogen business**.

We are in the fortunate position of being able to do good for the planet, while at the same time seeking returns for our shareholders. We are committed to real actions and real investments across both pillars, in order to maximize climate benefits for the world.



Our **core industrial gases business** is 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. Here are some examples of how our gases are used every day.

A automobiles 	B beer 	C cement 	D desserts 	E energy 	F fiber optics 	G glass 	
H heat 	I insulation 	J jet engines 	K kale 	L light bulbs 	M MRI 		
N natural gas 	O oranges 	P paints 	A to Z Our products find their way into your daily life		R respirators 	S smart devices 	T tires 
U underwater exploration 	V vaccines 	W welding 	X x-rays 	Y yams 	Z ziti 		

Air Products' **core industrial gases** deliver substantial sustainability benefits

Air Products' **core industrial gases** help companies across dozens of industries to improve yields, reduce energy consumption and lower emissions – in other words, to make more with less while reducing impact on the environment. For example, our oxygen and hydrogen enable better combustion of fuels that reduces emissions, and our nitrogen is used in food freezing to improve product quality and reduce waste.

Sustainable Offerings are gases, equipment and applications that enable our customers and their customers to **improve sustainability performance** or address **significant societal needs**. We evaluate these offerings using a consistent life-cycle derived approach, comparing the offerings to equivalent benchmarks across key environmental and social criteria. The offerings that have the most significant positive impacts on sustainability are categorized as Sustainable Offerings.

We estimate that in 2022 our Sustainable Offerings enabled our customers and their customers to avoid the equivalent of 86 million tonnes of carbon dioxide emissions. This figure is more than **3 times** our own direct and indirect CO₂ emissions.

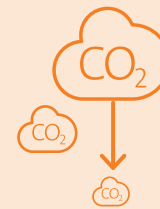
Year over year we strive to increase the amount of emissions that we help our customers avoid.

>3 Times

Ratio of CO₂e avoided by customers compared to Air Products' emissions



Sustainable Offerings enable customers to avoid CO₂ emissions



Directly reduce emissions, for example, by using hydrogen to make low sulfur diesel fuels



Enable efficiency improvements, such as reducing fuel consumption through use of our oxygen and oxy-fuel burners



Allow integration with customer sites on resources, such as supplying customers with by-product steam from our hydrogen plants

Directly reducing customer emissions



Hydrogen for fuel production

Hydrogen is used to refine heavier, sour crudes and increase refinery yields. When used in refining, the hydrogen helps remove sulfur from crude oil. This produces cleaner transportation fuels that can be used with other equipment to significantly reduce emissions that contribute to climate change.

Many other industries such as electronics, food, glass, chemicals, steel, and more also benefit from hydrogen's unique properties to improve quality, optimize performance, and reduce costs. These industries are also looking to hydrogen as a fuel that can help decarbonize their manufacturing processes.

PRISM® Membrane Separators

Air Products' biogas membrane separators are used to capture methane from manure, landfills, and other types of organic waste, thus preventing it from being emitted to the environment. Biogas is typically considered a waste stream and is primarily composed of methane along with carbon dioxide and other trace elements. The proprietary hollow fiber membranes purify the biomethane by removing unwanted elements from the biogas stream. Purification of this stream allows the resulting methane to be used in many applications, such as producing heat, steam, and electricity.

Capture and use of biomethane avoids greenhouse gas (GHG) emissions through displacement of fossil fuels.

Improving customer efficiency to avoid emissions



Oxy-fuel

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, and reduce emissions. Replacing the ambient air in a furnace with oxygen avoids heating the inert nitrogen component of the air, which allows for a reduction in fuel consumption and the possibility of higher flame temperatures during combustion. It also reduces nitrogen oxide emissions.

Resulting efficiency gains in such energy intensive industries can have large impacts on climate outcomes due to the large amount of fuel use and emissions associated with these industries.



Modified Atmosphere Packaging (MAP)

MAP uses high-purity gases and equipment to extend the shelf-life of food by using a specific single gas or mixture of gases to create a protective atmosphere around the food. Replacing the ambient air with this protective atmosphere preserves the taste, safety, and appearance of food, extending the shelf life, and in turn, reducing food waste.

With approximately 25 percent of food produced going uneaten, food waste is a major issue within food supply chains and for the climate in general, as emissions occur both upstream to produce additional food and downstream at landfills, where waste emits a mixture of methane and CO₂. Use of industrial gases in food supply chains benefits food security and at the same time reduces the impact they have on climate change.

We expect avoided emissions to expand significantly once our zero- and low-carbon hydrogen projects come onstream

As described in detail in this report, **zero- and low-carbon hydrogen** are expected to play a major **enabling role** in the decarbonization of hard-to-abate sectors such as heavy-duty transportation and industry.

Customers will be able to replace fossil fuels with hydrogen in industrial and mobility applications, thus reducing their emissions. Hydrogen also enables production of other zero- or low-carbon fuels from renewable feedstocks, such as Sustainable Aviation Fuel (SAF), which is expected to be critical to decarbonization.

If all the hydrogen from our announced zero- and low-carbon hydrogen projects was used in mobility applications to displace fossil-based diesel, we estimate climate benefits – or the avoidance of CO₂ emissions – over the lifetime of these projects to exceed 500 million tonnes of CO₂e. This is equivalent to eliminating direct emissions from over 50 billion gallons of diesel.

These benefits will manifest themselves in **lower emissions for our customers**. We are excited to play an important enabling role in their decarbonization journeys.



Equivalent to avoiding direct emissions from

50 Billion Gallons of Diesel

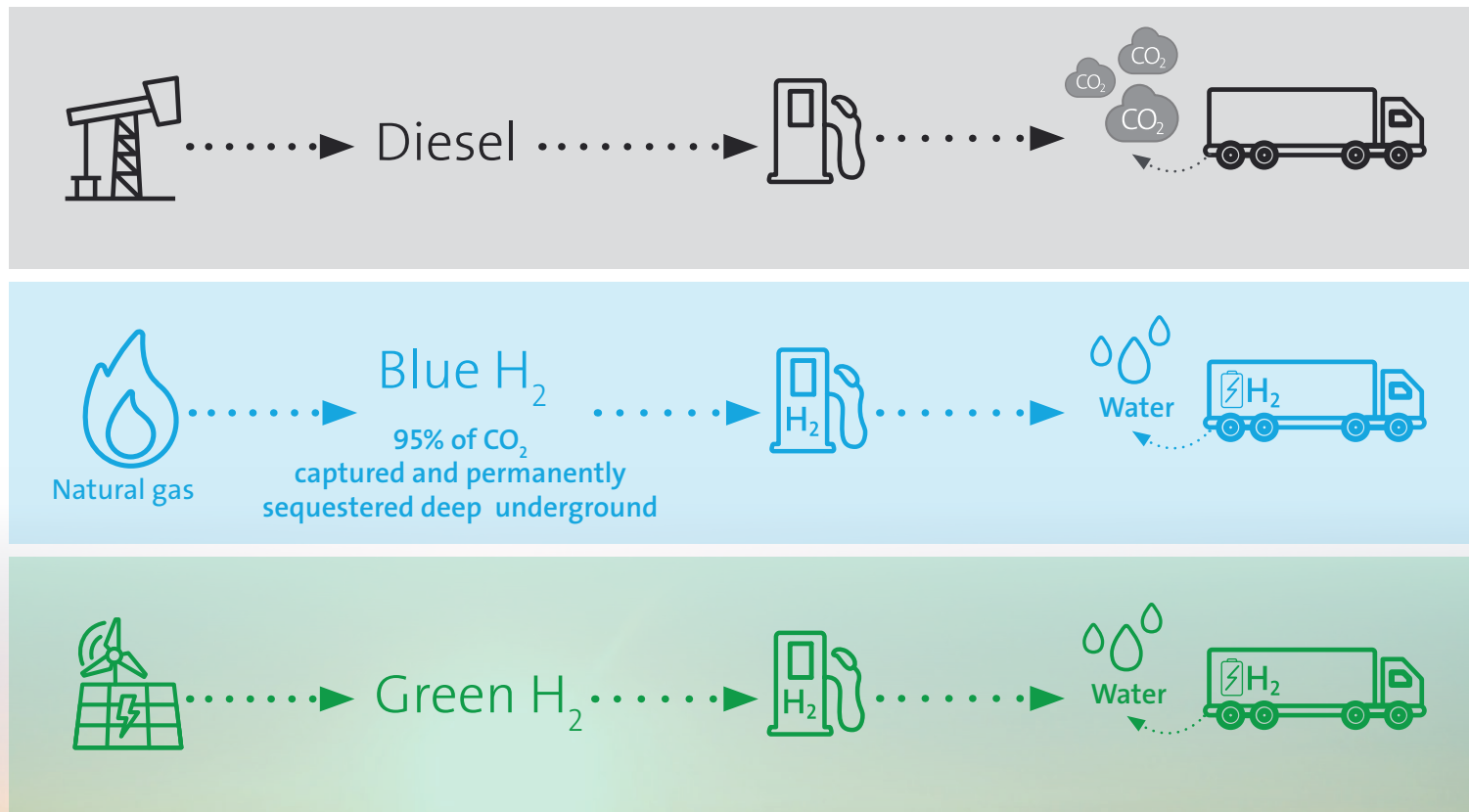


500M + Tonnes

of CO₂e avoided over the lifetime of projects, if all the hydrogen from Air Products' projects is used for heavy-duty trucks

Zero- and low-carbon hydrogen will enable our customers to reduce or eliminate greenhouse gas emissions

Illustration: Mobility



See footnote on page 3 for definitions of blue and green hydrogen.

Hydrogen in action

World Energy SAF project, California, United States

This **multi-billion** major expansion project will produce **Sustainable Aviation Fuel (SAF)** from renewable feedstocks at World Energy's Paramount, California location. This site will be the **world's first and North America's only commercial-scale SAF production facility.**

Hydrogen is an **essential enabler** for SAF production from renewable feedstocks. Air Products has extended its Southern California hydrogen pipeline network to supply hydrogen to the existing World Energy facility. The expanded pipeline network will also enable us to provide low- or zero-carbon hydrogen in the future.

The project builds on Air Products' commitment to support the energy transition and advance California's decarbonization goals by producing a renewable fuel to meet the growing demands of the aviation industry.

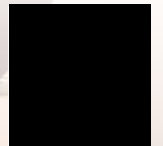
The facility is expected to have a total capacity of 340 million gallons per year.

Reduction in emissions by airlines by 2050 is estimated to be equivalent to

**3.8 Million
Zero-Carbon
Flights**

between Los Angeles and New York

[Learn more](#)



Our commitment to sustainability is reflected in our goals

Our sustainability goals reflect our aspirations to enable and accelerate the global energy transition and achieve our overarching Company goal to be the most profitable, safest and most diverse industrial gas company.

Fundamentally, it is our people who are the real enablers of a cleaner future, working alongside our customers to help solve pressing energy and environmental challenges.

Here are our key climate-related and diversity goals aimed at meeting these objectives. Details on all our goals are provided on page 35.

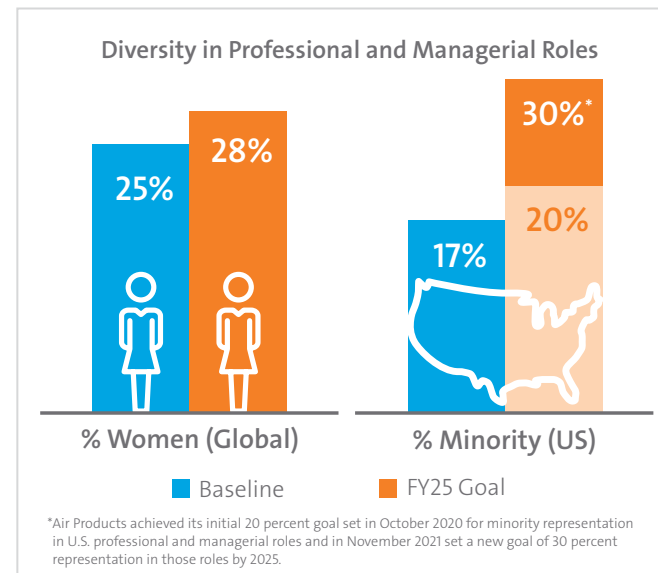
Climate-related goals

\$15B in capex for the Energy Transition*	Net Zero by 2050	Third by '30 goals	Engage on Science-Based Targets	Climate benefits of zero- and low- carbon H ₂

Sustainability in action

*through 2027

Diversity goals



Climate-related goals

The need for a global energy transition is critical and there is no time to lose. We have therefore established aggressive goals, geared towards enabling and accelerating the energy transition – through investments in innovative world-scale zero- and low-carbon hydrogen projects, alongside decarbonization of our own operations.

Our investment and execution timeline is planned such that the future climate benefits generated by Air Products' business come online at a crucial moment in the energy transition – and with enough strength to help propel low- and zero-carbon hydrogen as an alternative source of energy for decades to come.

\$15 billion in capex for Energy Transition

Recognizing the urgency of global decarbonization and the crucial role that hydrogen and Air Products can play, in 2022 we increased our capital commitment for the transition to zero- and low-carbon energy over the next five years by another \$4 billion, bringing our total commitment to **first-mover projects** to **\$15 billion** through 2027. Further, in March 2023, Air Products became the first U.S. chemical company to issue a **green bond** for green and blue hydrogen projects.

Net Zero by 2050

In step with society's progress towards achieving net zero, we have set a new goal of reaching **net-zero emissions from our operations by 2050**. Achieving this goal will also require strong policy and regulatory support that promote the adoption of key technologies to address the pace and scale required to support a net-zero future.

Engaging with the Science Based Targets Initiative (SBTi)

Consistent with our net-zero commitment, we are engaging with the Science Based Targets Initiative, a leader in mobilizing the private sector on climate action.

SBTi does not currently have a methodology for the chemicals sector – and acknowledges that the chemicals industry faces challenges in its path to decarbonization, caused in part by the wide variety of products produced by the industry and the use of hydrocarbons as feedstock.

We are excited to join several other leading chemical companies in the SBTi Expert Advisory Group by providing resources to help support development of the sectoral framework that will shape the methodology for the chemicals sector.

Participating in these ongoing discussions with SBTi and defining a clear methodology for sector guidance are crucial prerequisites to any potential commitment to a science-based target.



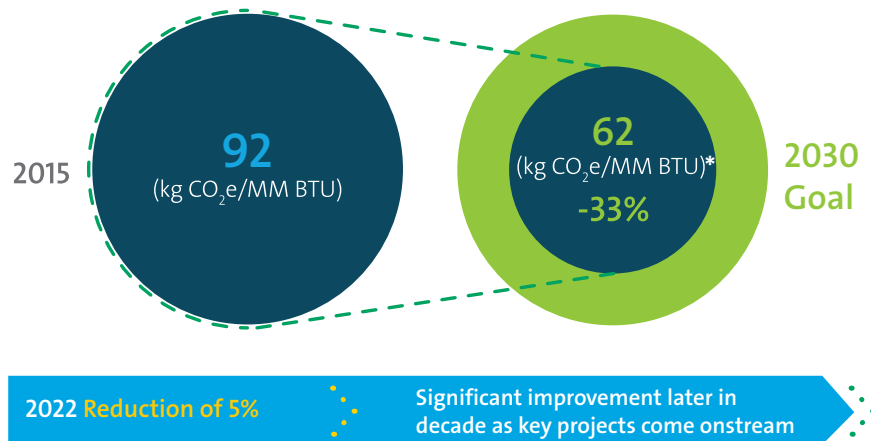
Third by '30

In 2020, we launched our “Third by ‘30” goal to reduce our **Scope 1 and 2** CO₂e emissions intensity **by 1/3 by 2030**, and we remain committed to this goal. As projects come onstream, along with our increasing use of renewable electricity and daily focus on operational efficiency, we believe that we are in an excellent position to meet or exceed this goal.

For more than a decade, we have also disclosed our Scope 3 emissions. These are emissions that we do not own or control, including upstream energy consumption, use of sold products, and investments.

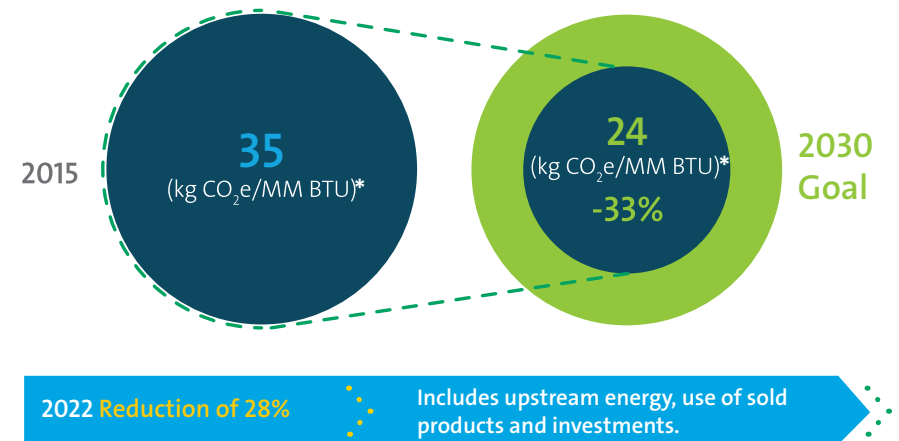
In 2022, we established a new “Third by ‘30” carbon dioxide emissions intensity (kg CO₂e/MM BTU) goal for **Scope 3** emissions, in addition to our existing Scope 1 and 2 goal.

Current “Third by ‘30” Carbon Intensity Goal Scope 1 and 2



*Intensity figures updated

New “Third by ‘30” Carbon Intensity Goal Scope 3



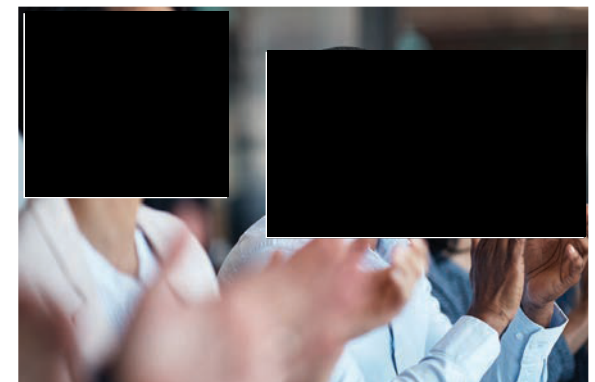
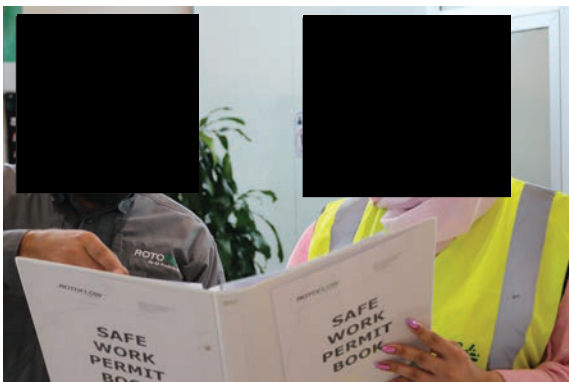
Diversity goals

In October 2020, Air Products set a goal to achieve at least **28 percent female representation** in professional and managerial roles globally and at least 20 percent minority representation in that same population in the U.S. by fiscal 2025. These goals reflect increases from 25 and 17 percent representation (2020 baseline), respectively.

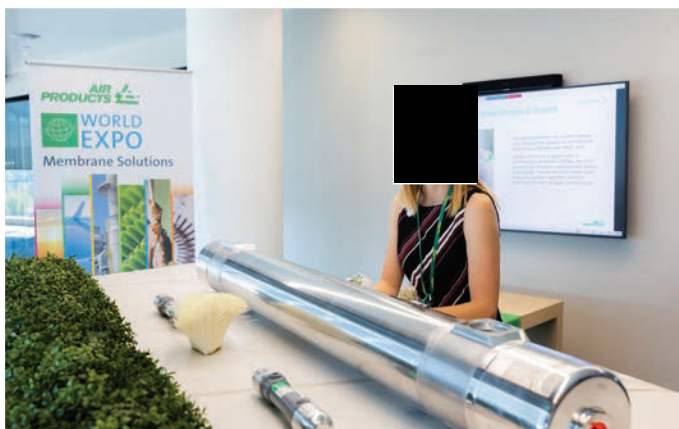
Having reached our objective for U.S. minority representation in 2021, Air Products set a **new, ambitious goal** to achieve **30 percent U.S. minority representation** in professional and managerial roles by 2025.

Air Products is committed to building a strong, inclusive culture where all employees know they belong and matter, and we will continue to report progress against these goals.

Hear from Seifi Ghasemi,
Chairman, President, CEO of
Air Products on Value of
Diversity & Inclusion



We work closely with stakeholders as we develop and work towards our sustainability goals



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. Their feedback provides important information for our sustainability priorities.


These key stakeholder groups were identified based on their potential impact on our business success and the potential impacts of our business activities on them.

For this Report, Air Products obtained feedback from over **1,300 key stakeholders** to understand their most significant concerns and to provide an opportunity for dialogue. We surveyed employees, customers, and suppliers globally and engaged with communities and government authorities in key jurisdictions. Investor perspectives were provided through ongoing dialogue.



Stakeholder assessments have been conducted by Air Products on a three-year cycle since we began reporting in accordance with GRI guidelines in 2010. Topics included in the assessments have been selected from many sources, including stakeholder inquiries, customer requests, rater requests and other reporting frameworks.

Please refer to GRI 3-1 through 3-3 in the Additional Details/GRI Index for a detailed description of our stakeholder engagement process and a summary of their inputs.

A large industrial ship, possibly a hydrogen carrier, is docked at a pier. The ship is dark-colored with a prominent white superstructure. The scene is set against a clear sky and calm water. A green rectangular overlay with a yellow border is positioned in the center, containing the main title and subtitle.

Accelerating

the global energy
transition with hydrogen



Building a cleaner, more sustainable energy future is one of the most critical issues facing our world today. The promise of renewable energy and electrification is real, but that alone cannot accommodate all the needs of daily living in the 21st century, while simultaneously growing our economy and achieving our climate goals.

That's where hydrogen comes in.

Hydrogen is a simple and versatile molecule. It can **store and transport energy**, making it an essential low-carbon solution to address emissions from sectors requiring a high-density energy source, such as heavy transportation, steel making, or the production of chemicals, where electrification is not feasible or practical at scale.

As a result, global demand for hydrogen is expected to **grow significantly**.

Hydrogen can be produced from renewable power via water electrolysis (green hydrogen) or from natural gas with carbon capture and sequestration (blue hydrogen). These types of hydrogen are often referred to as **zero- and low-carbon hydrogen**, reflecting their carbon intensity characteristics. Hydrogen can be produced in locations with favorable conditions, and transported by pipelines and trucks, or overseas in the form of ammonia.

Scaling up zero- and low-carbon hydrogen value chains is not an easy task. It requires connecting many dots, including technologies, production facilities, supply chain infrastructure, and operational expertise.

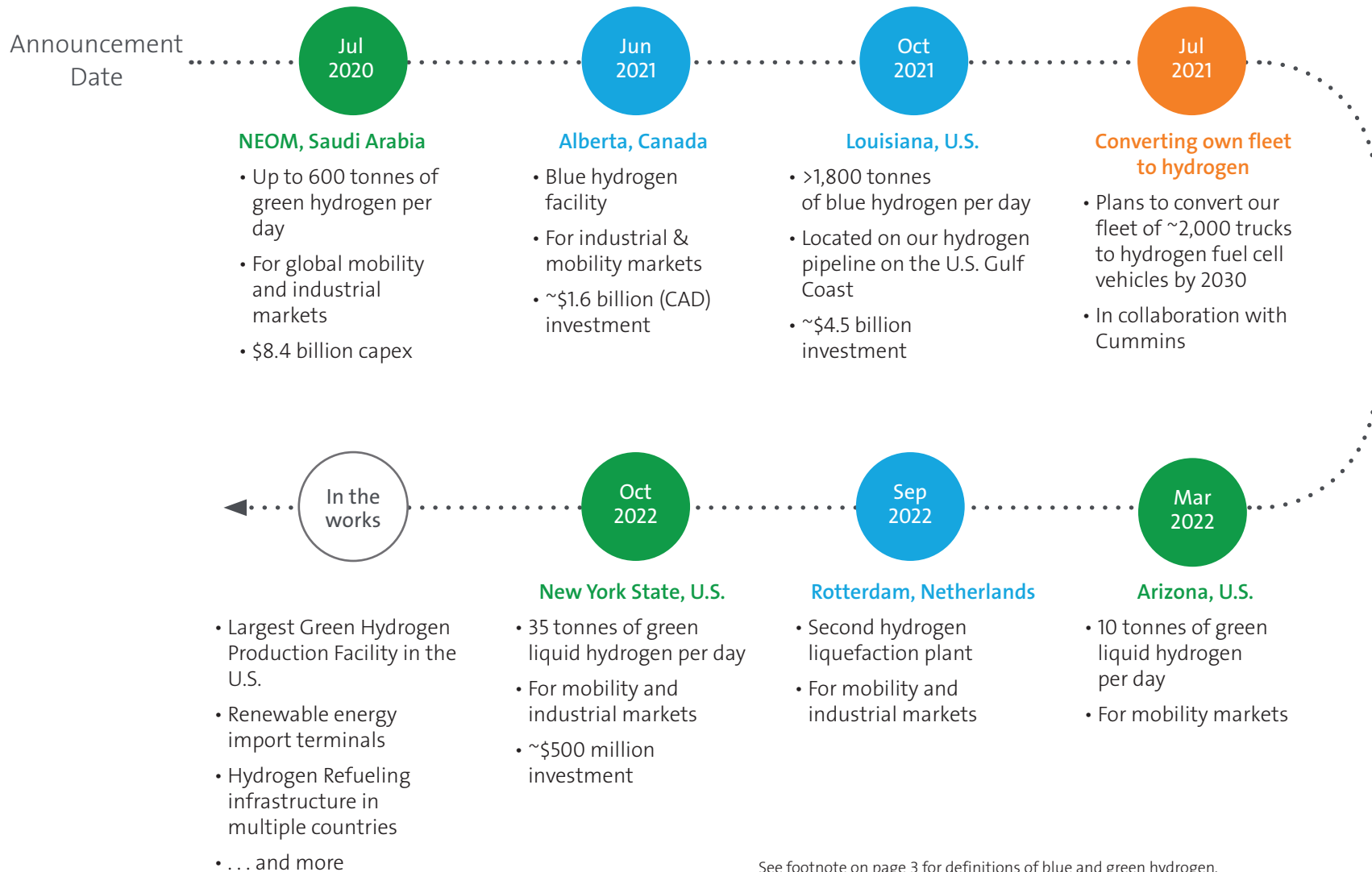
As the world's largest hydrogen supplier, **Air Products is in a perfect position** to connect the dots and accelerate the global energy transition via large-scale supply of zero- and low-carbon hydrogen.

That is why we are investing in **first-mover energy megaprojects** and supply chain **distribution and storage** infrastructure.

Our deep knowledge and expertise, existing hydrogen infrastructure, and, importantly, commitment to **real investments of at least \$15 billion** by 2027 are expected to play a critical role in scaling up zero- and low-carbon hydrogen.



Air Products is connecting the dots through significant investments in real projects across the hydrogen value chain



See footnote on page 3 for definitions of blue and green hydrogen.

Refer to investor relations materials on Air Products' website for onstream dates.

NEOM Green Hydrogen complex, Saudi Arabia

First-of-its-kind green hydrogen megaproject to supply hydrogen globally

In the sands of northwestern Saudi Arabia, work is underway to build the world's largest green hydrogen project in NEOM, Saudi Arabia. Air Products, in conjunction with ACWA Power and NEOM, are building a **multi-billion dollar, world-scale green hydrogen-based ammonia production** facility powered by renewable energy.

In May 2023, financial close was achieved at a total investment value of \$8.4 billion.

Once onstream, this world-scale facility will supply **600 tonnes per day** of carbon-free hydrogen for heavy-duty transportation and industrial applications around the world.

Air Products will be the exclusive off-taker of the green ammonia produced at the facility and intends to transport it around the world to be dissociated to produce green hydrogen for global markets.

The project is **progressing well** – engineering is continuing, all major subcontracts have been awarded, land preparation is complete and construction has started. The joint venture team is in place and executing.

"We are building a world-scale green hydrogen complex powered by renewables, geared to generate a cleaner future in the Kingdom of Saudi Arabia and beyond."

Dr. Samir J. Serhan, Air Products' Chief Operating Officer

Up to 600

tonnes per day of green hydrogen produced

>10,000 Trucks

can be powered with NEOM produced green hydrogen

~5 Million

Tonnes of CO₂e

saved annually

[Learn more](#)

Net Zero Hydrogen Energy Complex in Edmonton, Alberta, Canada

Air Products' new net-zero hydrogen energy complex will make Edmonton, Alberta the center of western Canada's hydrogen economy. The transformative **\$1.6 billion** (CAD) hydrogen facility will deploy advanced technology – auto-thermal reforming (ATR) – that enables over 90 percent of the CO₂ generated to be captured. The CO₂ will then be transported via pipeline and safely stored underground.

In addition, to avoid the indirect emissions associated with using electrical power from the grid, the complex includes a 100 percent hydrogen-fueled power generation unit. This unit is oversized to power the production facility and enable excess power to be supplied to the Alberta grid.

The facility also will be integrated with neighboring Imperial Oil Limited's new renewable diesel facility. Imperial will produce renewable diesel from locally sourced non-petroleum feedstocks, using a process that produces a biogenic renewable off-gas (ROG) byproduct. This ROG will be used as an additional feedstock to Air Products' hydrogen complex, displacing natural gas and further enhancing the overall carbon emissions profile.

The unique combination of integrating the ROG feedstock, associated carbon capture, and export of clean power more than offsets the remaining emissions not directly captured. This means this landmark facility can achieve net-zero emissions.

"The showcase facility will have it all – a world-scale auto-thermal reformer, carbon capture, a power generation facility fueled exclusively by hydrogen, a hydrogen liquefaction facility, a world-scale air separation facility producing clean liquid oxygen and nitrogen, and connection to Air Products' existing Alberta Heartland Hydrogen Pipeline network for enhanced customer reliability, and phased decarbonization of the entire network. This will truly be a **state-of-the-art** facility"

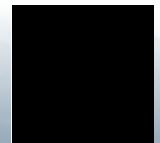
Dr. Samir J. Serhan, Air Products' Chief Operating Officer

~\$1.6 Billion (CAD)
investment

35 Tonnes
per day hydrogen liquefaction facility

2,500
construction and engineering jobs near-term,
with more job creation to come in the long-term

[Learn more](#)



Clean Energy Complex in Louisiana, United States

The Louisiana Clean Energy Complex represents Air Products' largest-ever investment in the United States. The **\$4.5 billion** clean energy complex will produce over 750 million standard cubic feet per day of low-carbon hydrogen, and will include the world's largest carbon dioxide capture for permanent sequestration facility.

Approximately **95 percent** of CO₂ generated at the facility will be captured, compressed and transported safely by pipeline for permanent sequestration.

Over **five million tonnes per year of CO₂** will be permanently sequestered in geologic pore space approximately one mile beneath the surface.

A portion of the blue hydrogen from this project will be supplied to customers by Air Products' extensive U.S. Gulf Coast hydrogen pipeline network, stretching more than 700 miles from Galveston Bay, Texas to New Orleans. Blue hydrogen will also be used to produce blue ammonia for global markets.

"This landmark megaproject will not only create jobs but make Louisiana a leader in the U.S. clean energy transition."

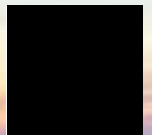
Seifi Ghasemi, Air Products' Chairman, President and CEO

~\$4.5 Billion
investment

>750 mmscfd
(>1,800 tonnes per day)
of blue hydrogen

>5 Million
Tonnes CO₂e
permanently sequestered per year

Learn more



Converting Air Products' fleet of ~2,000 trucks to fuel cell vehicles

In 2021, Air Products and Cummins announced a signing of a memorandum of understanding to work together to accelerate Air Products' conversion to hydrogen fuel cell trucks in the Americas, Europe and Asia. As part of that collaboration, Accelera, a division of Cummins focused exclusively on zero-emission power solutions, will provide hydrogen fuel cell electric powertrains integrated into selected original equipment manufacturer partners' heavy-duty trucks for Air Products.

Air Products plans to complete the conversion of its fleet **by 2030**.

Air Products expects to receive the first of the vehicles, including two class 8 drayage hydrogen fuel cell trucks for its California fleet in 2023. The trucks will be powered by Air Products' hydrogen and infrastructure and Accelera by Cummins' hydrogen fuel cell powertrains.

"Air Products is committed to working with our partners and customers to accelerate the energy transition to build a cleaner, more sustainable future. To decarbonize heavy duty transportation, clean hydrogen must play a significant role. There is no better way for Air Products to demonstrate the value of clean hydrogen to decarbonize heavy duty transportation than converting our fleet of approximately 2,000 vehicles to hydrogen fuel cell trucks."

Seifi Ghasemi, Air Products' Chairman, President and CEO



Green Hydrogen project in Arizona, United States

Green Liquid Hydrogen Production Facility to Serve the Hydrogen Mobility Market

Air Products has announced that it will build, own and operate a **10 tonnes per day** facility to produce green liquid hydrogen in Casa Grande, Arizona. The zero-carbon liquid hydrogen facility's product will be sold to the hydrogen mobility market in California and other locations requiring **zero-carbon** hydrogen.

The facility will use two tk nucera electrolyzers to produce gaseous hydrogen, which will be converted to **liquid hydrogen** using Air Products' proprietary technology. The site will also include a terminal for distributing product to customer locations throughout California and other markets.

Air Products' production process eliminates carbon by powering the entire facility with **zero-carbon renewable power**. The facility will include advanced compression technology supplied through the strategic alliance with Baker Hughes to feed the liquefier. This compression technology is also being used for Air Products' world-scale carbon-free hydrogen project in NEOM, Saudi Arabia, and its net-zero hydrogen production complex in Edmonton, Alberta, Canada.

>10 Tonnes
per day of liquid green hydrogen

.....

~200
trucks can be powered with produced green hydrogen

"We're excited to bring this new source of green hydrogen to the California market and recognize the vision of decarbonizing the transportation sector. California is a global leader in the energy transition and as a global leader in hydrogen and hydrogen for mobility, Air Products is proud to contribute to solving a significant energy and environmental challenge."

Eric Guter, Air Products' Global Vice President, Hydrogen for Mobility



New hydrogen plant in Rotterdam will double Europe's current liquid hydrogen capacity

Air Products has announced plans to start construction on a **second hydrogen liquefaction plant** in **Rotterdam**, The Netherlands, that will double Europe's current liquid hydrogen capacity.

This new facility is in addition to the company's existing liquid hydrogen plant in Botlek, the Netherlands.

Liquid hydrogen produced at the plant will be used to supply increasing demands from high-tech industries as well as the mobility market. The plant will contribute to the decarbonization of heavy-duty vehicles and aid Europe on its goal of climate neutrality by 2050.

Air Products has more than 60 years of experience in hydrogen manufacturing and continues to build production facilities to speed the energy transition. In 2021, Air Products' world-scale liquid hydrogen plant in La Porte, Texas, U.S. went onstream. That facility produces approximately 30 tonnes per day and draws its hydrogen to be liquefied from Air Products' Gulf Coast hydrogen pipeline network, the world's largest hydrogen plant and pipeline system.

Air Products also has liquid hydrogen production plants operating in New Orleans, Louisiana; Sacramento, California; Sarnia, Ontario, Canada; and Rotterdam in The Netherlands.



Green Hydrogen project in New York State, United States

Green Hydrogen Production Using Hydroelectric Power in Massena, New York

Air Products is planning to invest **\$500 million** to build, own and operate a **35 tonnes per day** facility to produce green liquid hydrogen at a greenfield site in Massena, New York, as well as liquid hydrogen distribution and dispensing operations.

To support this clean energy project, the New York Power Authority (NYPA) board approved **94 megawatts** of low-carbon St. Lawrence hydroelectric power to Air Products for the facility, which would also create 90 jobs in New York State.

The project supports New York State’s goal of becoming a Regional Clean Energy Hydrogen Hub, which aligns directly with the goals of the State’s Climate Leadership Community Protection Act.

The zero-carbon liquid hydrogen product from the facility is expected to be sold to the mobility market in New York State as well as potential northeast industrial markets.

"This project is another demonstration of our leadership role in the low-carbon hydrogen and hydrogen for mobility markets."
Seifi Ghasemi, Air Products' Chairman, President and CEO

~\$500 Million investment

>35 Tonnes per day of green hydrogen

>6 Million Tonnes CO₂e avoided over project lifetime

[Learn more](#)



Many other projects are being developed

Largest Green Hydrogen Production Facility in the U.S.

Air Products and The AES Corporation have announced plans to invest approximately \$4 billion to build, own and operate a green hydrogen production facility in Wilbarger County, Texas.

This mega-scale renewable power to hydrogen project includes approximately 1.4 gigawatts of wind and solar power generation, along with electrolyzer capacity capable of producing over 200 tonnes per day of green hydrogen, making it the largest green hydrogen facility in the United States.



Renewable Energy Import Terminals in Europe

Air Products is working with industry leaders on import terminals, where renewable energy - in the form of ammonia - will be used to produce green hydrogen in various locations, including potential terminals in Germany, The Netherlands, and the United Kingdom.

In Germany, Air Products has signed a joint development agreement with Mabanaft, through its subsidiary Oiltanking, Deutschland, to build Germany's first green energy import terminal at the Port of Hamburg. A similar agreement has been signed between Air Products and Gunvor in the Netherlands to build a green hydrogen import terminal in the Port of Rotterdam by 2026. In the U.K., Air Products is partnering with Associated British Ports to bring the first large-scale green hydrogen production facility to the Port of Immingham.

Hydrogen Refueling Infrastructure

Air Products has hands-on operating experience with over 250 hydrogen fueling station projects in 20 countries, and the company's technologies are used in over 1.5 million fueling operations annually.

We have announced and built additional hydrogen refueling stations around the world, including the first hydrogen fueling station project for the recent 2022 Winter Olympics in China's Hebei Province.

In May 2022, Air Products announced plans to build the first green hydrogen filling station for trucks in Rotterdam, the Netherlands.



Teams and execution capabilities significantly expanded since FY18 to support megaprojects

We are committed to successful **execution** of our announced zero- and low-carbon hydrogen projects and developing new projects.

>3 Times

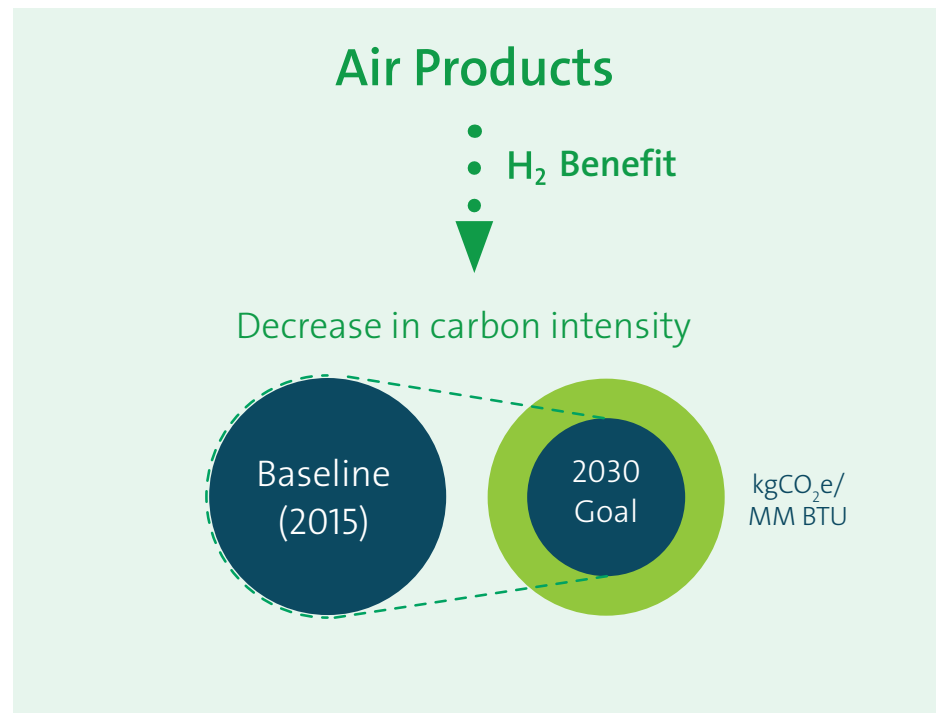
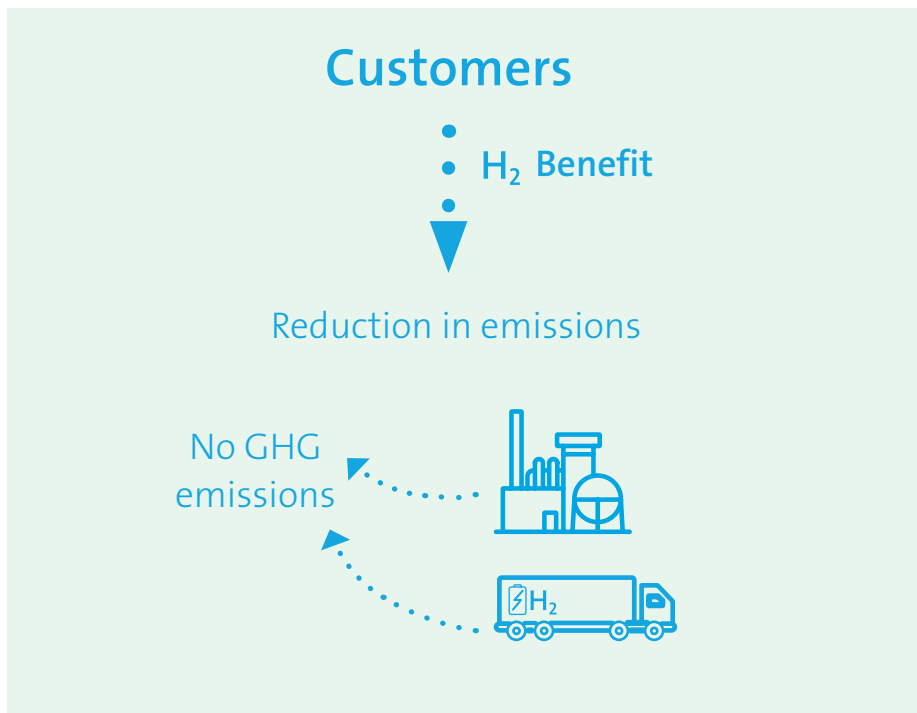
increase in project delivery capacity since FY18

Project delivery hubs involved in zero- and low-carbon hydrogen megaprojects (additions since FY18 shown in orange)



Once executed and onstream, our zero- and low-carbon hydrogen projects will enable our customers to reduce their emissions through displacement of fossil fuels

At the same time, these projects will seek to reduce the carbon intensity of our business, as production of zero- and low-carbon hydrogen generates no or low emissions.





2022

Sustainability Progress

Our Sustainability Implementation Framework

To manage sustainability and make progress towards our goals, we use a Sustainability Implementation Framework, comprised of three areas – **Grow**, **Conserve** and **Care**.

Our sustainability initiatives and programs are defined in line with these three areas, and our sustainability goals are lined up accordingly.

This ensures that our sustainability efforts are fully aligned with our sustainability goals, and we keep ourselves accountable to achieving them.

More information about our framework is available in the Additional Details/ GRI Index section of this report.



Grow

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

Through our Grow initiatives we ensure that we continuously increase our positive impacts on our customers and the world through accelerating the energy transition, our Sustainable Offerings, and delivering returns for our shareholders. Strong financial results are important since they enable us to invest in innovation and world-changing projects.



Conserve

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

Under Conserve we are taking actions towards our climate-related goals of reducing carbon intensity by 1/3 by 2030 and achieving Net Zero by 2050, while striving to reduce other impacts on the planet.



Care

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

Through our Care activities we work to ensure the health and safety of our employees, contractors, customers and communities while promoting the development of our people, diversity and inclusion, and engaging with our host communities.

Our Sustainability efforts support the United Nations' 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.

GROW



How we contribute

- Technology innovations
- Industry-leading investments in first-of-a-kind energy transition projects
- Expansion of sustainable offerings
- Job creation
- Ethics and integrity

Related goals

- \$15bn in capex for the energy transition by FY27
- Lead the industrial gas industry in profitability
- Annually increase customer avoided emissions

CONSERVE



How we contribute

- Low-carbon hydrogen
- Energy efficiency
- Water conservation and use efficiency
- Effective waste management

Related goals

- Reduce our Scope 1 and 2, and Scope 3 CO₂ emissions intensity by 1/3 by 2030
- Net zero by 2050
- Increase energy efficiency and promote the responsible use of water

CARE



How we contribute

- Products that sustain life
- Relentless focus on safety
- Zero tolerance for discrimination
- Representation of women and minorities in our businesses
- Upholding human rights

Related goals

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

We are on track to achieving our sustainability goals



GROW			
	Target	2022	Status
Capex for energy transition	\$15Bn (by FY27)	\$11Bn committed	On track
Profitability	Lead the industrial gas industry	Adjusted EBITDA Margin of 33.4% ¹	On track
Customer avoided emissions	Increase annually	86 million tonnes	On track
CONSERVE			
	Target	2022	Status
Third by '30 Scope 1 and 2 intensity (kgCO ₂ e/MMBTU)	-33% (by 2030 vs 2015)	-5%	On track
Third by '30 Scope 3 intensity (kgCO ₂ e/MMBTU)	-33% (by 2030 vs 2015)	-28%	On track
Net Zero	Net-zero emissions from our operations by 2050	New	On track
Energy	Annually increase energy efficiency	2% intensity improvement	On track
Water	Promote responsible use of water	4% intensity improvement	On track
CARE			
	Target	2022	Status
Safety	Lead the industrial gas industry	Reduced employee recordable rate by 8%	On track
U.S. minority representation	30% in professional and managerial roles (by 2025)	25%	On track
Female representation	28% in professional and managerial roles (by 2025)	26%	On track

¹Amount is a non-GAAP financial measure. See "Reconciliations of Non-GAAP Financial Measures for reconciliation to the comparable GAAP measure."

Throughout 2022, we continued innovating to accelerate progress towards our goals

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. R&D is conducted principally at our **Technology Centers** in the United States (Allentown, Pennsylvania), the United Kingdom (Basingstoke, Hershaw and Carrington), China (Shanghai), and Saudi Arabia (Dhahran). Air Products also funds and cooperates in R&D programs conducted by **world-renowned universities** and other technology organizations.

In 2022, our Technology teams continued **supporting the global energy transition** by continuing to strengthen our sustainable product offerings and increasing efficiency of our core gases business and emphasizing the optimization and integration of technologies needed for the success of our world-scale energy projects. Approximately 70 percent of total R&D spend was dedicated to sustainability and the energy transition, including development and improvement programs in the following areas:

- Design and operations of our core industrial gases equipment and facilities to reduce their carbon footprint and increase climate benefits for customers
- Technologies to scale up production of green hydrogen from renewable power via electrolysis
- State-of-the-art carbon dioxide capture and permanent sequestration technologies
- Technologies enabling safe transportation and storage of hydrogen at scale (including transportation as ammonia)
- Industry-leading hydrogen refueling stations for mobility markets



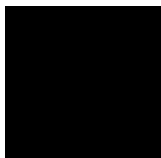
>80

new patent applications related to sustainability and/or the energy transition filed in the past three years

~70%

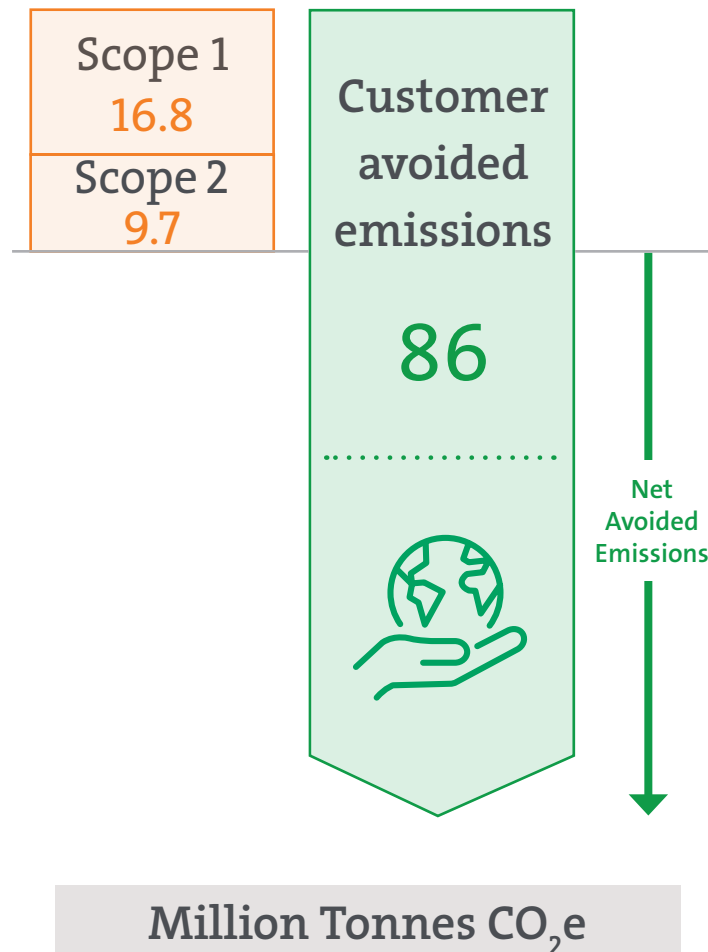
of R&D spend dedicated to sustainability and the energy transition

Learn more about Innovation at Air Products

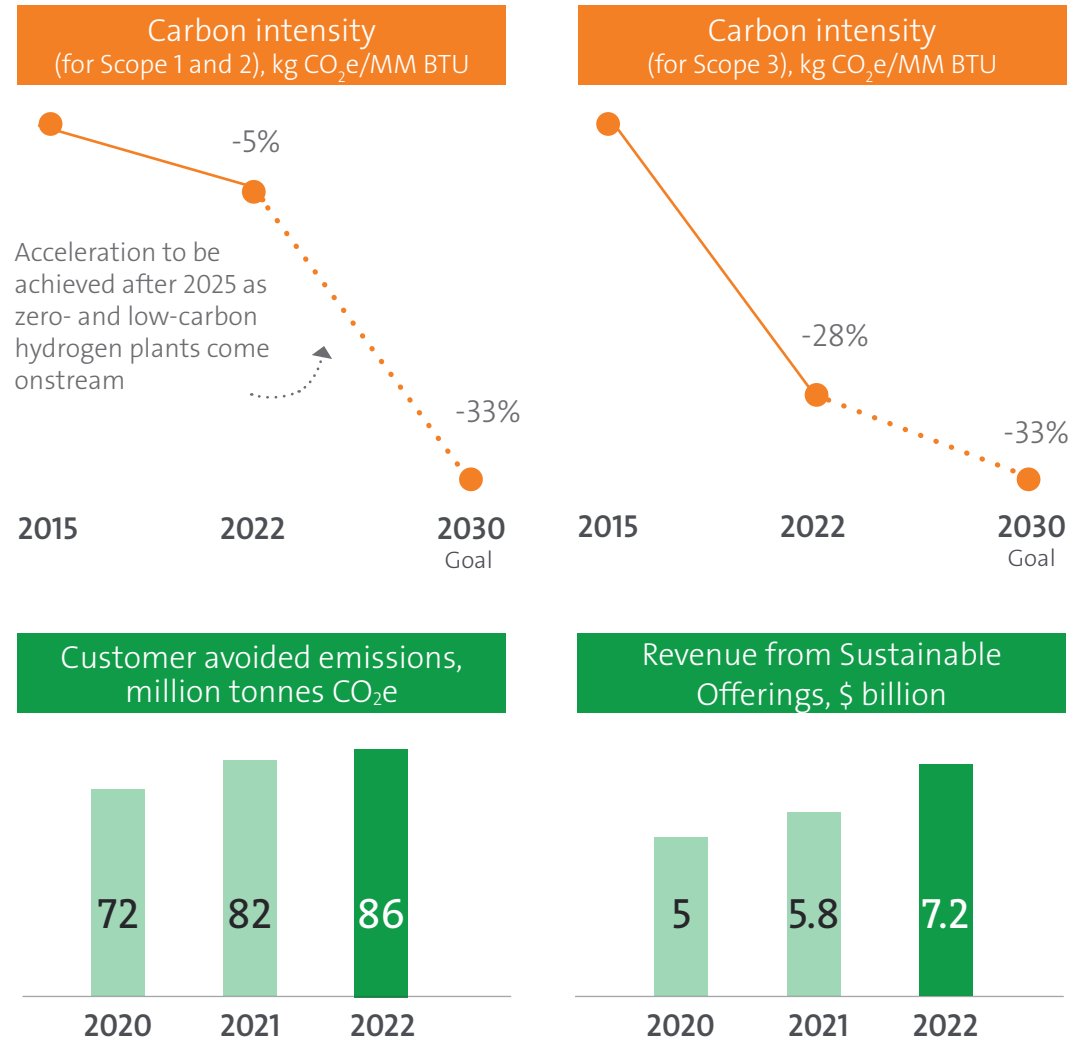


Greenhouse gas emissions in 2022:

Customer avoided emissions
>3x higher than our own emissions



Improved metrics for both emitted and avoided CO₂e



Acting on our climate goals

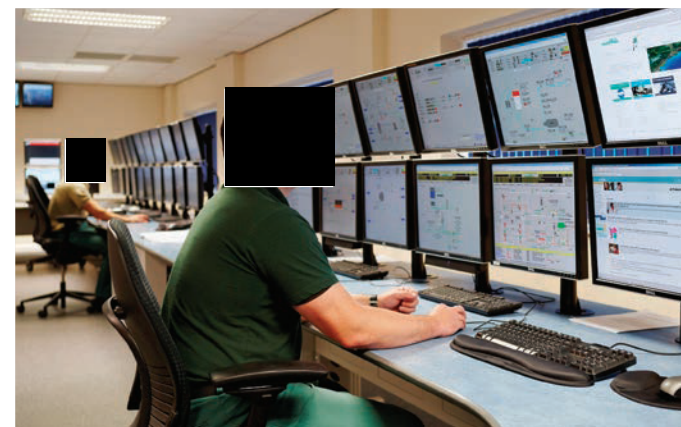
Reducing emissions at production facilities and in distribution

Engineering Service Center reduces emissions of production facilities via higher productivity and efficiency

Air Products' Engineering Service Center (ESC) is a digitally connected room in the United Kingdom (UK) that has visibility of our UK site control systems by allowing engineers to see the same information that the operators are seeing.

This enables real-time efficiency monitoring of our air separation units (ASU) that optimize operating performance and enables identification of deviations and mechanical issues.

By using the ESC our engineers ensure we make our products with the least power needed and help us achieve our sustainability goals.



Driving down distribution emissions in France

A decade ago, Air Products was one of two companies that approached the Association des Utilisateurs de Transport de Fret (or AUTF, the French loaders association) to develop a voluntary sustainable transport initiative to encourage transporters to reduce emissions.

Three years later the initiative was officially launched as Fret 21. Air Products signed on to the first phase of the initiative and met its first three-year commitment to reduce CO₂ emissions from transportation by five percent by changing how we managed deliveries and by investing in a more efficient fleet.

In 2017, we committed to reducing our emissions an additional five percent for the second phase of the initiative. We are proud to report that Air Products is the first company to complete the second commitment and has reduced its emissions by 11.3 percent.



We strive to be a responsible consumer of water, further reducing the water intensity of our products

Water is a vital resource and crucial to the health of every living thing on our planet. With populations and temperatures increasing, fresh water is becoming even more scarce. As a result, water conservation is needed now more than ever to ensure there is enough of this critical resource for everyone now and into the future.

Water is also **crucial to Air Products** – we cannot operate our facilities without sufficient water. We use water primarily for cooling and to produce hydrogen, steam and water for our customers. We also strive to continually reduce our use of fresh water while ensuring the quality of our water discharges meet or exceed local requirements.

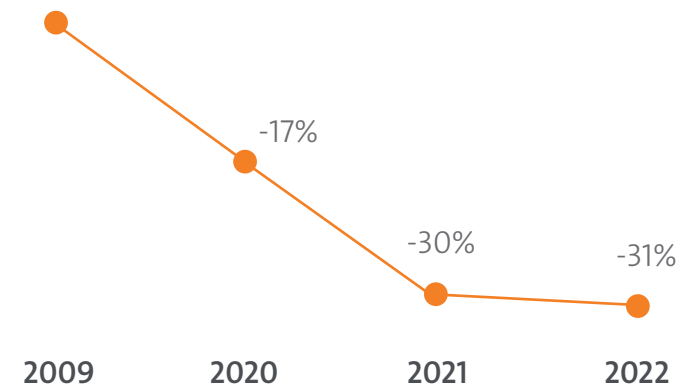
We have **decreased our water intensity** – the amount of water we use per unit of production – by 31 percent since we first began reporting on water consumption in 2009. Improvements have been realized through increased energy efficiencies that decrease cooling needs, higher water recycling and improving our water management practices.

In 2022, our water use increased due to higher production driven by customer demands. At the same time our water intensity level was down by two percent from last year. That means the volume of water we used grew proportionally less than the growth of our operations.

We also contribute to the availability of clean water through products our customers use to improve water quality and treat wastewater. For example, we supply pure oxygen and aeration systems for wastewater treatment that improve treatment system performance and expand capacity. Ozone generated from our pure oxygen is used to disinfect drinking water and can also be used in advanced oxidation systems for wastewater treatment. We also supply carbon dioxide for pH adjustment and drinking water remineralization.



Water use intensity improvement*



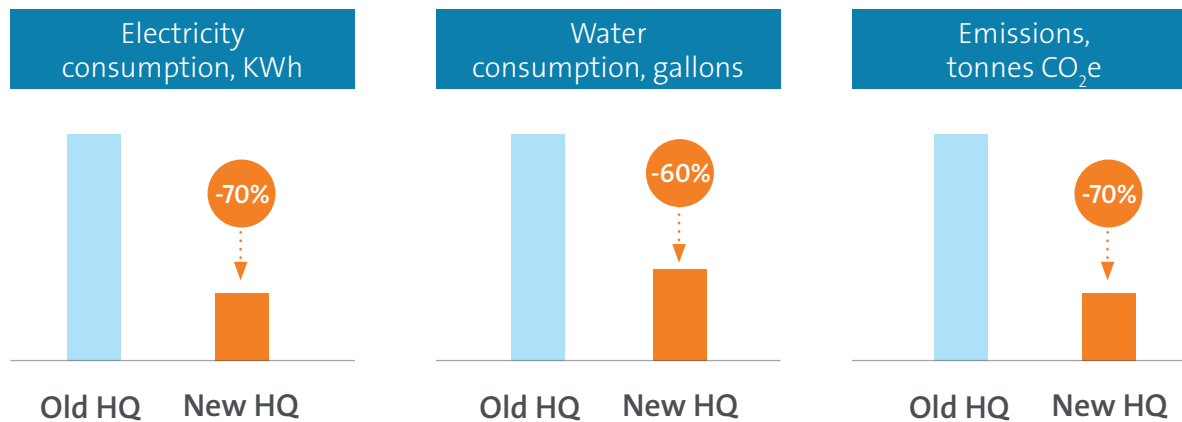
*Intensity improvement is computed as the ratio of reporting year water consumed, to reporting year production, divided by same ratio for 2009.

Building sustainability into our new global corporate headquarters

Air Products' new global corporate headquarters in Allentown, Pennsylvania was designed with sustainability in mind. From light harvesting systems to low-water-use fixtures to health, safety and community considerations, our new home was built to minimize resource consumption while providing a great space to work and collaborate.

The impact of the new design is clear – our annual energy consumption and CO₂ emissions are lower by about 70 percent compared to our prior facility. Likewise, water use is significantly reduced and has dropped by nearly 60 percent.

These results show that at our new headquarters, we are truly 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.

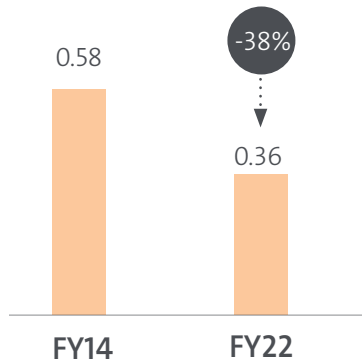


Strong progress towards our goal of zero safety incidents

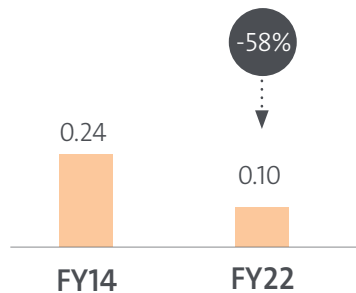
Safety is central to our Company goal of being the safest, most diverse, and most profitable industrial gas company in the world. We also believe safety is a moral obligation and want our employees to return home to their families safe and healthy every day. We have made significant progress since FY14 when we set our goal of being the safest industrial gas company, but our overarching **goal is zero safety incidents**. We strive to continually improve safety and health for our colleagues, contractors, customers, and host communities.



Employee Recordable Rate

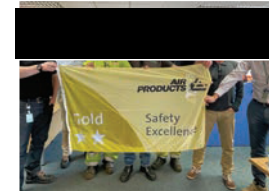


Employee Lost Time Incident (LTI) Rate



*Rates are per 200,000 hours worked

Safety in action:



Aberdeen, Scotland facility
60 years without a recordable or LTI – a first for Air Products and the European Industrial Gas Association



Rotoflow, an Air Products business

40 years without an LTI
(>4 million hours)



Cikarang, Indonesia facility

30 years without an LTI
(>3 million hours)

We are focused on attracting, building and retaining a world-class and highly-skilled workforce to deliver on our growth ambitions

Offering great opportunities for our employees

Our overarching goal is to be the **most diverse industrial gas company** in the world, and we are working every day to build a workforce that reflects the places where we do business.

We want people to join Air Products and help us make a positive impact in the world, collaborating with employees that have broad, deep and extensive experience. Our employees are vital to Air Products' success, and that's why we provide opportunities to continually develop capabilities, talents and careers in support of current and future business needs. We also offer compensation that is fair and equitable and includes benefits that enable physical, emotional and financial wellness.

We are creating a work environment where every employee knows they belong and matter. **Diversity, Inclusion and Belonging (DIB)** are embedded throughout our company and demonstrated by our leadership commitment and extensive programs. For example, we engage with external diversity partners to support talent and development within our organization and have 13 Employee Resource Groups (ERGs) that provide connections and build affinities between groups of employees while enabling exposure to different career paths.

In our continuing efforts to evolve our workplace culture, Air Products has developed a new **employee value proposition (EVP)** to reimagine what's possible in the workplace. Air Products' EVP builds on its goal to be the safest, most diverse and most profitable industrial gas company in the world, while proving excellent service to our customers.

Air Products' EVP is a comprehensive approach that highlights the benefits and compensation the company offers to employees for their valuable skills, capabilities and experiences. It is built on the four pillars of putting safety first, ensuring every employee knows they belong and matter, working together to build tomorrow together, and growing with the company.



Diversity in the Workforce FY22

22%

Women in the workforce

28%

U.S. minorities in workforce

22%

Women in management

26%

U.S. minorities in management

23%

Women in senior leadership

20%

U.S. minorities in senior leadership

17%

Women in executive roles

28%

U.S. minorities in executive roles

In FY22, we increased the representation of women in senior leadership to 23 percent, up from 20 percent in FY21. We also increased the representation of U.S. minorities in our workforce to 28 percent, up from 26 percent in FY21. Relative to our 2025 diversity goals, we maintained female representation at 26 percent in our professional and managerial population globally and increased the percentage of U.S. minorities in these roles to 25 percent, up from 22 percent in FY21. We remain committed to achieving our 2025 diversity goals.

Acting on Diversity, Inclusion and Belonging

Taking steps to boost the number and careers of female engineers in the Kingdom of Saudi Arabia

In May 2022, Air Products launched Female Engineers & Technical Associates (FETA), a unique program to enable the progression and career development of the next generation of female talent in the Kingdom of Saudi Arabia.

The goal of the program is to attract, develop and train both experienced and recent graduate female talent in the Kingdom of Saudi Arabia by offering tailored job rotations, hands-on learning and professional and technical development. Since its launch, 21 women have taken part in FETA, gaining experiences in varied career opportunities.

“Through FETA we are pioneering a new path of learning for female engineers and technicians. This program will help shape their futures as they become part of a world-leading industrial gases company, working on some of the most innovative, forward-looking, projects of our time,” said Dr. Samir J. Serhan, Air Products' Chief Operating Officer.

Participants in the program rotate through three positions at Air Products over eight months, gaining a broad range of experience and exposure to several parts of the company.

“What excites me the most is how a company like Air Products opens the opportunity to talented females to achieve higher goals step by step,” said Maryam AlSukairi, a materials engineer who participated in the program.

Christopher Rodriguez, Air Products' Vice President of Talent, Culture & Engagement said, “the Kingdom of Saudi Arabia has an abundance of unique, highly talented, results oriented, committed individuals who would thrive in FETA. Here at Air Products, we want to embrace this ambition and create an opportunity for female engineers and technicians to learn, grow, develop and thrive all supported within a global multiple national organization.”

“My first impression of Air Products is that it was an extremely engaging and welcoming environment. I love how the company is completely true to its Higher Purpose and vision.”

Zainab Lajami, Air Products' Civil Engineer
(pictured above)

Hear more from FETA
participants

Acting on Diversity, Inclusion and Belonging

Week of Inclusion . . . "Leaning into Empathy"

For one full week in May 2022, Air Products hosted its annual global Week of Inclusion to provide employees the opportunity to participate in sessions and courageous conversations on **diversity, inclusion and belonging (DIB)**.

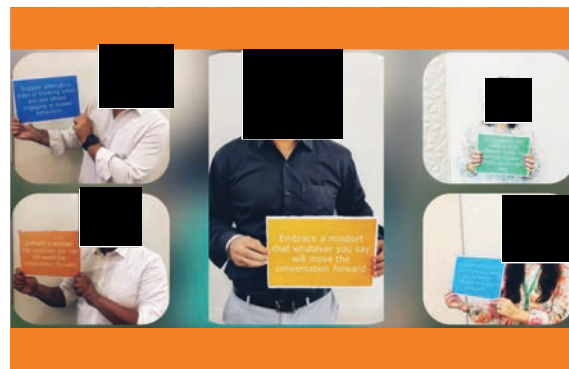
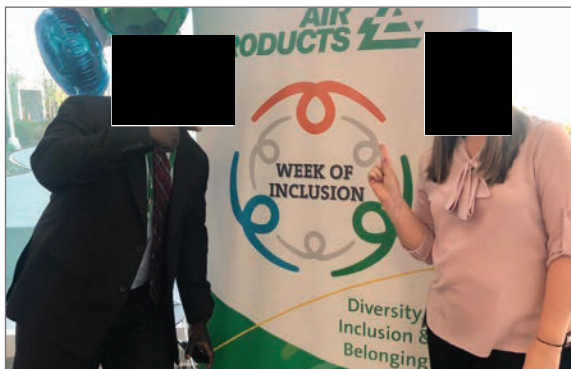
Air Products' annual Week of Inclusion grew out of the company's commitment and involvement with the CEO Action for Diversity and Inclusion™. Seifi Ghasemi, Air Products' Chairman, President and CEO, is one of nearly 2,000 business leaders who have pledged to take action in support of a more **inclusive workplace**.

"It is our goal to be the **most diverse industrial gas company in the world**, to reflect the places where we work and do business and create a culture where every employee knows they belong and matter," said Ghasemi. "To achieve our Higher Purpose of innovating solutions to solve the world's energy and sustainability challenges we need diversity of thought and ideas. We continue to embed inclusive leadership practices to foster a respectful workplace where people are empowered to confidently express their viewpoints."

The theme for the 2022 Week of Inclusion was "Leaning into Empathy." According to a 2020 State of Workplace Empathy report, more than 90 percent of employees believe empathy is more important than ever in the workplace. Organizations with empathetic workplace cultures experience greater employee retention, stronger collaboration, and increased innovation.

The week began with a keynote session featuring **Denise Hamilton**, author, speaker and CEO of WatchHerWork. Hamilton discussed the importance of building a culture of care and leaning into difficult dialogue in a productive and supportive way. Throughout the week more than 20 sessions were held, conducted in five languages.

The Company is preparing for its **2023 Week of Inclusion**, which will focus on "Ownership" and the role of every employee in creating an inclusive workplace that celebrates our differences.



Diversity, Inclusion & Belonging
Individually Strong,
Collectively Powerful



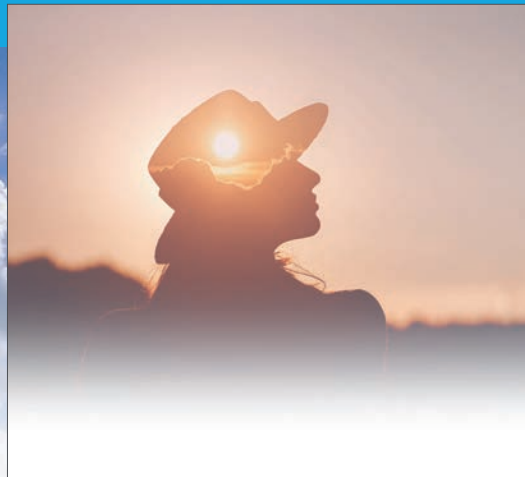
Spotlight on employee wellbeing

Holistic approach to employee wellbeing “Breathe Freely” program



Our employees are our company's greatest assets, and when they feel healthy, energized, and fulfilled, they are able to be their best self at work and at home . . . essentially, they are able to "breathe freely." To support employee wellbeing, Air Products launched a holistic “Breathe Freely” Global Wellbeing Program that encompasses much more than just physical health; “Breathe Freely” also takes into account mental, social, and financial aspects of overall wellbeing. The program focuses on four key pillars: work-life harmony, community, security, and health.

All employees received a wellbeing toolkit with practical tools to promote wellbeing and healthy behaviors, including a subscription to access the Calm Mindfulness App. The toolkit also provided a reusable water bottle and "Fill it Forward" sticker to promote personal hydration, sustainability, and community impact. When employees refill their reusable bottle and scan the QR code, they unlock a donation in the Fill it Forward app in support of WaterAid. For the launch of the Breathe Freely Wellbeing toolkit we set a goal to reach 25,000 scans of reusable bottles. Our employees collectively met this goal and a corresponding donation of \$25,000 from the Air Products Foundation was made to WaterAid.

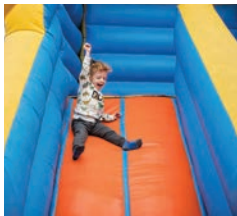


We continued to engage with our communities throughout 2022

Americas:



Artwork displayed in Air Products previous global headquarters in Pennsylvania was auctioned for the benefit of United Way, not only raising significant proceeds for charity, but also finding new homes for a selection of historic, scenic, and contemporary art.



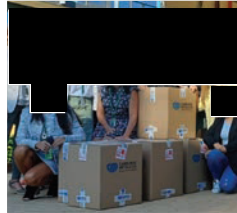
Air Products sponsored the Family Fun Zone at the 66th annual Sylvan Beach Festival in La Porte, Texas. More than 300,000 people attended the festival, which raised more than \$100,000 for the La Porte Bayshore Chamber of Commerce, which invests in promoting local business, economy, and community.

India:



Air Products India partnered with the Being Volunteer Foundation to set up four solar-powered water purifiers as part of a clean water through clean energy program, providing clean drinking water to over 5,000 students. In addition, Air Products India provided over 800 books to libraries in nine schools in Pune, India as part of the Akshar Plus Library Program.

Europe:



As part of our WeCare volunteering program, employees in Madrid and Barcelona, Spain helped improve biodiversity by planting native jasmine and kermes oak plants, as well as by removing a significant number of invasive weed species.



The ongoing humanitarian crisis in Ukraine weighs heavy on hearts and minds across the world. To support the response to this crisis, the Air Products Foundation made a \$100,000 donation to the International Committee of the Red Cross.

Middle East:

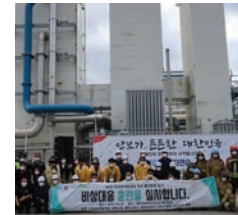


To support those affected by devastating earthquakes in Turkey and Syria, the Air Products foundation gave \$25,000 to the Turkish Red Crescent Society, in affiliation with the International Committee of the Red Cross. Funds contributed will go to an emergency fund for disaster response which supports immediate assistance in the affected region.

Asia:



Air Products' employees in Singapore participated in the One Million Trees movement, helping to plant over 40 trees at the Meranti Tree Bank on Jurong Island in conjunction with the National Parks Board.



Air Products' employees at our Pyeongtaek, South Korea plant facilitated emergency response practice drills, helping to create a safer environment for employees and community members.



Following severe flooding in Malaysia that displaced over 70,000 residents, Air Products organized a working group that bought necessities such as groceries, cooking equipment, and electrical items to affected residents, assisting nearly 250 families in the community.

... and there were many more community projects around the world

Spotlight on community health

Healthy Drinking Water for students at rural schools in China

In 2019, Air Products initiated a program to support children in rural schools in China with two aims – providing safe, affordable drinking water and improving the children’s knowledge of safety, environmental protection and science. The effort was sponsored by the Air Products Foundation which enabled engagement with One Foundation, a recognized public welfare fund in China that installs water purification equipment at schools and provides drinking cups to students, as well as training and equipment maintenance.

Air Products' volunteers go to participating schools and introduce the students to science through fun and educational demonstrations with liquid nitrogen.

Since its inception, the program has installed water purification systems at 115 schools to the benefit of over 80,000 students.



Recognition for our sustainability efforts

Dow Jones Sustainability Indices

Powered by the S&P Global CSA

Member North America Index and Sustainability Yearbook



Recognized as a top performer in the global corporate universe by ISS-oekom with a distinction of Prime status



Grow • Conserve • Care

Member of Barron's 100 Most Sustainable Companies



Constituent of the Ethibel Sustainability Index Excellence Global and Ethibel Pioneer and Ethibel Excellence Investment Registers



One of America's Best Employers for Diversity



Human Rights Campaign Foundation's 2022 Corporate Equality Index



FTSE4Good

Constituent of the FTSE4Good Index Series



Sustainability Role Model Award for contributions to corporate social responsibility and China's sustainable development

ISO 26000 Certification

Air Products Europe, following a successful audit by Intertek, received a certificate of conformance for the effective implementation, monitoring and coordination of the Social Responsibility (SR) principles in ISO 26000: 2010 International Guide.

ISO 26000 is an international standard that addresses seven core subjects of social responsibility: organizational governance, human rights, labor practices, the environment, fair operating practices, consumer issues and community involvement and development, and provides guidelines and instructions to be followed in everyday business practices.

The audit spanned a week and several countries, including Air Products' businesses in Belgium, Poland, Spain, Portugal, the United Kingdom and Ireland.

Air Products is one of the few companies in Europe that has received this confirmation of its alignment with these important social responsibility principles.

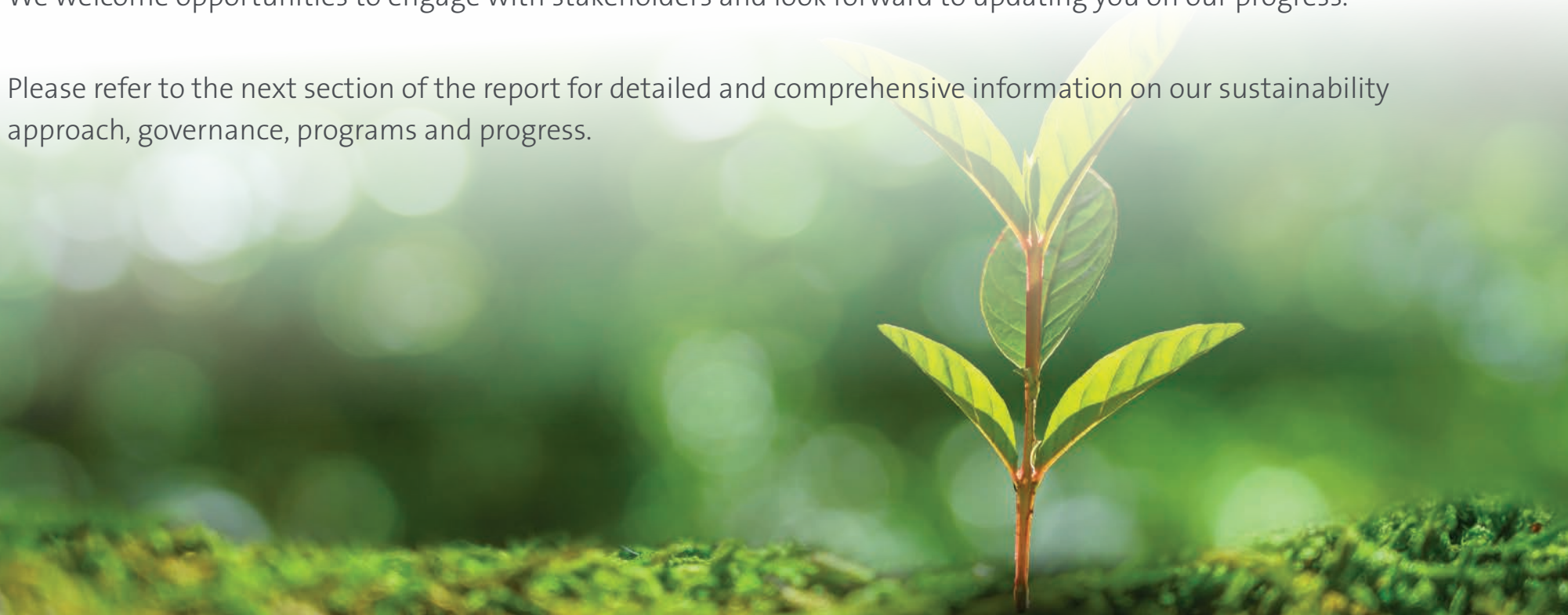


At Air Products we look into the future with optimism. We are encouraged by the growing momentum and interest in the energy transition and efforts that governments, businesses, academia and communities are undertaking to move the world towards Net Zero.

We are committed to and proud to be playing an important role in enabling and accelerating the energy transition through our sustainable offerings in our core industrial gases business, and through real investments in zero- and low-carbon hydrogen megaprojects.

We welcome opportunities to engage with stakeholders and look forward to updating you on our progress.

Please refer to the next section of the report for detailed and comprehensive information on our sustainability approach, governance, programs and progress.



Additional Details

GRI Index

Selected Sustainability Data

GROW	2020	2021	2022
Customer avoided emissions (MM tonnes CO ₂ e)	72	82	86
Percent of revenues from Sustainable Offerings	57%	56%	56%
R&D spending (\$ million) and percent of R&D for energy and environment	\$83.9 >50%	\$93.5 ~70%	\$102.9 ~70%
Annual Code of Conduct training and certification	100%	100%	100%
CONSERVE	2020	2021	2022
Total energy consumption (TWh)*	52.7	57.2	57.2
Energy efficiency improvement (year-on-year)	2.2%	0.1%	7%
Scope 1 emissions (MM tonnes CO ₂ e)*	17.1	16.9	16.8
Scope 2 emissions (MM tonnes CO ₂ e)*	9.3	9.5	9.7
Scope 3 emissions (MM tonnes CO ₂ e)*	7.4	8.1	7.7
Ratio of avoided emissions to total Scope 1 and 2 emissions	3x	>3x	>3x
Hazardous waste generated (tonnes)	6,300	5,000	5,900
Water consumption (billion gallons)*	15.8	14.4	14.2
Water intensity improvement*	4%	10%	4%
CARE	2020	2021	2022
Employee recordables (number) and injury rate	78/0.40	80/0.39	83/0.36
Employee lost-time injuries (number) and rate	18/0.09	14/0.07	22/0.10
Contractor recordables (number) and injury rate	52/0.39	69/0.43	48/0.26
Contractor lost-time injuries (number) and rate	13/0.10	9/0.06	12/0.07
Total employees at year end	>19,000	>20,000	>21,000
Female share of workforce	21%	22%	22%
Cash and product donations (\$ million)	\$6.4	\$7	\$7

*Restated for 2020 and 2021

2023 Additional Details/GRI Index

GRI Disclosure		References and Responses
GRI 1: Foundation 2021		
	Reporting Principles and Requirements	Air Products has reported in accordance with the GRI Standards for the period of January 1, 2022 to December 31, 2022, except where noted that fiscal year (October 1, 2021 to September 30, 2022) data is provided. This report addresses the key concepts of sustainability reporting described in GRI 1: Foundation 2021.
GRI 2: General Disclosures		
The Organization and its Reporting Practices		
2-1	Organizational details	FY22 Annual Report on Form 10-K, pp 1, 5-7, 17
2-2	Entities included in the organization's sustainability reporting	FY22 Annual Report on Form 10-K, pp 46-47, 64, 73, 114-115
2-3	Reporting period, frequency and contact point	<p>Air Products has reported on its sustainability performance annually for 20 years, building on previous decades of environmental, health and safety disclosures and reporting. This Report has been prepared in accordance with the GRI 2021 Standards and is our 14th consecutive GRI report. No GRI sector standard exists for our industry; however, we have attempted to provide the best possible disclosures based on the nature of our business and the related risks and opportunities. This Report also contains supplemental information not specified by GRI that illustrates additional aspects of our sustainability efforts and impacts.</p> <p>This Report (issued in June 2023) covers the period of January 1, 2022 to December 31, 2022, except where noted that fiscal year (October 1, 2021 to September 30, 2022) data is provided. Our prior year report was issued in June 2022 and reported on calendar year 2021 (except as noted).</p> <p>Questions or comments on this Report can be directed to Julie O'Brien, Air Products' Sustainability Director, at [REDACTED]@airproducts.com.</p>
2-4	Restatements of information	Energy and water consumption and Scope 1, 2 and 3 emissions for 2020 and 2021 have been restated due to acquisitions and methodology improvements.
2-5	External assurance	<p>Deloitte & Touche LLP audited Air Products' consolidated balance sheets, consolidated income statements, comprehensive income statements, statements of equity, and statements of cash flows for each of the three years in the period ended September 30, 2022 and Air Products' internal control over financial reporting as of September 30, 2022. For additional information, please see Air Products' FY22 Annual Report on Form 10-K (pp 55-57).</p> <p>Air Products has verified its carbon dioxide equivalent (CO₂e) emissions since 2010 and as directed by our Sustainability Leadership Council (see GRI 2-9). For this Report, 2022 CO₂e emissions were externally verified by an independent third-party, GHD Limited. The verification was conducted to a limited level of assurance and prepared in general accordance with ISO 14064.</p>
Activities and Workers		
2-6	Activities, value chain, and other business relationships	FY22 Annual Report on form 10-K, pp 5-7

Activities and Workers

2-7 Employees

Data	FY2022
Number of employees	>21,000
Female share of workforce	22%
Full time staff	90%
Permanent staff	96%
Employees by region	36% Americas; 33% Asia; 30% Europe, Middle East and Africa
Non-guaranteed hours employees	4%
Female share of non-guaranteed hours employees	34%
Non-guaranteed hours employees by region	94% Americas; 6% Europe, Middle East and Africa

Employee data for FY22 has been collected from internal data systems and consolidated at the Company level. The number of employees increased in FY22 by nearly 1,000 due in large part to our zero- and low-carbon hydrogen and other projects.

Omissions

Breakdowns of employee demographics are not available for all employee categories.

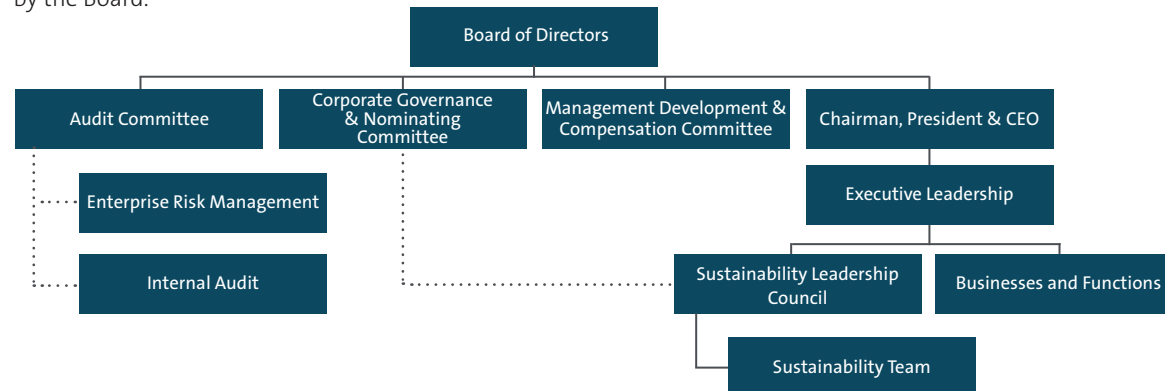
2-8 Workers who are not employees

In FY22, Air Products engaged nearly 18,000 full-time equivalent contractors through many different disciplines including construction, information technology and engineering, to name a few. This was higher than the prior year and driven by our zero- and low-carbon hydrogen and other projects. All contractors must be properly screened and trained, comply with defined requirements, and complete an environmental, health and safety (EHS) induction before beginning work. Contractors must also be monitored while on site, participate in safety meetings and report accidents and incidents so they can be investigated per Company procedures.

Governance

2-9 Governance structure and composition

Air Products' Board of Directors is composed of a diverse group of leaders with a broad range of qualifications and skills that facilitate strong oversight of the Company's management and strategy. The Board has accountability for oversight of environmental, health and safety performance, which it reviews at least quarterly. The Corporate Governance and Nominating Committee of the Board of Directors has responsibility for monitoring Air Products' response to important public policy issues, including sustainability, which is reviewed on a routine basis. Business ethics, climate change, diversity and talent management are key subjects related to sustainability that are routinely discussed by the Board.



Risk assessment and management is overseen by the Audit and Finance Committee of the Board of Directors, with information reported annually from the Enterprise Risk Management (ERM) Committee that consists of senior management. The ERM Committee determines which risks are most significant and supports the implementation of action plans to address risks. The ERM Committee reports at least annually to the Board of Directors.

The Sustainability Leadership Council (SLC) is comprised of senior executives and functional experts. The SLC sets Air Products' sustainability approach and engages in evaluation of sustainability risks and opportunities. The SLC supports the development of our sustainability goals and reviews programs, performance, and reporting, including the Company's Sustainability Priorities and annual sustainability report. The SLC is chaired by the Vice President of Sustainability who reports on sustainability progress to the Corporate Governance and Nominating Committee at least annually. Climate-related risks and opportunities are routinely reviewed and reflect the Board's input.

The Sustainability Team supports Air Products' sustainability program implementation, progress management and reporting and reports to the Vice President of Sustainability. Businesses and functions support our sustainability programs and goals and the integration of sustainability across the Company. Additional information about Air Products' Board of Directors is available in the [Governance](#) section at airproducts.com and in our [2023 Proxy Statement](#) (pp 8-13, 16-17, 19).

2-10	Nomination and selection of the highest governance body	2023 Proxy Statement , pp 9, 14-16 Governance Guidelines , section 3
2-11	Chair of the highest governance body	2023 Proxy Statement , pp 8, 11, 19
2-12	Role of the highest governance body in overseeing the management of impacts	2023 Proxy Statement , pp 16-19 Corporate Governance and Nominating Committee Charter , item 3.1.5(g)
2-13	Delegation of responsibility for managing impacts	2023 Proxy Statement , pp 17-18 Management Development and Compensation Committee Charter , item 4.1 Corporate Governance and Nominating Committee Charter , item 4.1
2-14	Role of the highest governance body in sustainability reporting	Air Products' Sustainability Leadership Council supports the development of our sustainability goals and reviews programs, performance, and reporting, including the Company's Sustainability Priorities and annual Sustainability Report.
2-15	Conflicts of interest	2023 Proxy Statement , pp 10-13, 15, 22-23, 56 Code of Conduct p 3
2-16	Communication of critical concerns	GRI 2-9 2023 Proxy Statement , pp 17-18
2-17	Collective knowledge of the highest governance body	2023 Proxy Statement , p 9 Governance Guidelines , item 16.1
2-18	Evaluation of the performance of the highest governance body	2023 Proxy Statement , p 22 Corporate Governance and Nominating Committee Charter , item 3.1.4 Governance Guidelines , item 17.1
2-19	Remuneration policies	2023 Proxy Statement , pp 23-41, 44-45, 47-49
2-20	Process to determine remuneration	2023 Proxy Statement , pp 19, 23, 39
2-21	Annual total compensation ratio	2023 Proxy Statement , p 52 <i>Omission</i> Does not include percentage increase in annual total compensation ratio for FY22 because the annual total compensation ratio was not reported prior to FY22.

Strategy, Policies and Practices

2-22	Statement on sustainable development strategy	See pages 1-2 of this Report.
2-23	Policy commitments	<p>Air Products believes that the best way to be a great company and to deliver value to our customers and shareholders is to be responsible, fair, honest, and ethical in our business practices and personal behaviors at work. These beliefs are underpinned by global policies that define our expectations and requirements of our employees and people that do business with us.</p> <p>Our Code of Conduct and Business Ethics (“Code of Conduct”) guides us in how we behave and requires strict compliance with the letter and spirit of the Code of Conduct and all applicable laws. The Code of Conduct covers many aspects of ethical business, including but not limited to conflicts of interest, bribery and corruption, financial accounting and reporting accuracy, fair dealing, political contributions and lobbying, equal opportunity and prevention of harassment, and environmental, health and safety.</p> <p>Air Products' Environment, Health, and Safety (EHS) Policy codifies our commitment to being an industry leader in environmental, health, and safety performance. The policy requires compliance with all applicable environmental, health, and safety laws and regulations. Moreover, it commits us to continual improvement in safety performance and reducing the environmental impacts of our operations. The policy also underscores our commitment to understanding and addressing EHS risks, building EHS considerations into our plants and products, and ensuring transparent discussion of our EHS practices and performance. Air Products takes a precautionary approach when evaluating potential environmental, health and safety risks of our operations and products.</p> <p>Our Human Rights Policy reflects our commitment and expectations for equal opportunity, respectful work environments, prohibition of discrimination, freedom of association, prohibition of forced and child labor, compensation and working time, EHS, security and anti-corruption. Air Products’ approach to human rights has been designed to align with the United Nations' Global Compact and core elements of the United Nations' Universal Declaration of Human Rights and the International Labor Organization's Declaration on Fundamental Principles and Rights at Work. We have related policies on Conflict Minerals and Human Trafficking and Slavery.</p> <p>Air Products' Policy on Political Contributions and Expenditures prohibits the use of corporate funds to make direct or indirect political contributions to candidates in any country or region, even where allowed by law. Consistent with our Code of Conduct, this policy strictly prohibits employees from giving or offering a federal official, state, or local government, or their employees, anything of value. The Corporate Governance and Nominating Committee of the Board monitors the Company's political activities through annual reports from members of management responsible for the activities. As permitted by law, corporate resources are also used to support the administrative functions of Air Products’ employee Political Action Committee (PAC). In 2022, the employee PAC disbursed \$15,800.</p> <p>Air Products has established a Global Data Privacy Policy to ensure that personal information is collected, handled, and stored in a secure manner. The policy also notes that the Company does not sell personal information to third parties or retain personal information longer than necessary.</p>
2-24	Embedding policy commitments	<p>Our Code of Conduct applies to all full and part-time Company employees at all operations worldwide, the Company's Board of Directors, and our subsidiaries, affiliates, operating units, and divisions worldwide. We require our employees to be familiar and comply with all Company policies and have management systems with internal standards and controls supporting these policies.</p> <p>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.</p> <p>During our supplier onboarding process, suppliers agree to abide by our Code of Conduct in their dealings with Air Products. Our General Terms and Conditions of Purchase require our suppliers to abide by our Human Rights Policy and all laws, rules, and regulations in effect in the countries and jurisdictions in which they do business.</p>

2-25	Processes to remediate negative impacts	Air Products encourages individuals to report, as allowed by local law, misconduct or ethics violations. Our IntegrityLine provides a web-based reporting capability as well as a toll-free telephone-based service for anyone who would like to report a potential issue. Individuals may make reports confidentially and anonymously, where permitted by local law, 24 hours a day, seven days a week. In FY22, 570 security incidents and allegations of misconduct were reported. Every allegation is reviewed and investigated as needed. Investigation information is shared with those who need it to resolve the situation and summaries of incidents are shared with employees to enhance understanding that discourages inappropriate behaviors. The Company has a disciplinary process to address allegations that have been confirmed and takes actions up to and including termination of employment and legal action. Retaliation in any form against anyone who makes a good faith report about misconduct is strictly prohibited.
2-26	Mechanisms for seeking advice and raising concerns	Code of Conduct , pp 1-2 IntegrityLine
2-27	Compliance with laws and regulations	FY22 Annual Report on form 10-K, pp 18-19
2-28	Membership associations	Air Products was active in numerous associations and organizations in 2022, including but not limited to: the Compressed Gas Association (CGA), Asia Industrial Gases Association (AIGA), China Industrial Gases Industry Association (CIGIA), European Industrial Gases Association (EIGA), American Institute of Chemical Engineers (AIChE), Fuel Cell and Hydrogen Energy Association (FCHEA), Hydrogen Council, Carbon Capture Coalition, European Association of Energy-Intensive Industries (IFIEC).

Stakeholder Engagement

2-29	Approach to 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. These key stakeholder groups have been selected based on their potential impact on our business success and the potential impacts of our business activities on them. Meetings, presentations, and ongoing dialogue with stakeholders throughout the year provide many opportunities for collaboration on important matters including sustainability. For more information on how our Board of Directors engages with stakeholders, please see our 2023 Proxy Statement (p 19).
2-30	Collective bargaining agreements	Approximately 20 percent of our global workforce is covered by collective bargaining agreements. We collaborate with Works Councils and unions representing our employees as necessary and required by law to mutually benefit our business and our employees. Many collective bargaining agreements include provisions relating to working conditions.

GRI 3: Material Topics

Disclosures on Material Topics

3-1	Process to determine material topics	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 Higher Purpose through our two-pillar business strategy combined with our efforts to protect the environment and care for our stakeholders. These are the underlying concepts of our Grow – Conserve – Care sustainability approach. Stakeholder assessments have been conducted by Air Products on a three-year cycle since we began reporting in accordance with GRI guidelines in 2010. In addition to considering elements of our Grow – Conserve – Care framework, these assessments have included: <ul style="list-style-type: none"> • 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 For this Report, Air Products obtained feedback from over 1,300 key stakeholders to understand their most significant concerns and to provide an opportunity for dialogue. We surveyed employees, customers, and suppliers globally and engaged with communities and government authorities in key jurisdictions. Investor perspectives were provided through ongoing dialogue.
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3-2 List of material topics

The concerns our stakeholders rated as the most important and impactful are included in our Sustainability Priorities. These 10 priorities were reviewed and approved by our Sustainability Leadership Council and provide the framework for this Report.



The Sustainability Priorities are generally consistent with those of past years. Three priorities were added for this year based on stakeholder feedback, including Ethics & Integrity, Supply Chain Sustainability and Community Support. While these topics were covered in our prior sustainability reports, additional disclosures have been made for this Report in line with GRI standards.

The Sustainability Priorities align with several of the United Nations’ Sustainable Development Goals (SDGs) that aim to create a world without poverty, inequality, unrest, and environmental stress. We support the SDGs and believe that businesses can play a critical role in providing solutions to these sustainability concerns while also generating new opportunities. Additional details are available on page 34 of this report.

3-3 Management of material topics

Engaging stakeholders and assessing sustainability priorities provides an opportunity to reflect on the potential positive and negative impacts of our business activities. The positive impacts are numerous and described throughout this Report. Examples include:

- Accelerating the energy transition through our low- and zero-carbon hydrogen production and distribution projects
- Helping our customers improve their sustainability by improving productivity and energy efficiency and reducing environmental emissions
- Providing rewarding jobs and competitive benefits for our employees
- Enhancing the safety of our employees, customers, and contractors
- Promoting diversity, inclusion and belonging in our operations and communities
- Contributing to local communities through commerce, volunteering, and philanthropy

Potential negative impacts include energy and water use and emissions from making and distributing our products, noise levels due to the use of large air compressors for producing industrial gases, and environmental, health and safety or integrity incidents. Information about these impacts is provided in related sections of this Report.

Anyone who would like to report a potential issue about Air Products can reach out using the contacts on our website or via our anonymous call line, [IntegrityLine](#).

GRI 200 Economic Performance Standards Series

Economic Performance

GRI 3: Material Topics

- 3-3 Management of material topics
- 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. With over 21,000 passionate, talented, and committed employees in approximately 50 countries, our operations provide economic support to our host communities around the globe.
- 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 offer rewarding jobs with competitive pay and benefits, invest in technologies, products, and our operating plants, and contribute in several ways to the wellbeing of our host communities.
- 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). See GRI 2-23 through 2-25 for additional details.
- Customers come to Air Products for innovative thinking and product solutions to improve sustainability by increasing productivity and energy efficiency and reducing emissions.

GRI 201 Economic Performance 2016

- 201-1 Direct economic value generated and distributed

The economic value we generated in fiscal year 2022:

Sales	\$12,698.6 million
Cost of sales	\$9,338.5 million
Capital expenditures ^a	\$4,650.0 million
Selling and administrative expense	\$900.6 million
Research and development expense	\$102.9 million
Income tax provision	\$500.8 million
Dividends paid to shareholders	\$1,383.3 million
Donations to communities	\$7 million

^aAmount is a non-GAAP financial measure. See "Reconciliations of Non-GAAP Financial Measures" for reconciliation to the comparable GAAP measure.

Additional indicators of economic value are provided in the [FY22 Annual Report](#) on Form 10-K and [2023 Proxy Statement](#).

Omission

A breakout of employee wages and benefits (including substantial payroll taxes and social security contributions) and payments to governments by country are not provided because these values are not disclosed in financial reporting.

Notes on Air Products' tax strategy and income taxes:

Air Products' operations, assets, sales, and supply chains are primarily local. Accordingly, Air Products earns and reports our taxable profits in the same jurisdictions where we economically earn them. The Company does not generate a disproportionate amount of taxable income in countries with very low tax rates, and we do not actively use tax havens in our planning. We are committed to complying with all applicable tax laws, in line with our [Code of Conduct](#).

201-1 Direct economic value generated and distributed	<p>Air Products has policies in place to ensure that our tax planning is appropriate. Air Products’ transfer pricing policy is aligned with the Organization for Economic Co-Operation and Development (OECD) guidelines and the laws of the various countries where we operate. A breakdown of our income and taxes on a country-by-country basis is made available to the taxing authorities in the countries where we do business. Additional details about taxes are provided in our FY22 Annual Report, Note 21 Income Taxes.</p> <p>Air Products’ Corporate Tax Department, led by the Vice President of Tax, manages tax matters on a day-to-day basis with support from external advisors when necessary. Our Chief Financial Officer is ultimately responsible for the Company’s tax matters. The Audit and Finance Committee of Air Products’ Board of Directors provides oversight of the tax function through review of material tax matters with the Vice President of Tax and Chief Financial Officer, typically on a quarterly basis. We maintain robust internal controls related to tax matters and reporting of taxes on our financial statements. These internal controls are reviewed regularly with Air Products’ internal and external auditors.</p>
201-2 Financial implications and other risks and opportunities due to climate change	<p>Risks related to climate change are disclosed in our FY22 Annual Report on Form 10-K (Item 1A) and in our CDP response. Risks are identified by regional environmental experts who share the information with their potentially impacted businesses. Risks are also communicated across regions, shared with the Company’s Sustainability Leadership Council, and elevated to the Board of Directors as appropriate.</p> <p>Climate change risks are in two main areas – transition and physical risks. Transition-related risks relate to policy and legal drivers and increasing energy costs that can impact operating costs. Physical risks due to the increased severity of storms have also been identified as potentially impacting operating costs. These risks are managed in the normal course of business and the management cost has been estimated at \$10 million.</p> <p>Opportunities related to climate change are described in our Sustainability Report. Many opportunities are transition-related as our customers strive to improve energy efficiency and reduce CO₂e emissions. Company-wide opportunities such as our significant investments in products and projects that support cleaner energy and environments are managed at the corporate level by senior leaders and supported by regional businesses. Opportunities that are local or regional in nature are managed by the pertinent regional business.</p>

GRI 204: Procurement Practices 2016

204-1 Proportion of spending on local suppliers	<p>Thousands of suppliers are essential to our success. In total, Air Products spent over \$10 billion on energy, equipment, materials, and services with over 31,000 unique suppliers and service providers in 2022. Because Air Products operates regionally, our procurement teams are primarily local to our businesses and work with regional and local suppliers. This is illustrated by the breakdown in our spending with suppliers in 2022 that included 48 percent of spending in the Americas, 30 percent in Europe and Middle East, and 20 percent in Asia.</p> <p>For additional information about our approach to suppliers, please see GRI 414.</p>
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GRI 205: Anti-Corruption Practices 2016

205-1 Operations assessed for risks related to corruption	<p>We conduct risk assessments for the potential for corruption risks across the organization. Anti-bribery and corruption are critical elements of the compliance function and internal audit risk assessment processes that are applied across the Company globally. Significant risks that have been identified include relationships and transactions with governmental authorities and the use of third-party intermediaries.</p>
205-2 Communication and training about anti-corruption policies and procedures	<p>The Company’s Code of Conduct and Business Ethics, which includes anti-corruption and bribery (pp 4-5), applies to all employees and Board members, and we expect our agents, consultants, contractors, distributors, joint venture partners, and other third parties with whom we have business relationships to adhere to these standards as well. Every employee globally is required to comply with the Code of Conduct, complete mandatory training, and certify their understanding of the Code on an annual basis. All employees met this commitment in 2022. The Code is also provided to those with whom we do business and made available in 24 languages on our website.</p>

GRI 206: Anti-competitive Behavior 2016

206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	<p>FY22 Annual Report on Form 10-K, pp 18-19</p>
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Additional Business and Sustainability Considerations

Customer Sustainability

Sustainability is Air Products' growth strategy. In line with our Higher Purpose, we 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 improving health, safety, and the 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 and various industrial applications.

We also:

- Construct facilities on or near customer sites to enable products to be distributed efficiently through pipelines that reduce the need for trucks and their emissions, 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 82 to 99 percent across our regional businesses in 2022.

We are committed to enabling our customers to enhance their sustainability. We track our progress through avoided CO₂e emissions that our customers and their customers would otherwise emit if not for the products we provide. In 2022, we increased customer avoided CO₂e emissions from 82 to 86 million tonnes of CO₂e.

“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. 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 evaluated 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.

Examples of Sustainable Offerings

- Helium and high purity medical gases that help sustain life,
- Hydrogen for producing cleaner transportation fuels and for use in fuel cell electric vehicles that emit only water,
- Gases and equipment that safely extend the shelf-life of food, improve taste, reduce waste, and help reduce production costs, and
- Oxy-fuel combustion technologies used in energy-intensive applications to increase production, lower fuel use and costs, reduce emissions and optimize efficiency.

Helping Customers Avoid CO₂e Emissions

Sales of Sustainable Offerings provide the basis for our avoided emissions estimates. Each year Air Products estimates CO₂e 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 industrial gas and then multiplied by the amount of industrial gas sold in a year.

These avoided emissions are tracked in three categories:

Direct Emissions Reductions – The use of several of Air Products' Sustainable Offerings avoid direct emissions of greenhouse gases to the atmosphere. For example, low-carbon hydrogen can offset the use of conventional fuels resulting in a significant reduction in life-cycle carbon emissions. Additionally, the use of hydrogen in refining for ultra-low sulfur and renewable diesel fuels enables the production of fuels with lower carbon intensities than benchmark fuels. In 2022, 66 million tonnes of CO₂e were avoided through Sustainable Offerings that reduce emissions.

Efficiency Improvements – The use of our products leads to efficiency gains for our customers or other users further downstream in the value chain. These include increased energy efficiency and reduced waste and are associated with avoided emissions across several industries and applications. For example, oxy-fuel applications can increase efficiency for energy intensive industries such as steel, glass, and cement manufacturing and thereby reduce CO₂e emissions. Food supply chains also benefit from our gases and equipment that reduce food waste and related emissions. In 2022, 15 million tonnes of CO₂e were avoided through Sustainable Offerings that improve process efficiencies.

Customer Integration – Many of our largest facilities are built on or near customer sites that enable us to recycle resources between facilities. For example, we use customer waste gases as feeds to our processes and provide customers with efficiently produced by-product steam from our hydrogen plants. In 2022, five million tonnes of CO₂e was avoided through customer integration.

In total, we enabled a total of 86 million tonnes of CO₂e to be avoided by our customers and their customers across these three categories in 2022. This total is approximately equivalent to the emissions from 19 million cars and more than three times our own direct and indirect CO₂e emissions.

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 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 2022 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 routinely assesses industry best practices and standards and leverages them to continually advance cybersecurity risk management 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 2022, 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.

GRI 300 Environment Standards Series

3-3 Management of material topics Air Products needs clean air, water and sufficient energy to make our products that are used by thousands of customers to produce fuels, food, water, pharmaceuticals, and other goods that sustain and enhance life.

One of the most significant environmental challenges facing the world is the need for clean, sustainable energy. Air Products is accelerating the energy transition through the production of low- and zero-carbon hydrogen that will decarbonize transportation and industrial processes. These projects are described in pages 22-29 of this Report.

At the same time, we recognize our impacts on the environment – from the resources we consume through our emissions and wastes. Because CO₂e emissions represent our most significant environmental impact, we have set goals to invest billions in the energy transition to reach net zero in our operations by 2050 and reduce our carbon intensity.

Goals	2022 Results
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Capital Commitment

Air Products has announced an industry-leading capital commitment to accelerate the energy transition by spending or committing more than \$15 billion in capital expenditures between 2018 and 2027 on first-mover projects.

Through 2022 we have committed >\$11 billion to projects being executed to come online before 2027. Additionally, in March 2023 we became the first chemical company to issue a [green bond](#) for green and blue hydrogen projects.

Net Zero

Our long-term goal is to achieve net zero in our operations by 2050 by investing in megaprojects that support the energy transition, managing our assets, continuing to increase our use of renewable energy, improving energy efficiency and converting our trucks to zero emission vehicles.¹

In 2022, we announced additional zero- and low-carbon hydrogen projects that will support our long-term net-zero goal. We also made progress on our commitment to convert our fleet to hydrogen fuel cell trucks.

¹Achieving this goal will also require strong policy and regulatory support that promotes the adoption of key technologies to address the pace and scale required to support a net-zero future

Goals

2022 Results

Third by '30 CO₂e Intensity Reduction

- We aim to reduce the intensity of our Scope 1 and 2 CO₂e emissions by 1/3 by 2030 from a 2015 baseline (kg CO₂e/MM BTU), and
- Reduce the intensity of our Scope 3 CO₂e emissions by 1/3 by 2030 from a 2015 baseline (kg CO₂e/MM BTU)

- Cumulative 5% reduction with significant improvement later in decade as key projects come onstream
- Cumulative 28% reduction

In 2022, Air Products realized a CO₂e emissions intensity improvement of five percent compared to the baseline year (2015). We expect the reduction of our CO₂e emissions intensity to accelerate in 2025 and beyond as we bring our zero- and low-carbon hydrogen megaprojects onstream and continue working to improve energy efficiency and increase renewable energy use.

Air Products is also committed to increasing energy efficiency and promoting the responsible use of water. We set and achieved water conservation targets twice and are committed to reducing water use intensity. Likewise, we have a goal to increase annually the amount of CO₂e emissions avoided by our customers through our products.

Overview of Environmental Management at Air Products

- Global Environmental, Health and Safety (EHS) Policy
- CO₂e emissions intensity reductions through our “Third by ‘30” and net-zero goals
- Energy efficiency improvements and 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 based on job functions
- Risk assessment processes for products, operations and regulatory requirements, including an escalation process for engaging our EHS Risk Council
- 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 Teams 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

GRI 301: Materials 2016

- 301-1 Materials used by weight or volume The principal raw materials for making atmospheric gases and hydrogen are air, energy in the forms of electricity or steam, and natural gas. Air, which is generally considered to be a renewable resource, represents more than 95 percent of the raw materials we use on a weight basis. 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 10 to 25 years.

GRI 302: Energy 2016

- 302-1 Energy consumption within the organization The production of industrial gases is energy intensive. Air Separation Units (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. As a result, energy consumption is the most significant variable in the cost of our production processes. We carefully track and manage energy purchases and focus 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 facility improvement projects. Several of our facilities have been certified to the ISO 50001 Energy Standard.

In 2022, the total energy consumed across our businesses was 57.2 terawatt hours (TWh). This energy use was consistent with our energy consumption in 2021, which was restated due to acquisitions.

Energy Consumption (TWh)*	2020	2021	2022
Total	52.7	57.2	57.2
Fuels	30.4	34.9	34.5
Electricity	16.2	16.8	17.2
Steam	6.0	5.5	5.4
Renewable Electricity	24%	27%	29%

*Achieving this goal will also require strong policy and regulatory support that promotes the adoption of key technologies to address the pace and scale required to support a net-zero future.

Fuels for 2022 are comprised primarily of natural gas, diesel, and gasoline. Fuels, electricity, and steam consumption are based on invoice quality data for large facilities and estimated for small facilities based on historical energy consumption and billing. Renewable electricity represents a combination of country- or state-level electricity grid factors and renewable electricity purchases. Values may not add due to rounding.

Omission

Electricity and steam sold are confidential. Heating and cooling are not sold by Air Products.

- 302-3 Energy intensity In 2022, AirProducts improved energy intensity by seven percent, continuing our efforts to make more products with less energy.

Energy Intensity Improvement	2020	2021	2022
Year-over-year improvement	2.5%	0.1%	7.0%

Energy intensity improvement is computed as the ratio of reporting year energy consumed, to reporting year production, divided by same ratio of the prior year. Using a ratio allows the reported results to be dimensionless and protects confidential production data.

302-4 Reduction of energy consumption
Air Products estimates that its cumulative energy savings due to efficiency improvements since 2015 through 2022 are nearly five TWh, equivalent to two million tonnes of CO₂e. These savings are estimated as the difference in actual energy consumed compared to a “business as usual” consumption based on 2015 efficiencies. Savings include electricity, primarily for our ASUs, and natural gas for our hydrogen and carbon monoxide (HyCO) units.

GRI 303: Water 2018

303-3 Water withdrawal
Water is essential for our operations. We use water primarily for cooling, to make hydrogen using steam methane reforming (SMR), 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 conventional boilers. Water withdrawals in 2022 totaled 18 billion gallons, which represents a five percent increase from prior year driven by increased production.

Water Withdrawals* (megaliters)	2020 (Total)	2021 (Total)	2022 (Total)	2022 (Water-stressed areas)
Surface water	1,200	3,930	3,470	0
Ground water	3,480	3,650	3,080	240
Third-party water	67,410	57,040	61,440	17,530
Total water withdrawals	72,290	64,620	67,990	17,770

*Water withdrawals have been restated for 2020 and 2021 due to acquisitions

We construct our facilities on or near customer sites to enable products to be distributed efficiently. As a result, some of our operations are 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 2022, 23 percent of our facilities, based on our overall number of sites, were in water stressed areas.

Water data is collected for facilities consuming at least 10 million gallons of water per year. Data is based primarily on water bills and/or metered data. Engineering estimates are used for some facilities.

Surface water is primarily freshwater with ≤1,000 mg/L total dissolved solids. Third-party water includes recycled water.

303-4 Water discharge
Air Products applies practices, procedures and equipment as required to ensure the quality of our discharges meet or exceed local requirements. Water discharges in 2022 totaled nearly four billion gallons.

Water Discharges* (megaliters)	2020 (Total)	2021 (Total)	2022 (Total)	2022 (Water-stressed areas)
Surface water	3,320	2,880	3,660	60
Ground water	0	340	170	0
Third-party water	9,150	6,740	10,270	2,870
Biochemical Oxygen Demand (tonnes)	2.5	1.2	1.6	
Chemical Oxygen Demand (tonnes)	13	19.5	37	

*Water withdrawals have been restated for 2020 and 2021 due to acquisitions

See notes to 303-3 for description of methodology and definitions.

Omissions

Discharges to water bodies other than those listed are not consolidated. Air Products does not discharge high priority substances of concern from operating facilities.

303-5 Water consumption

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 eight percent of our water was from recycled sources in 2022.

Our consumption of water, on an absolute basis, was 14.2 billion gallons in 2022, representing a four percent decrease on an intensity basis compared to 2021. Of this consumption, 28 percent was consumed in water stressed areas based on volume.

Water Consumed* (megaliters)	2020 (Total)	2021 (Total)	2022 (Total)	2022 (Water-stressed areas)
Total water consumption	59,620	54,660	53,890	14,840
Water intensity improvement	4%	10%	4%	

*Water withdrawals have been restated for 2020 and 2021 due to acquisitions

See notes to 303-3 for description of methodology and definitions.

Water intensity improvement is based on water consumed within the organization. It is computed as the ratio of reporting year water consumed, to reporting year production, divided by the same ratio for the prior year. Using a ratio allows the reported results to be dimensionless and protects confidential production data.

GRI 305: Emissions 2016

305-1 Direct (Scope 1) GHG emissions

Our emissions are directly related to the amount of energy we consume. In 2022, our Scope 1 GHG emissions, which are primarily from our HyCO operations were 16.8 million tonnes, representing a slight decrease from the prior year.

GHG Emissions (million tonnes CO2e)	2020	2021	2022
Scope 1*	17.1	16.9	16.8

*Emissions have been restated for 2020 and 2021 due to acquisitions and methodology improvements.

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

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

Air Products has verified its CO₂e emissions since 2010. For this Report, 2022 CO₂e emissions for Scope 1, 2 and category 3 of Scope 3 were externally verified by an independent third-party, GHD Limited. The verification was conducted to a limited level of assurance and prepared in general accordance with ISO 14064.

Reducing distribution emissions

Hydrogen is essential to decarbonize heavy duty segments of the transportation market. To demonstrate the merits of hydrogen, we have committed to being a first-mover in transitioning our heavy-duty fleet of trucks to hydrogen fuel cell electric vehicles. We are working with partners including Cummins on this project, combining our expertise in hydrogen with on-road learnings from zero-emissions fleets.

For our existing fleet, we have increased distribution efficiency through better driving practices, such as reducing engine revving and idling, and improvements in delivery scheduling that reduces fuel use and emissions. We also have increased the number of hybrid cars in our vehicle fleet.

GRI 305: Emissions 2016

305-2 Energy indirect (Scope 2) GHG emissions Our Scope 2 emissions, which are due in large part to the electricity and steam we consume in our ASUs, were 9.7 million tonnes in 2022, which was a slight increase from 2021 and due to increased production of atmospheric gases.

GHG Emissions (million tonnes CO ₂ e)	2020	2021	2022
Scope 2*	9.3	9.5	9.7

*Emissions have been restated for 2020 and 2021 due to acquisitions and methodology improvements.

Emissions are location-based and calculated primarily using invoice quality data. Other factors, such as the gases included and the use of the Greenhouse Gas Protocol, are the same as described in GRI 305-1.

Increasing our renewable energy is one of the mechanisms supporting our carbon reduction goals. In 2022, 29 percent of the electricity we consumed was from renewable sources, representing a seven percent increase from 2021.

We purchase renewable electricity directly from our energy suppliers or buy Renewable Energy Certificates (RECs) that link our power consumption to a specific asset that generates renewable electricity. We also produce electricity at several sites where we have installed solar arrays.

As noted in GRI 305-1, Scope 2 emissions were verified using limited assurance.

305-3 Other indirect (Scope 3) GHG emissions Air Products' Scope 3 emissions in 2022 were 7.7 million tonnes and included three categories: upstream fuel and energy related activities, use of sold products, and investments.

Scope 3 GHG Emissions (million tonnes CO ₂ e)*	2020	2021	2022
Category 3: Fuel and Energy Related Activities (not incl. in Scope 1 or 2)	2.8	3.1	3.0
Category 11: Use of sold products	2.6	3.1	2.9
Category 15: Investments	2.0	2.0	1.8
Total	7.4	8.1	7.7

*Emissions have been restated for 2020 and 2021 due to acquisitions and methodology improvements.

Category 3 emissions are estimated based on emissions factors for energy consumed multiplied by the energy consumed. Category 11 emissions are estimated based on emissions factors for certain products sold, multiplied by the volumes of product sold. Category 15 emissions are calculated directly or estimated by multiplying equity affiliate sales by the ratio of Air Products' emissions, divided by sales. Numbers may not sum to totals due to rounding.

As noted in 305-1, Scope 3 category 3 emissions were verified using limited assurance.

305-4 GHG emissions intensity Air Products' GHG emissions intensity improved by 5.9 percent in 2022 due to efficiency improvements related to the production of atmospheric gases.

GHG Intensity Improvement	2020	2021	2022
Year-over-year improvement	6.2%	8.6%	5.9%

GHG emissions intensity improvement is computed as the ratio of reporting year combined Scope 1 and 2 emissions, to reporting year production, divided by the same ratio for the prior year. Using a ratio allows the reported results to be dimensionless and protects confidential production data. Emissions included and estimation methods are summarized in the responses to 305-1 and 305-2.

305-5 Reduction of GHG emissions
Air Products has avoided the emissions of five million tonnes of Scope 1 plus Scope 2 CO₂e cumulatively since 2015 due to efficiency improvements. Emissions included and estimation methods are summarized in GRI 305-1 and 305-2.

305-7 Nitrogen oxides (NO_x), sulfur oxides (SO_x), and other significant air emissions
Most of our air emissions are from hydrogen manufacturing and utility operations that support our facilities. The manufacture of atmospheric gases produces negligible Scope 1 and other air emissions. We monitor and report air emissions in accordance with applicable regulations. Nitrogen oxides (NO_x) and sulfur oxides (SO_x) are products of combustion and are primarily from fuel used in our boilers and SMRs. Other air pollutants result from the minor loss of materials used in our processes or solvents used in the maintenance of equipment. These include substances covered by the U.S. Environmental Protection Agency (EPA) Toxic Release Inventory (TRI) program, other criteria pollutants, hazardous air pollutants (HAPs) and volatile organic chemicals (VOCs).

Air Emissions (kg)	2020	2021	2022
Nitrogen Oxides	1,366,000	1,288,000	1,410,000
Sulfur Oxides	58,000	65,000	60,900
TRI Releases	92,400	113,000	
Volatile Organic Chemicals	74,900	95,000	
Hazardous Air Pollutants	27,400	42,300	

TRI data is reported during the summer following the reporting year, and so the data reported here is one year in arrears in our annual sustainability reporting. HAPs and VOCs are estimated based on regulatory reporting.

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.

Omission

Air Products does not track or report on Persistent Organic Pollutants (POPs) or Particulate Matter (PM).

GRI 306: Waste 2020

306-3 Waste generated
Industrial gas production does not generate significant waste or incur significant waste-related impacts. Where waste is generated, Air Products applies source reduction first, followed by reuse and recycling when feasible. Incineration or landfilling of waste is the least preferred option. 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 routinely-generated 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. Wastes that cannot be recycled are disposed of in environmentally sound and regulatory compliant manners by third-party waste service providers who are audited to ensure compliance with contractual and regulatory obligations. In 2022, the amount of hazardous waste Air Products generated globally was 6,000 tonnes, and our non-hazardous waste in North America totaled 9,900 tonnes.

GRI 306: Waste 2020

Waste (tonnes)	2020	2021	2022
Hazardous waste	6,300	5,000	6,000
Non-hazardous waste	5,000	6,300	9,900

Omission

A breakdown of waste composition is not available.

306-4 Waste diverted

In 2022, 52 percent of the hazardous waste generated by Air Products was recycled. All recycling was completed off-site.

Waste (tonnes)	2020	2021	2022
Hazardous waste			
Generated	6,300	5,000	6,000
Recycled	4,900	3,000	3,090

Omission

A breakdown of waste composition is not available.

306-5 Waste disposed

In 2022, 38 percent of the hazardous waste generated by Air Products was incinerated or landfilled.

Waste (tonnes)	2020	2021	2022
Hazardous waste			
Generated	6,300	5,000	6,000
Incinerated	390	510	550
Treated	370	250	380
Landfilled	710	1,200	1,980

Omission

A breakdown of waste composition is not available.

GRI 308: Supplier Environmental Assessment

308-1 New suppliers that were screened using environmental criteria

New suppliers are prequalified using commercial and technical evaluations. All suppliers are expected to support sustainability through the principles outlined in our [Sustainability Expectations of Suppliers](#), which includes environmental and social considerations.

In 2022, our European businesses engaged with a global sustainability rating company to evaluate how we could use their platform to assess the sustainability of our supply chain partners. These assessments, which include environmental, social and governance considerations, are being rolled out in 2023 and the results will be integrated into our sourcing strategy.

For additional information about our approach to suppliers, please see GRI 414.

Omission

The percentage of suppliers screened for environmental criteria is not consolidated at the Company level.

Additional Environmental Considerations

Climate Scenario Analysis

Scenario analysis is a tool for evaluating 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 Task Force for Climate Related Financial Disclosure (TCFD), examining potential climate-related risks and opportunities on our businesses.

Circular Economy

While our industrial gases are typically consumed in our customers' processes, they contribute to the circular economy in several ways:

- Reducing or eliminating waste and pollution – Air Products' offerings enable our customers to improve productivity and increase energy efficiency, thereby reducing emissions and wastes. Air Products is also investing billions of dollars in low- and zero-carbon hydrogen projects aimed at driving the decarbonization of heavy transportation and industrial sectors that are hard to electrify, which will substantially reduce greenhouse gases for these industries.
- Keeping products and materials in use – Air Products' gases and technologies contribute to the circular economy by enabling the use or recycling of resources. For example, our megaproject at World Energy's Paramount, California location will make Sustainable Aviation Fuel to meet the growing demands of the aviation industry. The company is developing gasification technologies that can use alternative feedstocks such as sustainable biomass and waste materials to generate industrial gases, including hydrogen. Air Products is the industry leader in supplying hydrogen for used oil recycling and our liquid nitrogen enables more efficient recycling of materials, such as tires, through cryogenic grinding.
- Regenerating natural systems – The principal raw materials for making atmospheric gases and hydrogen are air and energy. Air is often considered a renewable resource and we source much of our carbon dioxide from renewable sources. From an energy perspective, Air Products also aims to increase its use of renewable electricity and is evaluating other renewable energy sources.

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 approach 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 wellbeing 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 EHS 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 to engage and address 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 (KBA). 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 2022.

For new projects, Air Products assesses potential impacts related to the environment, health and safety, and other considerations. For example, we consider potential ecosystem impacts 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.

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

Additional Environmental Considerations

Environmental Compliance

Regulatory fines increased in FY22 to \$86,000 and 30 notices of violation were received. There were eight reportable spills during FY22.

GRI 400 Social Standards

- 3-3 Management of material topics **Care: Our Commitment to Social Responsibility**
- We truly care about our stakeholders – the people who impact Air Products or can be impacted by us. We are working every day to improve sustainability with and for our:
- **Employees** through our focus on safety, talent development, diversity and inclusion, and by building a culture that supports our people as they enable the clean energy future
 - **Customers** by working alongside them to help make their operations more sustainable, solving sustainability challenges and promoting product safety
 - **Investors** through our environmental, social and governance (ESG) programs
 - **Communities** by creating jobs that provide economic benefits while promoting safety and contributing to the wellbeing of our host communities
 - **Government officials** through engagement to understand their development and energy goals, and building projects to help them meet those goals
 - **Suppliers and Partners** by working together on key aspects of sustainability

GRI 403: Occupational Health and Safety 2018

- 3-3 Management of material topics
- 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 safety is a moral obligation and want our employees to return home to their families safe and healthy every day.
- 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 leadership has built on this strong foundation, making us an even safer company.
- Our overarching goal is zero safety incidents. We strive to continually improve safety and health for our colleagues, contractors, customers, and host communities. We have improved our employee lost-time injury rate by 58 percent and our recordable injury rate by 38 percent since 2014.

Safety Performance	FY20	FY21	FY22
Fatalities	1	1	0
Employee Recordable Rate	0.40	0.39	0.36
Employee Lost Time Incident (LTI) Rate	0.09	0.07	0.10
Contractor Recordable Rate	0.39	0.43	0.26
Contractor LTI Rate	0.10	0.06	0.07

Rates are per 200,000 hours worked

Air Products uses a multidisciplinary approach to safety and health.

Overview of 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, operations, products, transportation and regulatory requirements, including an escalation process for engaging our EHS Risk Council
- 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

Worker Safety

Our Basic Safety Process (BSP) 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.

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. More recently we have implemented a global EHS procedure establishing requirements, decision-making work practices, and necessary documentation, for assessment of inherently safer design and practices, to protect the company’s long-term viability, license to operate, and reputation and brand.

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 that 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.

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.

The majority of Air Products' high-volume liquid/bulk industrial gas products are not toxic, and all products can be handled safely with the appropriate procedures, equipment, and training. Less than one percent of Company revenues are from sales of toxic substances.

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 Driver Coaching Program (DEDC). The DEDC utilizes safety performance and vehicle efficiency data that is 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 EHS Management System including internal EHS procedures. Our auditors have EHS functional and operational expertise that enables effective assessments of our facilities.

Emergency Preparedness and Crisis Management

Every facility is required to have a site emergency plan on 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.

Security

Ensuring our assets and the communities where we operate are safe and secure is of paramount importance to Air Products. 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.

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 are in Santiago, Chile and Dammam, Saudi Arabia.

Employee Health and Wellness

We are committed to creating work environments and behaviors that sustain the health, safety, and wellness of our people. Our Global Health and Wellness Team (GH&W), consisting of medical professionals globally, works closely with our Human Resources and EHS organizations to integrate preventive and promotional health programs. From the beginning of the COVID-19 pandemic, GH&W focused on supporting Air Products’ Crisis Management Teams globally and has continued to monitor developments in the evolution of the virus and the international response to the changing health risks posed and provide sound advice.

Every day, GH&W manages employee health cases and occupational health surveillance activities. Expansion of the company’s businesses in new territories has required our team to oversee and manage increasingly complex medical provisions. The Team is also involved in deploying and sustaining key initiatives, including our global wellness program “Breathe Freely” and voluntary driver sleep apnea programs in North America and the United Kingdom. In addition, the GH&W Team supports improvements to industrial and workstation ergonomics and our International Travel Program that is aimed at keeping employees safe and healthy when traveling outside their home country.

403-9 Work-related injuries Air Products has improved our employee lost-time injury rate by 58 percent and our recordable injury rate by 38 percent since 2014. In FY22, Air Products’ employee and contractor recordable rates improved while lost time incidents increased.

Safety performance	FY20	FY21	FY22
Employee recordables	78	80	83
Employee recordable injury rate (per 200,000 hours worked)	0.40	0.39	0.36
Employee lost-time incidents	18	14	22
Employee lost-time incident rate (per 200,000 hours worked)	0.09	0.07	0.10
Employee fatalities	0	0	0
Contractor recordables	52	69	48
Contractor recordable injury rate (per 200,000 hours worked)	0.39	0.43	0.26
Contractor lost-time incidents	13	9	12
Contractor lost-time incident rate (per 200,000 hours worked)	0.10	0.06	0.07
Contractor fatalities	1	1	0

Rates are based on 200,000 hours

GRI 405: Diversity and Equal Opportunity 2016

3-3 Management of material topics It is part of our Higher Purpose to create a work environment where every employee knows they belong and matter and to create a first-class company where employees are free to be their authentic selves and proud of the work they do. We work every day to build a culture that empowers and motivates employees. In 2022, we continued this commitment and expanded our workforce, growing to over 21,000 employees globally. Through that growth we also 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 advance 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.

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.

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. Since that announcement we have made progress, increasing the percentage of U.S. minorities in our professional and managerial populations from 17 to 28 percent. We believe we are on track to meet our target of reaching 30 percent minority representation in these roles by 2025.

Diversity in the Workforce FY22

22% Women in the workforce	22% Women in the management	23% Women in senior leadership	17% Women in executive roles
28% U.S. minorities in workforce	26% U.S. minorities in management	20% U.S. minorities in senior leadership	28% U.S. minorities in executive roles

Our continued leadership in competitive markets and achieving our Higher Purpose requires transparently sharing our progress in diversity. In FY22, we increased the representation of women in senior leadership to 23 percent, up from 20 percent in FY21. Additionally, we increased the representation of U.S. minorities in our workforce to 28 percent, up from 26 percent in FY21.

In 2020, we announced our 2025 diversity goals to achieve at least 28 percent female representation in our professional and managerial population globally, and at least 30 percent minority representation in that same population in the U.S. In FY22, female representation in our professional and managerial roles remained at 26 percent. The percentage of U.S. minorities in these roles increased to 25 percent, up from 22 percent in FY21.

Diversity, Inclusion and Belonging (DIB)

A strong foundation built on diversity, inclusion and belonging is the bedrock of our workplace culture. As we strive to be the most diverse industrial gas company in the world, we work daily to build a workforce that reflects the places we do business. By fully utilizing the diversity of the talent pools, and fostering an 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

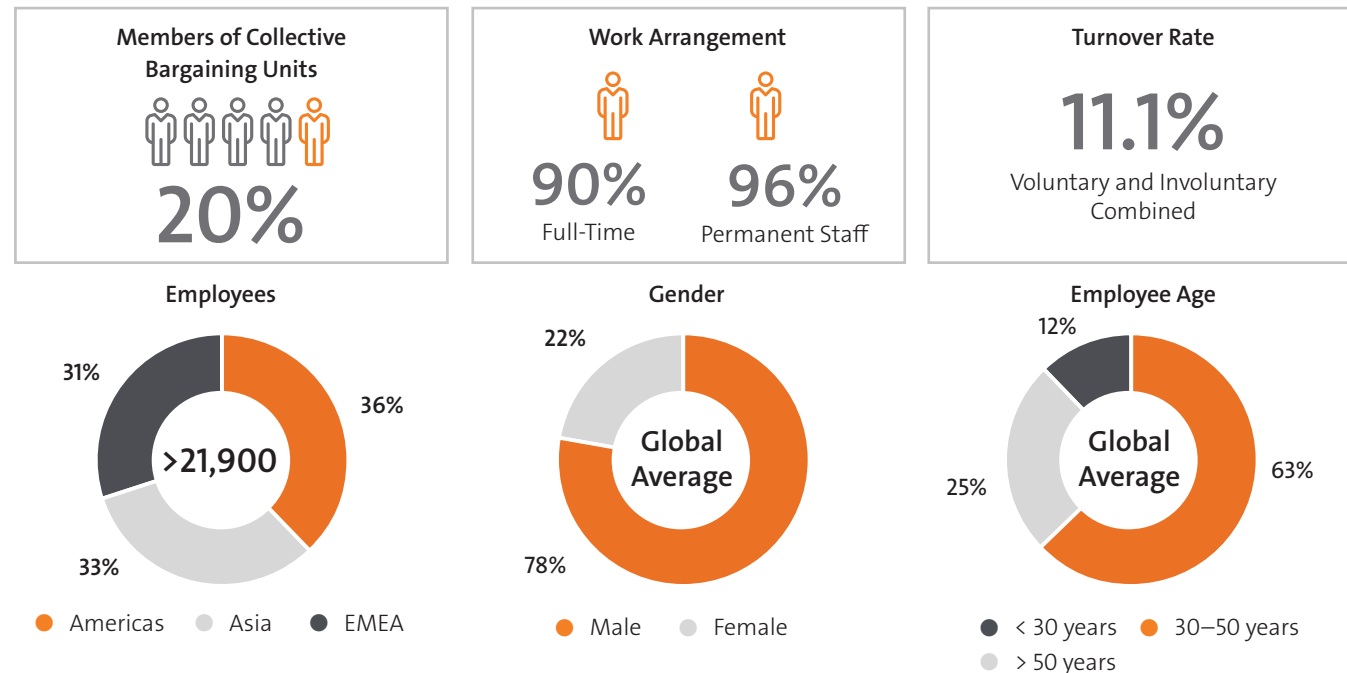
Our diversity in the workplace continues to see positive trends, especially in the percentage of U.S. minorities in professional and managerial roles. We continue to engage with diversity partners to support talent and development within our organization. In 2022, Air Products was once again recognized for strong performance in Diversity and Inclusion, earning a perfect 100 percent score on the Human Rights Campaign Foundation’s 2022 Corporate Equality Index for the sixth consecutive year.

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)

Human Capital Resources

At the end of FY22, Air Products had over 21,000 employees worldwide of which approximately 75 percent were based outside of the U.S. Most employees had full-time and permanent work arrangements, and 20 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 wellbeing.



Talent Attraction and Management

Talent management is an investment in our current and future workforce and requires developing and delivering 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 2022, as we expanded work on our world-scale clean energy projects and opened new project offices, our employee population continued to grow. Through thoughtful and intentional workforce planning, we ensure existing and new employees possess the skills and capabilities our business needs to deliver now and in the future.

A key part of our recruitment and development strategy is our Career Development Program (CDP). Each year, select college graduates and young professionals participate in the CDP program that provides broad exposure to the company through two to three job assignments. After completing the program many CDP participants stay with Air Products. In 2022, 49 percent of our college hires were women and 38 percent were U.S. minorities.

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. We also provide a competitive total rewards package to encourage employee retention.

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. Employees on average completed 14 hours of training in 2022.

In 2022, Air Products launched a series of Global Technical Academies designed to enable employees to continue to grow and build new skills needed as our business evolves. In early 2023 Air Products introduced Udemy for Business, a new learning content library on a wide array of topics including personal development, project management, technology, leadership and management, data science and finance.

The competencies of our teams 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.

Employee Resource Groups

Air Products’ strength and diversity continued to grow in 2022 through our Employee Resource Groups (ERGs). The Company has 13 ERGs with 23 chapters and four D&I Councils around the world, forming an Inclusion Network. The Network partners with our leadership to create supportive communities for raising cultural awareness, attracting and retaining talent, and serving as a think tank for people development and problem solving.

Our ERGs provide linkages and build affinity between broader groups of employees and enable exposure to different career paths. They also support business growth and innovation for the Company by providing critical insights for our businesses. For example, our ERG network enables the Company to better understand different cultures and connect with customers around the world.

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. Air Products hosts an annual Inclusion Summit and DIB Awards celebration to recognize the impact of our ERGs and leadership. Recognition is given to those demonstrating excellence in each of four awards categories: Executive Sponsor, ERG of the year, DIB team of the year and Community Service.

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)
- Veteran's Network (Connection and Support for Veterans and their Families)
- WSN (Women's Success Network)

Our D&I Councils Include:

- China D&I Council
- Taiwan D&I Council
- Korea D&I Council
- South East Asia D&I Council

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 approach and reinforce our belief that all employees belong and matter.

Compensation

Fair and equitable pay is needed to ensure a work environment where people know they belong and matter. Our pay practices apply equally to all employees irrespective of gender, race, religion, disability, age, national origin, 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.

Benefits

As our workforce is very diverse, our benefit offerings are designed to meet a variety of needs. We believe that employees who experience a sense of security are more productive and will make strong contributions to the Company's success. We also look to local values and customs to enhance our offerings.

We strive to offer our employees competitive health and retirement benefits as part of our employee value proposition. We also embrace 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.

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 Wellbeing 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

GRI 405: Diversity and Equal Opportunity 2016

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 2022, we conducted a review of the potential for human rights issues in the highest risk countries in which we operate and did not identify any significant issues for our operations.

405-1 Diversity of governance bodies and employees Diversity information for our Board of Directors is provided in the [2023 Proxy Statement](#) (pp 8-13). Employee data for FY22 has been collected from internal data systems and consolidated at the Company level.

Data	FY22
Number of employees	>21,000
Female share of workforce	22%
Employees by age group	
<30 years	12%
30-50 years	64%
>50 years	25%

GRI 413: Local Communities 2016

3-3 Management of material topics For over 80 years, Air Products has been building relationships and contributing to the wellbeing 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.

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.

In fiscal 2022, the Air Products Foundation made \$7 million in cash contributions including grants to organizations near our headquarters, throughout the U.S. and international communities. These grants reinforced our community outreach plans, responded to community needs, and supported eligible non-profits, particularly through matching gifts. Totalling \$2.7 million, the matching gift portion of the donations was distributed based on employee and retiree giving, thereby reflecting the organization's 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.

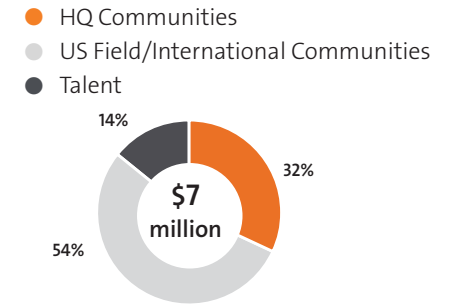
Science, Technology, Engineering and Math (STEM)

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. For those reasons, our STEM efforts target diverse groups, including students at different education levels, workers, and community members. In 2022 we reached nearly 81,000 students through our STEM events.

Working, Living, and Giving Around the World

In 2022, Air Products' employees and retirees volunteered and were involved in hundreds of community programs. Examples of the ways we engaged with our communities in 2022 are provided on pages 46-47 of this Report.

FY22 Contributions



413-1 Operations with local community engagement, impact assessments, and development programs	We develop stakeholder outreach plans aimed at addressing high priority needs and maintaining positive relationships with the communities where we have our largest operations around the world. We work closely with community partners including not-for-profit organizations, emergency responders, elected officials, education, and business and community leaders to identify the highest impact opportunities. Our support priorities are in education, health and human services, community and economic development, arts and culture, and environment and safety. We also engaged community representatives in the materiality assessment for our Sustainability Report.
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Air Products' [IntegrityLine](#) is available to anyone who would like to report a potential issue about the Company

GRI 414: Supplier Social Assessment

3-3 Management of material topics	<p>Thousands of suppliers are essential to our success. We want to 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 and social considerations.</p> <p>In total, Air Products spent over \$10 billion on energy, equipment, materials, and services with over 31,000 unique suppliers and service providers in 2022. 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.</p> <p>The supplier management process is a combination of prequalification and ongoing monitoring of supplier performance. New suppliers are qualified using criteria including commercial and technical evaluations. If noncompliances or systematic issues are identified for an existing supplier through ongoing monitoring, our procurement teams work with the supplier to take proper corrective actions and rectify the issue. This allows for a continuous improvement process that enhances strategic relationships with suppliers.</p> <p>Using sustainability criteria, we evaluated our top suppliers that represented 70 percent of our procurement spend in 2022. Of these purchases, more than 80 percent on a cost basis were made from vendors with sustainability programs, including 98 percent of our largest energy suppliers. We also look for opportunities to work with these suppliers to procure renewable energy.</p>
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GRI 414: Supplier Social Assessment

3-3	Management of material topics	<p>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.</p> <p>In 2022, our European businesses engaged with a global sustainability rating company to evaluate how we could use their platform to assess the sustainability of our supply chain partners. These assessments, which include environmental, social and governance considerations, are being rolled out in 2023 and the results will be integrated into our sourcing strategy.</p> <p>It is our policy and practice to provide maximum practical opportunities to diverse suppliers. In 2022, approximately 19 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.</p>
414-1	New suppliers that were screened using social criteria	<p>New suppliers are qualified using commercial and technical evaluations and site service companies are asked to complete a contractor qualification survey that includes safety considerations. All suppliers are expected to support sustainability through the principles outlined in our Sustainability Expectations of Suppliers, which includes environmental and social considerations. Our global terms and conditions also include social aspects including requirements related to anti-corruption, compliance, health and safety and Conflict Minerals.</p> <p><i>Omission</i></p> <p>The percentage of suppliers screened for social criteria is not consolidated at the Company level.</p>
414-2	Negative social impacts in the supply chain and actions taken	<p>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. No allegations of human rights violations were reported through our IntegrityLine in 2022.</p> <p>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.</p> <p>Air Products evaluates its supply chain on an annual basis for the presence of conflict minerals in accordance with the U.S. Securities and Exchange Commission's Conflict Minerals Rule. The Rule requires companies to perform and disclose due diligence on the source of certain minerals within its supply chain 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 addition to this due diligence, Air Products discloses the results in our annual Conflict Minerals Report and has included conflict minerals clauses in our standard contractual terms and conditions.</p>

Additional Social Considerations

Partnerships

Solving the energy and environmental challenges of today and tomorrow requires ambition, ingenuity, and collaboration. 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 United Nations' Sustainable Development Goals (SDGs).

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.

Additional Social Considerations

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 improve efficiency and accelerate the adoption of hydrogen as a zero-carbon fuel
- 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 dioxide capture, use and storage projects
- Partnering with institutes of higher education on technology research, such as the King Abdullah University of Science and Technology in the Kingdom of 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

EEO-1 Disclosure

Each year, Air Products must report to the U.S. Equal Employment Opportunity Commission (EEOC) workforce data categorized by race, ethnicity, sex, and job category in an Employer Information Report EEO-1. The data below is from our most recent EEO-1 Report and reflects demographics in the U.S. as of September 30, 2022*. The EEO-1 Report mandates the use of specific job categories, which differ from how our workforce is structured.

JOB CATEGORIES	HISPANIC OR LATINO		NOT HISPANIC OR LATINO													
	Male	Female	Male						Female						OVERALL TOTALS	
			White	Black or African American	Asian	Native Hawaiian Pacific or Islander	American Indian or Alaskan Native	Two or more Races	White	Black or African American	Asian	Native Hawaiian Pacific or Islander	American Indian or Alaskan Native	Two or More Races		
Executive/SR Officials & Mgrs	2	0	10	1	3	0	0	0	2	1	0	0	0	0	0	19
First/Mid Officials & Mgrs	48	12	558	26	45	0	2	13	146	9	18	0	0	4	881	
Professionals	120	55	994	60	208	1	1	20	396	35	83	1	1	11	1986	
Technicians	15	2	140	2	3	0	0	2	36	2	3	0	0	0	205	
Sales Workers	3	1	94	10	5	0	1	2	47	3	3	0	0	1	170	
Administrative Support Workers	6	26	108	7	2	0	0	0	211	12	9	0	0	2	383	
Craft Workers	181	12	810	130	65	3	9	22	30	19	1	1	0	3	1286	
Operatives	82	5	478	156	13	0	2	13	6	7	0	1	0	0	763	
Laborers & Helpers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Service Workers	1	0	5	1	0	0	0	0	1	0	0	0	0	1	9	
Current 2022 Reporting Year Total	458	113	3197	393	344	4	15	72	875	88	117	3	1	22	5702	
Prior 2021 Reporting Year Total	380	89	3136	317	333	6	16	57	841	63	102	0	1	17	5358	

*Updated November 2023



Working Together. Winning Together

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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, 2022 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 2022 and all dollar amounts are in U.S. dollars.

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