D E Shaw & Co

1166 Avenue of the Americas
Ninth Floor
New York, NY 10036

(212) 478-0000
FAX (212) 478-0100

October 10, 2024

Board of Directors
Air Products and Chemicals, Inc.
1940 Air Products Boulevard
Allentown, PA 18106-5500

We are writing to you on behalf of certain investment funds advised by D. E. Shaw & Co., L.P., a member of the D. E. Shaw group. The D. E. Shaw group is a global investment and technology development firm with more than $60 billion in investment capital and a history of working with companies to help build long-term value. Funds advised by D. E. Shaw & Co., L.P. are shareholders of Air Products and Chemicals, Inc. (the "Company" or "APD") and currently hold a significant economic position in the Company.

We initially reached out to you privately over a month ago in the hopes of having a constructive dialogue aimed at addressing the Company's longstanding total shareholder return underperformance as well as deficiencies in the Company's governance and capital allocation policies. At our initial meeting with the Board of Directors and the Company's CEO on October 2nd, we presented our extensive analysis as well as specific proposals to generate long-term shareholder value, including that the Company should:

1. Accelerate efforts to de-risk existing large project commitments by signing offtake agreements at reasonable return hurdles;
2. Publicly commit to tying future capital investment to offtake agreements, consistent with well-established practice in the industrial gas sector;
3. Establish and publicly announce a new capital allocation framework whereby Air Products' CapEx levels will not exceed the mid-teens as a percentage of revenue beyond fiscal year 2026;
4. Communicate a clear, credible, and transparent CEO succession plan;
5. Refresh the Board with highly qualified, independent directors with relevant experience leading capital-intensive businesses and managing succession processes;
6. Restructure executive compensation to improve alignment with strategy and performance; and
7. Form one or more ad hoc Board committees to focus on and oversee these critical initiatives on behalf of shareholders.

Despite having received our materials days in advance of the meeting, many of the Board members present seemed unwilling or unable to engage with the substance of our analysis and suggested actions. Instead, the Company's Lead Independent Director, Ed Monser, indicated that a substantive response would occur at a subsequent meeting. That follow-up meeting was abruptly cancelled by the Company's Lead Independent Director.

Given the apparent lack of urgency on the part of the Company's Board to engage in meaningful dialogue or take steps to address Air Products' persistent and long-term share price underperformance, we are today compelled to make public our analysis and recommendations for change.

We remain open to engaging with the Company in a productive and constructive manner to advance the changes we believe are necessary to improve the Company's business, strategy, and governance.

Best Regards,

Edwin Jager
Managing Director
D. E. Shaw & Co., L.P.

Michael O'Mary
Managing Director
D. E. Shaw & Co., L.P.

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ADVANCING AIR PRODUCTS AND CHEMICALS

OCTOBER 2ND 2024

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AIR PRODUCTS HAS A SUBSTANTIAL OPPORTUNITY FOR DURABLE SHAREHOLDER VALUE CREATION

Air Products Has a Unique Opportunity to Create Durable Value

Air Products shareholders have experienced material total shareholder return underperformance

- Air Products' total shareholder return has significantly lagged relevant peers over numerous time horizons, including underperforming its industrial gas peers, Linde and Air Liquide, by 116% and 42%, respectively over the last five years

Investors are deeply concerned with Air Products' capital allocation framework

- Air Products is spending substantially more on capital expenditures relative to sales than industrial gas peers and its own history
- Excess capital spend has resulted in declining free cash flow conversion and returns on capital
- Air Products' recent capital allocation strategy of committing to projects without signed offtake agreements in place represents an unwelcome departure from the traditional low-risk industrial gas business model

Investors perceive Air Products to have material governance issues

- Air Products' Chief Executive Officer is compensated materially above peers despite long-term total shareholder return underperformance
- Decoupling between executive compensation and shareholder returns has resulted in far below average "say-on-pay" support levels
- Air Products' Board approved a five-year contract extension for its Chief Executive Officer on an evergreen basis which likely makes it challenging for the Company to recruit the most qualified potential successor candidates

Market skepticism regarding Air Products' capital allocation strategy and perceived governance issues has caused Air Products to trade at a meaningful valuation discount relative to industrial gas peers

- Air Products currently trades at a nearly 20% price-to-earnings multiple discount to peers despite trading in-line historically

Air Products has a unique opportunity to create sustainable value by addressing its capital allocation and governance issues and we would like to work constructively with the Board to unlock value for all shareholders

Note(s):
- Source: Bloomberg, Company filings, Company proxy materials
- Market data as of 09/20/2024

AIR PRODUCTS HAS SIGNIFICANTLY UNDERPERFORMED PEERS

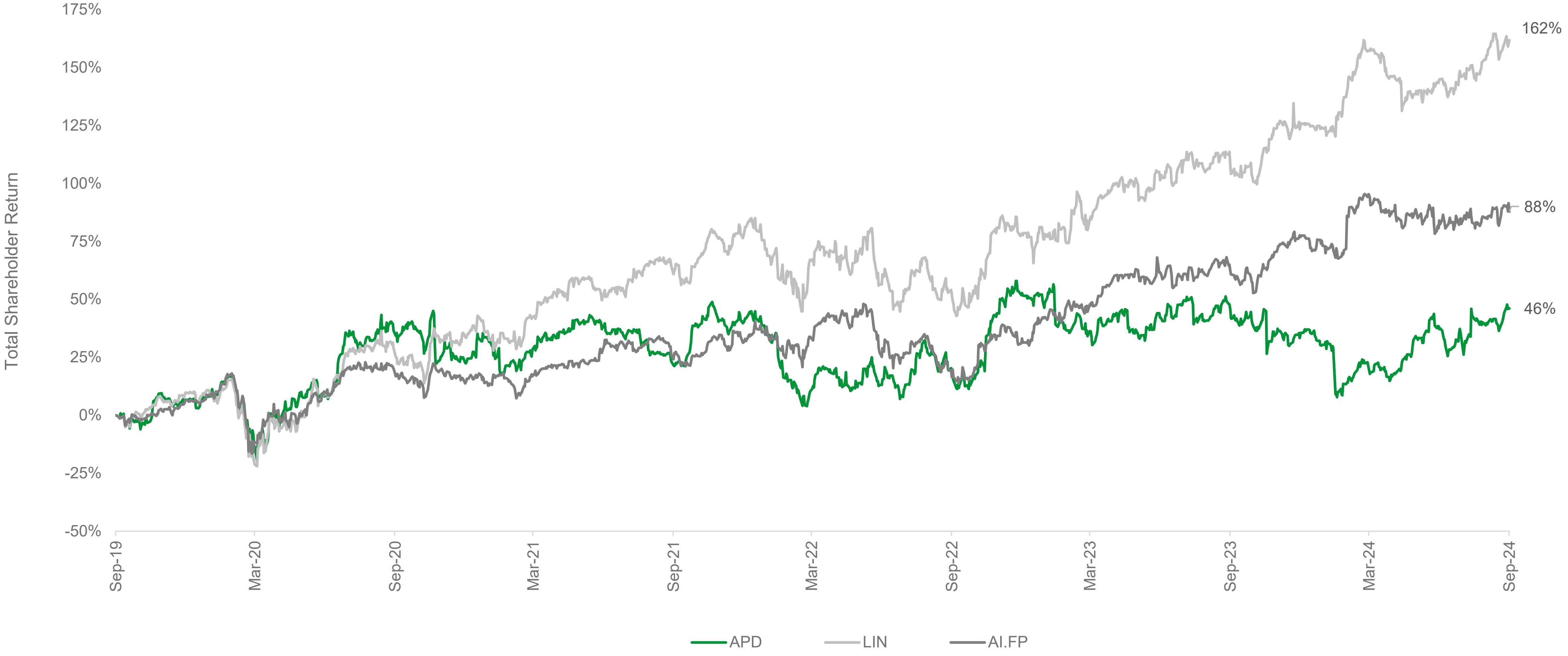
Air Products Has Substantially Underperformed Benchmarks Over Relevant Time Periods

Air Products' Total Shareholder Return vs:	1 Year	2 Year	3 Year	4 Year	5 Year	6 Year	7 Year	8 Year	9 Year	10 Year
Industrial Gas Peer Group[1]	-21%	-43%	-37%	-72%	-79%	-77%	-97%	-125%	-125%	-77%
Air Liquide SA	-15%	-37%	-31%	-49%	-42%	-37%	-37%	-45%	-8%	-21%
Linde plc	-26%	-48%	-43%	-96%	-116%	-117%	-158%	-204%	-242%	-133%
Proxy Peer Group[2]	-31%	-59%	-65%	-166%	-105%	-59%	-48%	-99%	-134%	-48%
ISS Peer Group[3]	-25%	-43%	-47%	-134%	-79%	-29%	-16%	-50%	-75%	-13%
S&P 500 ®	-31%	-29%	-17%	-76%	-60%	-20%	-31%	-49%	-55%	-46%

Note(s):
- Source: Bloomberg, Institutional Shareholder Services Governance Report, Company proxy filings
- Market data as of 09/20/2024
- Peer index returns calculated on an equal weighted basis
- Total shareholder return inclusive of dividends

1. Industrial Gas Peer Group includes Air Liquide SA and Linde plc
2. Proxy Peers include AECOM, Baker Hughes Co, Celanese Corp, Dover Corp, DuPont de Nemours Inc, Eastman Chemical Co, Ecolab Inc, EMCOR Group Inc, Fluor Corp, Fortive Corp, Illinois Tool Works Inc, Ingersoll Rand Inc, Linde PLC, MasTec Inc, Parker-Hannifin Corp, PPG Industries Inc, Quanta Services Inc & TechnipFMC PLC
3. ISS Peer Group includes AECOM, Albemarle Corp, Axalta Coating Systems Ltd, Baker Hughes Co, Celanese Corp, Dover Corp, DuPont de Nemours Inc, Eastman Chemical Co, Ecolab Inc, EMCOR Group Inc, Fluor Corp, Fortive Corp, Illinois Tool Works Inc, Ingersoll Rand Inc, Linde plc, MasTec Inc, Otis Worldwide Corp, Parker-Hannifin Corp, PPG Industries Inc, Quanta Services Inc, RPM International Inc, Schlumberger NV, Stanley Black & Decker Inc & TechnipFMC plc

Air Products Has Underperformed Linde And Air Liquide by 116% And 42%, Respectively Over The Last Five Years



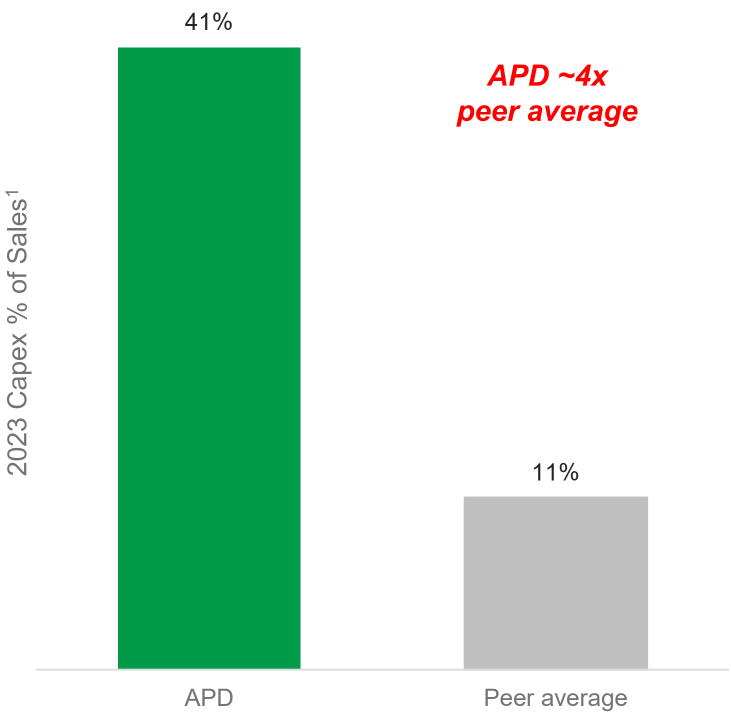
Note(s):

- Source: Bloomberg
- Market data as of 09/20/2024
- Total shareholder return inclusive of dividends

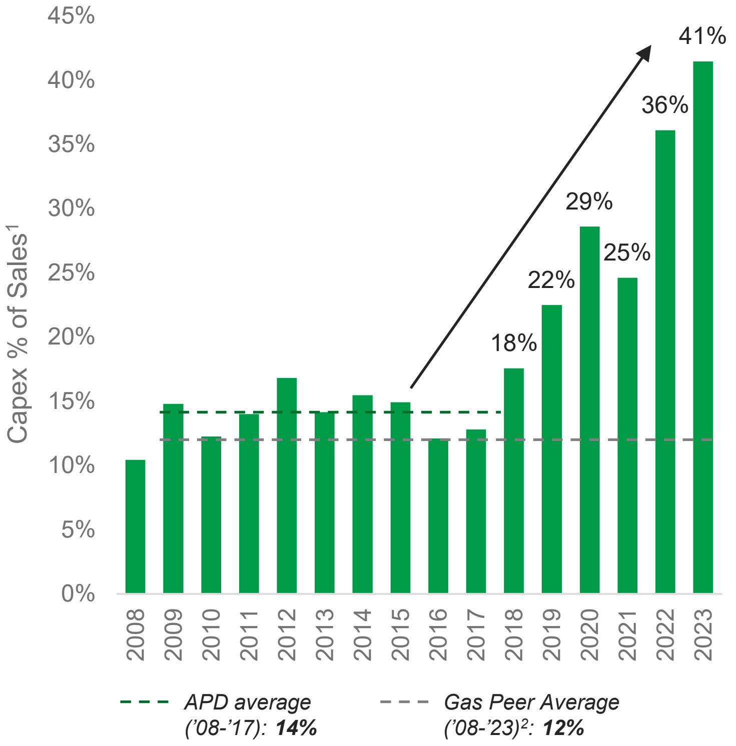
INVESTORS ARE CONCERNED WITH AIR PRODUCTS' CAPITAL ALLOCATION FRAMEWORK

Air Products' Capital Intensity Has Increased Significantly And Greatly Exceeds That of Its Peers…

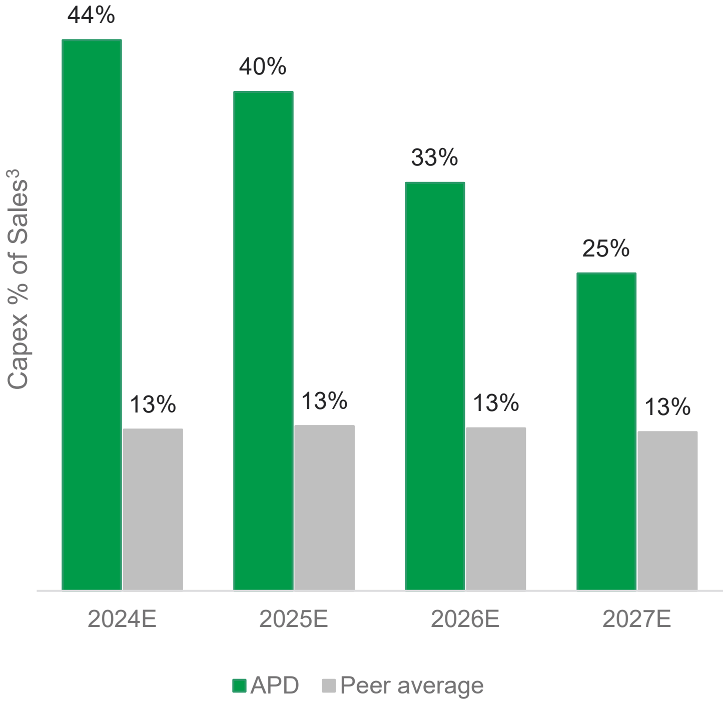
Air Products' capital spending is much higher than peers…



… has increased materially over time…



… and is expected to remain elevated for the foreseeable future



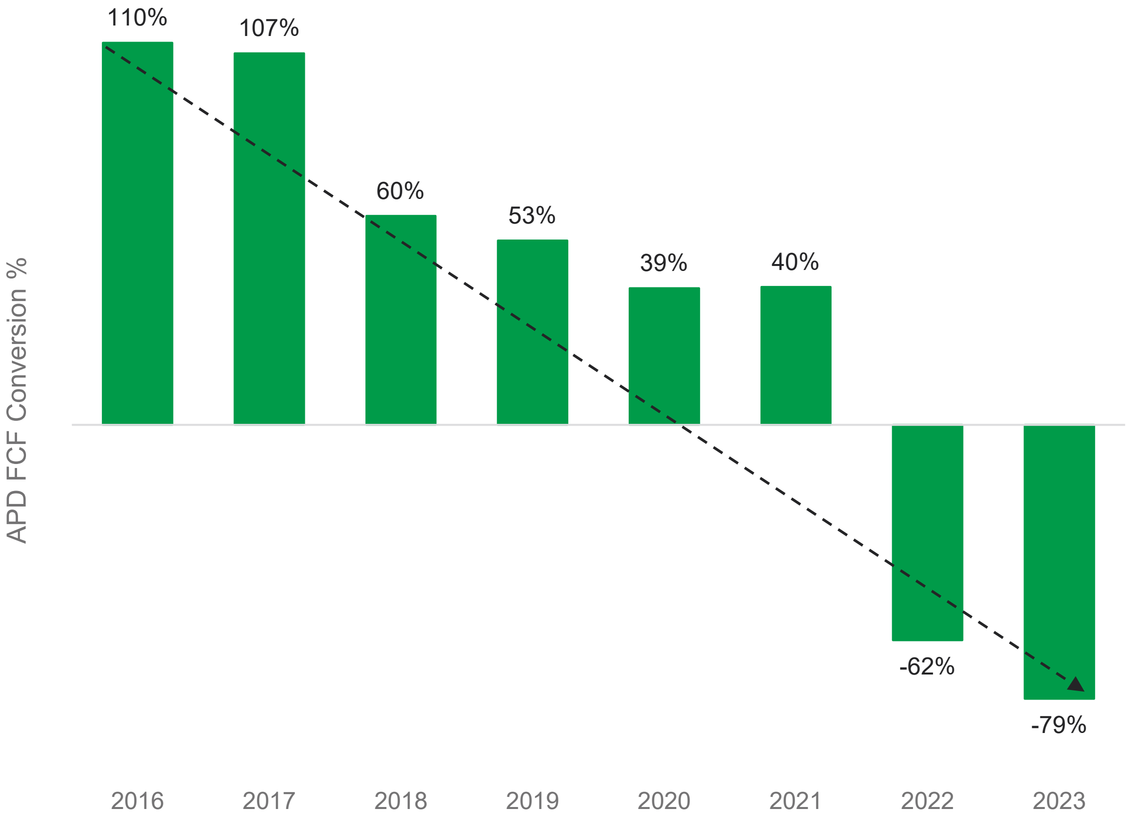
Note(s):

- Source: Company filings, S&P® Capital IQ, Bloomberg, Visible Alpha
- Peer group includes industrial gas companies Air Liquide and Linde
- Peer data has been calendarized to Air Products' Fiscal Year ending 9/30

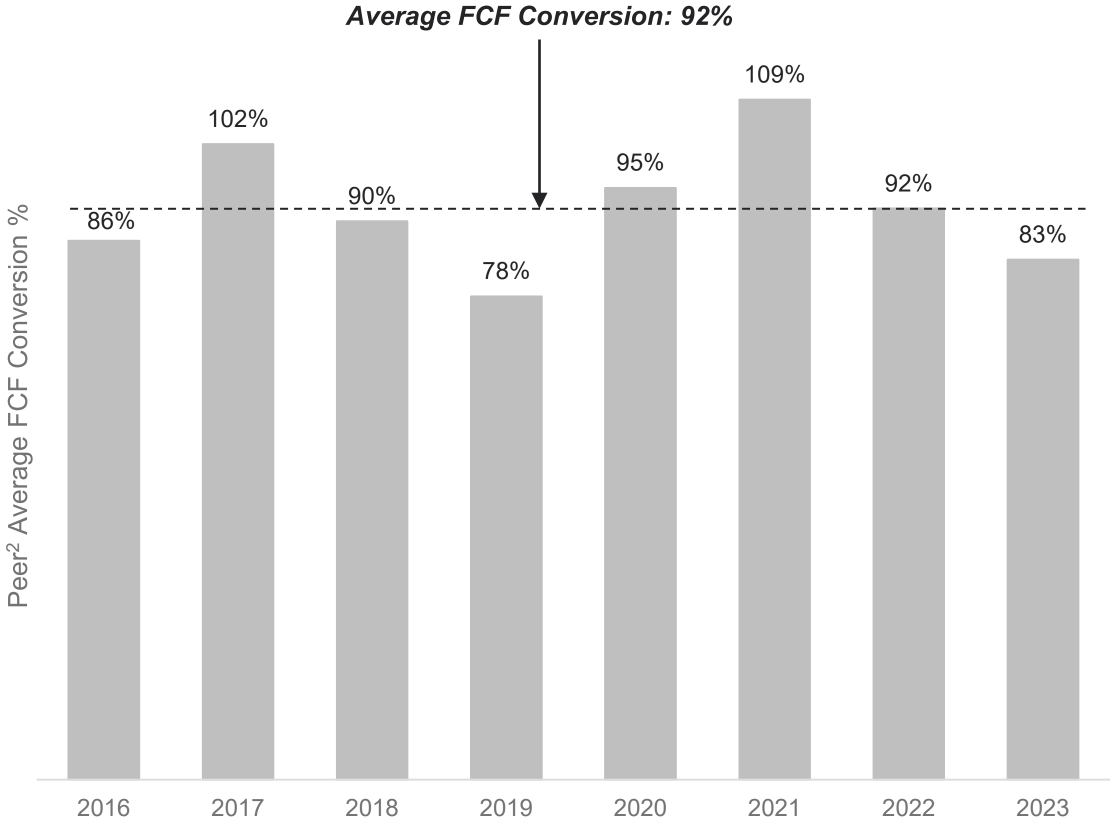
1. Capex figures exclude small, bolt-on acquisitions.
2. Air Liquide historical figures include Airgas metrics prior to acquisition date (2016) for comparability purposes. Linde historical figures include Praxair metrics prior to acquisition date (2018) for comparability purposes. Capex figures exclude small, bolt-on acquisitions.
3. Projected estimates based on consensus expectations

… Resulting in Substantially Worse Free Cash Flow Conversion…

Air Products' FCF conversion[1] has worsened significantly in recent years…



… in stark contrast to peers which have maintained strong FCF conversion levels…



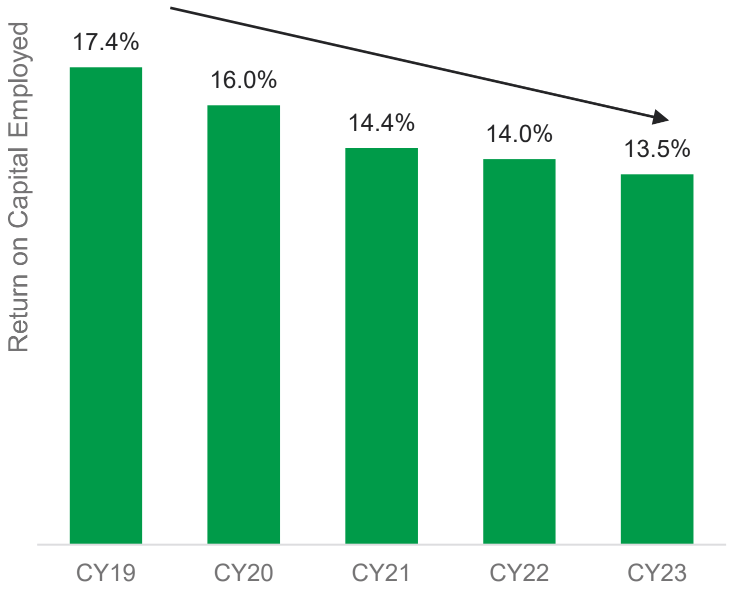
Note(s):

- Source: Bloomberg, Company filings
- Peers include industrial gas companies Air Liquide and Linde
- Peer data has been calendarized to Air Products' Fiscal Year ending 9/30

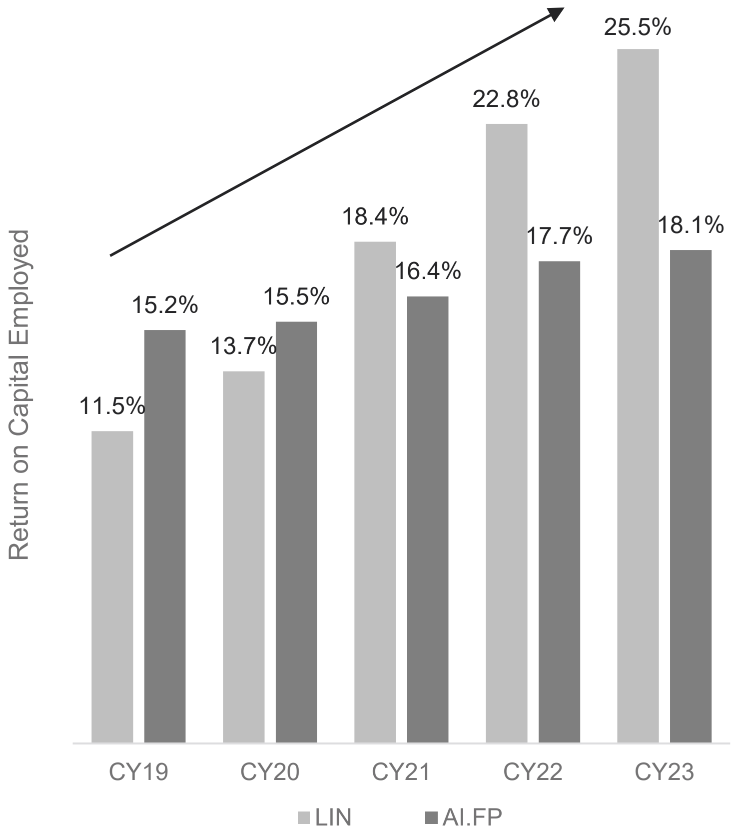
1. FCF conversion calculated as (Operating Cash Flow – Capex)/Adjusted Net Income. Capex figures exclude small, bolt-on acquisitions.
2. Linde historical figures include Praxair metrics prior to acquisition date (2018) for comparability purposes. Capex figures exclude small, bolt-on acquisitions.

… And Declining Returns on Capital

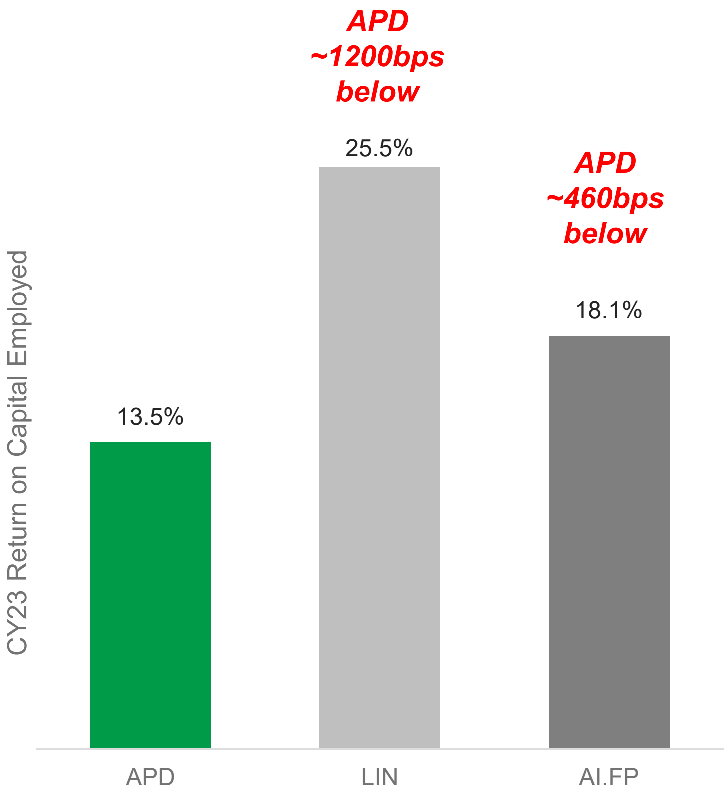
Air Products' returns on capital[1] have declined materially over the last several years…



… in contrast to Linde and Air Liquide which have seen ROCE increase over the last few years…



… resulting in Air Products' current returns sitting well below peers



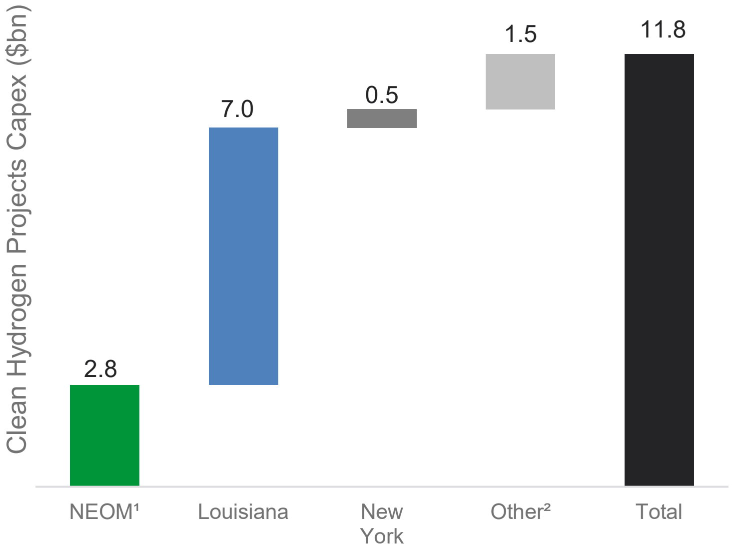
Note(s):

- Source: Company filings
- Peers include industrial gas companies Air Liquide and Linde

1. ROCE calculations in line with Air Products' non-GAAP adjusted ROCE methodology (excluding goodwill to facilitate like-for-like peer comparison and better approximate return on tangible capital invested in the business). Adjusted ROCE = Adjusted NOPAT / (net debt + equity - goodwill)

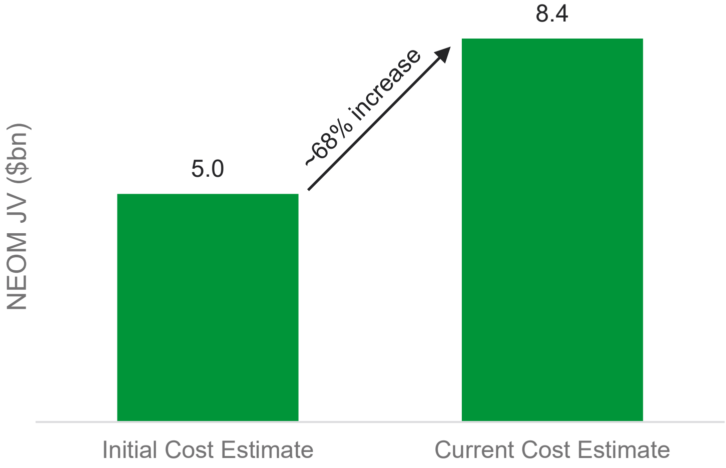
Outsized Capital Spend is Driven by Air Products' Clean Hydrogen Commitments…

Air Products expects to spend ~$12 bn on clean hydrogen projects



Clean Energy Backlog ~20% of Air Products market cap vs. ~1% for peers[3]

Air Products' NEOM green hydrogen project has experienced timing delays and increasing costs…

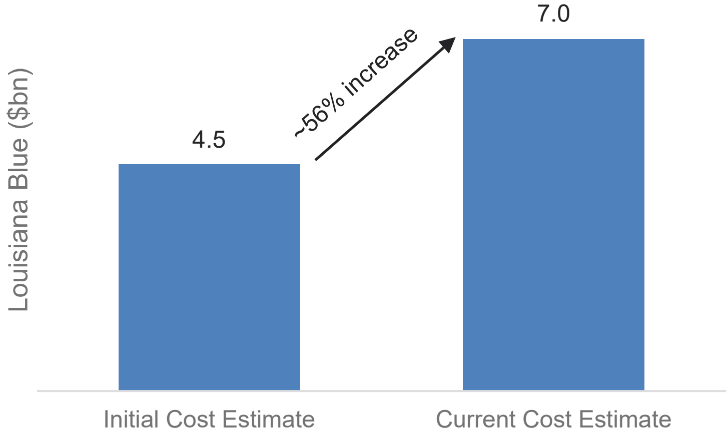


<u>Estimated completion</u>

Calendar 2025 → End of Calendar 2026

>1 year timing delay

… as has its $7 billion blue hydrogen project in Louisiana



<u>Estimated completion</u>

Calendar 2026 → End of Calendar 2027 / Early 2028

>1 year timing delay

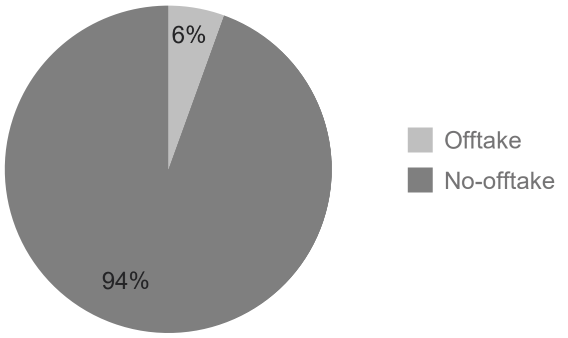
Note(s):

- Source: Company filings, Sell-side reports, Conference call transcripts

1. NEOM capex of $2.8bn comprised of ~$800 million upstream capex and $2 billion downstream capex. Total capex for NEOM upstream joint venture is of $8.4 billion ($6.1 billion debt financed and $2.3 billion equity financed). NEOM upstream capex of ~$800 million equal to APD's 33% share of $2.3 billion equity contribution by the joint venture
2. Other clean hydrogen projects include Air Products' Alberta Net-zero Hydrogen Energy Complex and Rotterdam Blue Hydrogen Plant. Rotterdam capex estimate based on management commentary and sell-side reports
3. Air Products' clean energy projects include NEOM, Louisiana, Canada, Rotterdam, and New York. Linde's clean energy backlog based on latest quarterly presentation. Air Liquide's clean energy backlog based on publicly announced projects (Normandy (green hydrogen) and Texas (Exxon's blue hydrogen project))

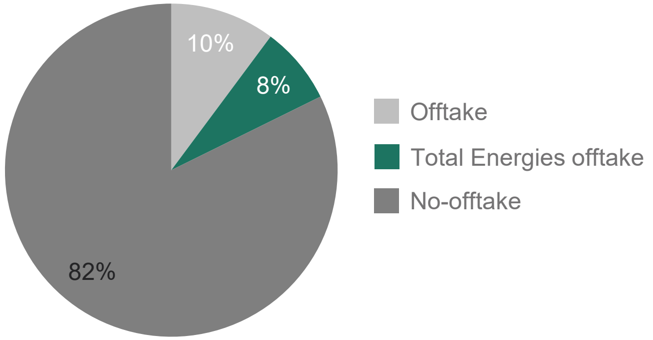
… Many of Which Were Initially Signed Without Offtake Agreements…

Overwhelming majority of Air Products' clean hydrogen capacity was committed to without offtake agreements…



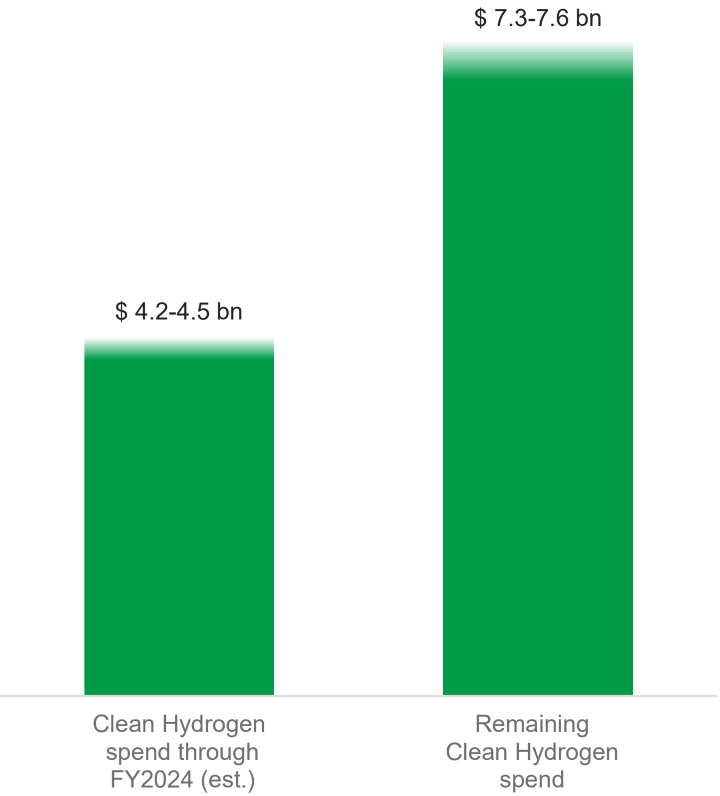
	Capex ($bn)	Initial Offtake	% Capacity	Cumulative %
Louisiana	7.0	No	0%	0%
NEOM	2.8	No	0%	0%
Alberta[1]	0.8	No	0%	0%
Rotterdam[1]	0.7	Yes	100%	6%
Green H2 NY	0.5	No	0%	**6%**

… and over 80% of project capacity remains uncontracted even after TotalEnergies offtake agreement…



	% Capacity	Cumulative %
Louisiana	0%	0%
NEOM[2]	35%	8%
Alberta[1]	65%	13%
Rotterdam	100%	18%
Green H2 NY	0%	**18%**

… yet Air Products has already spent ~$4 billion[3] and is committed to spending over $7 billion more without signed offtakes



Note(s):

- Source: Company filings, Sell-side reports, Conference call transcripts

1. Alberta offtake based on management commentary; Rotterdam capex estimate based on management commentary and sell-side reports
2. Assumes TotalEnergies contract is serviced entirely by NEOM. NEOM capacity estimated at ~200ktpa of hydrogen implying 70ktpa TotalEnergies deal is ~35% of capacity
3. Total clean hydrogen capex from 2022 - 2024 estimated using total Air Products capex spend from 2022 – 2024 excluding capital spend of $2.6 billion on Jazan, $0.7 billion syngas processing facility in Uzbekistan, $1.8 billion on World Energy/SAF, base business maintenance capex of $2 billion, management's guidance for base business growth capex of ~$0.9-1.0 billion annually in unannounced projects, and other capex in industrial gas facilities in Taiwan and Texas (including pre-FID green hydrogen project)

… Representing a Departure From Air Products' Traditionally Conservative Industrial Gas Business Model…

	Traditional industrial gas business model generates dependable capital returns…	… in contrast to more speculative investment without locked-in revenue
Established end market	✓	X Developing end markets
Long-term contracted revenue signed pre-construction	✓	X No offtake contracts pre-construction
Transparent, dependable double digit return profile	✓	X Speculative return profile
Immediately cash generative	✓	X Immediately free cash flow negative
Relatively low capital commitment	✓	X Capex requirements materially higher than base business (backlog ~20% of market cap)
High valuation multiple	✓	X 18% below peer average multiple

Note(s):

- Source: Bloomberg, Company filings, Peer analysis, the D. E. Shaw group proprietary analysis
- Market data as of 09/20/2024

… Driving Investor Concerns Around Capital Allocation…

"**APD's willingness to commit substantial capital to drive growth, through complex megaprojects**… has **added risks and costs**, as well as **stretching APD's balance sheet**, and we believe it has also **distracted management** increasing operational risks. **As stocks, the gas majors are prized above all else for their dependability**."

- *Bernstein, July 2024*

"**The other key investor concern about APD is the uncertain returns on the clean hydrogen projects that are driving the company's capex spending to be at or above Linde's**… Investor concerns are primarily focused on the two largest clean hydrogen projects in Louisiana and NEOM…"

- *BofA Global Research, May 2024*

"... robust stock narrative has come under fairly heavy pressure the past ~12-18 months, as **costs have escalated on mega-projects, start-up timings are being pushed out, less disclosures are being given… the multiple compression you're seeing is the market expressing increasing concern about strategy / thesis-creep on a business that should be fairly steady and cash generative.**"

- *Barclays, February 2024*

"... in the 3½ years since Air Products unveiled its clean energy strategy with the announcement of the NEOM project in July 2020**,** **investors have grown increasingly concerned about the cost, timing and offtake arrangements for these projects.**"

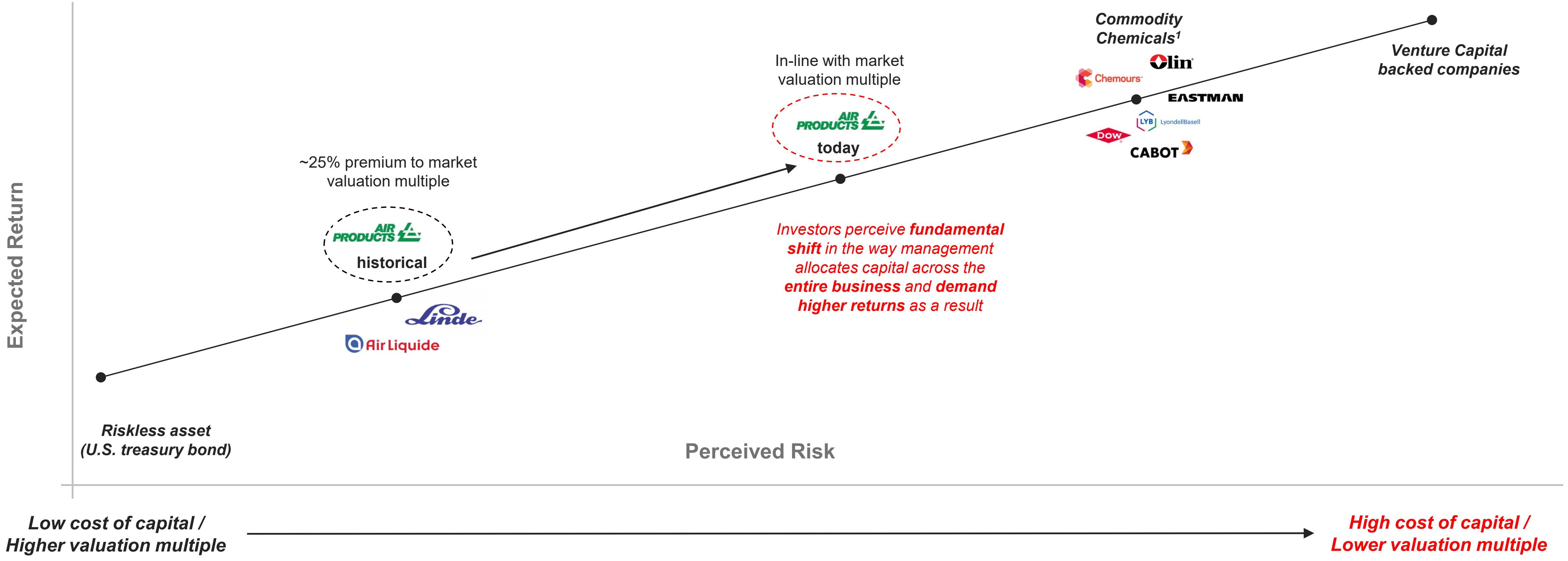
- *Deutsche Bank, November 2023*

Note(s):

- Source: Sell-side research reports

… Due to Higher Perceived Risk…

Air Products' clean hydrogen strategy has pushed it further out on the risk curve resulting in higher discount rates and lower valuation multiples being applied to the cash flows of the entire business

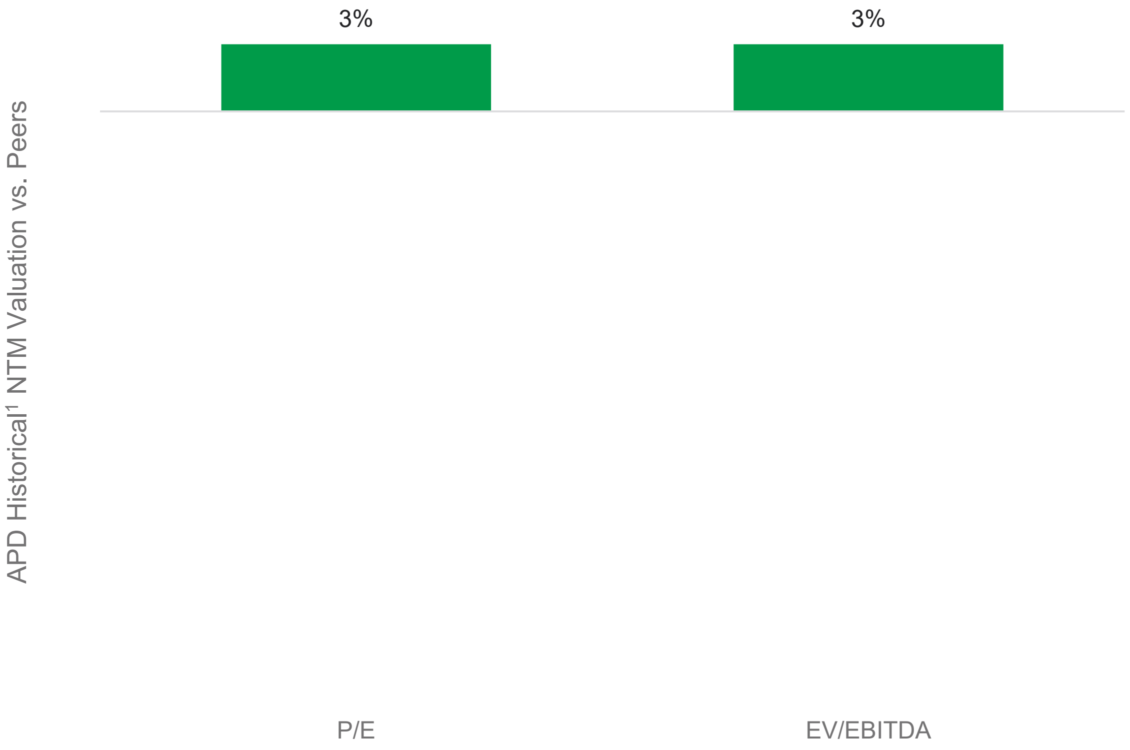


Note(s):
- Source: Bloomberg, Company filings
- Market data as of 09/20/2024
- Risk curve shown is growth agnostic (assumes no difference in growth rate across sub-sectors) to isolate impact of perceived risk/discount rate on valuation multiples

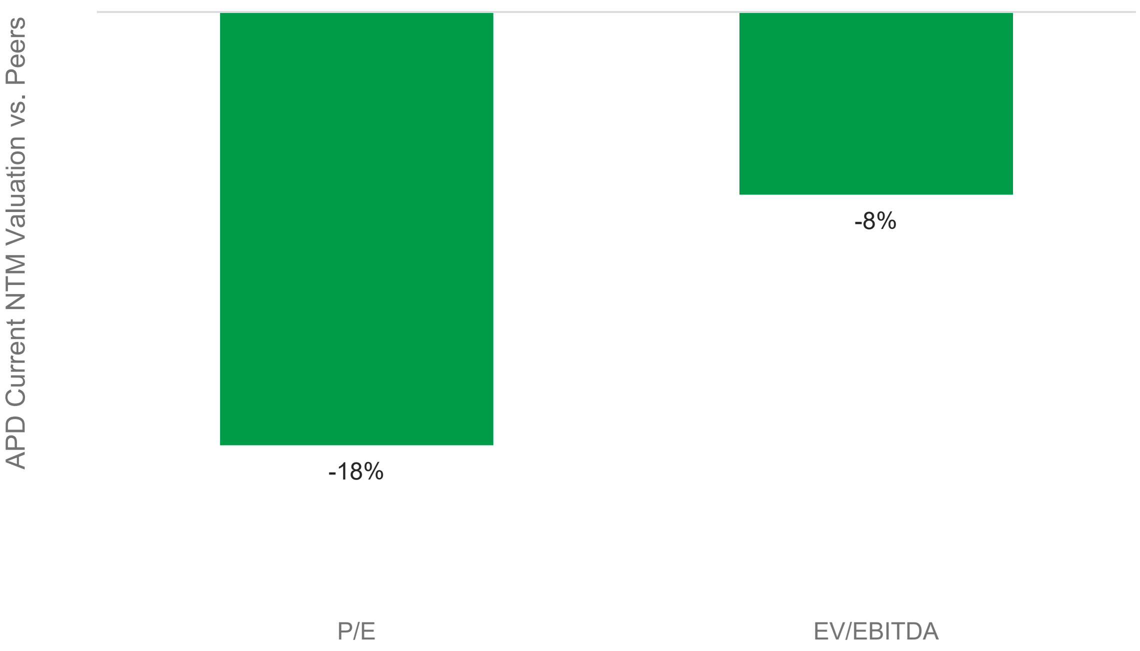
1. Average commodity chemicals target IRR/ROIC of mid-teens (~15%) based on company disclosed return targets

… Precipitating a Divergence In Relative Valuation

Air Products historically[1] traded at a modest premium to industrial gas peers…



… but capital allocation fears have driven Air Products to trade at a sizeable discount



~3.8 standard deviations below historical[1] average

~2.0 standard deviations below historical[1] average

Note(s):
- Source: Bloomberg
- Market data as of 09/20/2024
- Peers include industrial gas companies Air Liquide and Linde

1. Three-year period through end of CY 2021 preceding Air Products' clean hydrogen project investments

Yet Management Has Largely Embraced The Elevated Risk Profile And Dismissed Calls to Change Its Approach…

"**We could have signed long-term agreements for selling that product 2 years ago. But we always said that we do not want to do that** because as we go forward, it is going to become very clear to prospective customers that there are not that many plants or sources of low carbon."

- CEO, Q4 2023 Earnings Call

"We think these projects that we are doing **deserve a much higher return than 10%**."

- CEO, Barclays 41st Annual Industrial Select Conference 2024, February 2024

"**We are trying to get to this stage where we think that we are at the very maximum point of extracting value. And we are not going to get rattled by the stock going up and down. We are not going to change our strategy**. "

- CEO, Barclays 41st Annual Industrial Select Conference, February 2024

"We have taken the risk of being the first mover in this area of green and blue, and therefore, **we deserve returns which are more than a plain vanilla**, going and building an air separation unit…"

- CEO, Q2 2024 Earnings Call

"**I am absolutely willing to stick my neck out and take the heat**."

- CEO, Q2 2024 Earnings Call

"**we having taken the risk and losing a lot of… our market value because we have taken the risk**, we deserve a better return on these projects than running around and trying to panic about the fact that our multiple is, instead of being a 30x EPS, it is 20x EPS..."

- CEO, Q2 2024 Earnings Call

"…**we have taken the risk and therefore, the reward should be higher than what we do when we do things that are no-risk, not risky**."

- CEO, Q3 2024 Earnings Call

Note(s):

- Source: Company filings, Earnings call and conference transcripts

… Despite Peers Demonstrating Clean Hydrogen Projects Can Be Executed With Secured Offtake And Low Risk…

Linde is focusing exclusively on blue hydrogen with offtake agreements in place pre-construction…

	Type	Details
Linde / equinor	Blue Hydrogen 1GW (~210ktpa)	• Linde to co-own, build and operate the hydrogen production and carbon capture facility in Eemshaven • **Equinor to transport, store CO2, and sell blue hydrogen from the project to the market.** • Project is at FEED[1] stage and is expected to start production in 2028
Linde / Dow	Blue Hydrogen	• Linde will own and operate ASU and ATR complex, to be integrated with existing ops in Fort Saskatchewan • **Dow to offtake clean hydrogen and nitrogen under long-term agreement** • Linde to invest $2bn with project completion slated in 2028
Linde / OCI Global	Blue Hydrogen 1.1mtpa	• Linde to spend $1.8bn to build, own and operate the on-site complex • **OCI to offtake clean hydrogen and other industrial gases for its blue ammonia plant (1.1mtpa) at Texas.** • Production to start in 2025

… and Air Liquide is focusing on partnerships in-line with traditional low-risk business model

	Type	Details
Air Liquide / ExxonMobil	Blue Hydrogen	• Air Liquide to spend $850mn to build, operate and own large modular ASUs (option to supply blue hydrogen to its own customers). • **ExxonMobil to offtake oxygen and nitrogen for its planned Texas blue hydrogen hub under a long-term agreement**
Air Liquide / TotalEnergies	Green Hydrogen 200MW	• Air Liquide to spend €400mn to build Normand'Hy electrolyzer • **TotalEnergies to offtake 50% of green hydrogen produced for its refinery in Gonfreville, over the long-term starting 2H 2026** • Remaining 50% will be dedicated to customers in the Normandy industrial basin, as well for development of low-carbon mobility

Linde and Air Liquide are exclusively focused on relatively low capex clean hydrogen projects with firm offtake agreements in place prior to construction substantially de-risking investment capital

Note(s):
• Source: Company filings, Sell-side research
1. Linde/Equinor project is at Front-end engineering and design (FEED) stage and is currently not part of Linde's backlog

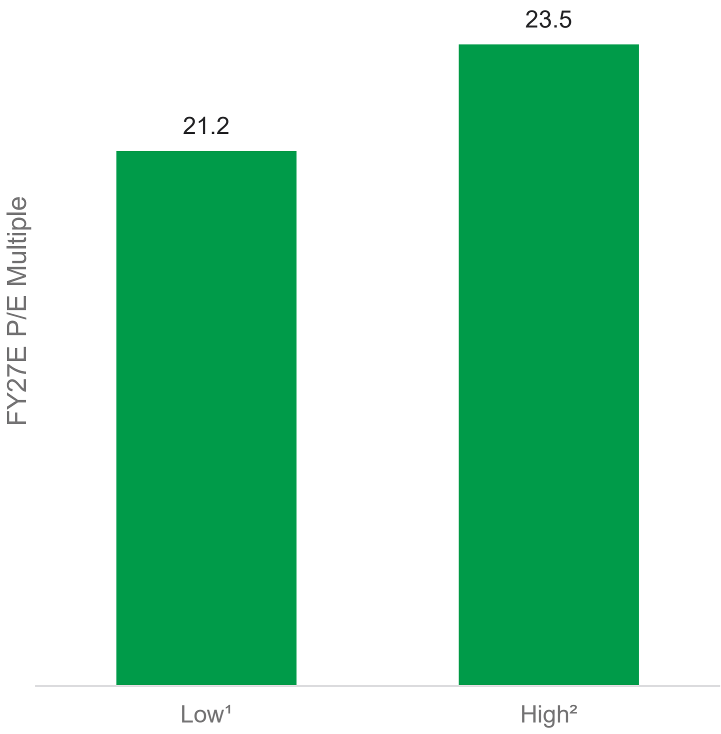
… As Is Most Evident in Linde's Latest Blue Hydrogen Investment

	Linde's Alberta project adheres to the traditional industrial gas model with a long-term offtake agreement…	… while Air Products' Louisiana project lacks an offtake and carries more uncertainty and risk
	Linde / Dow	AIR PRODUCTS / ???
Established end market	✓ Well-defined end-use (clean hydrogen for industrial customers) and target market (Canada)	X Unclear end-product (blue hydrogen or blue ammonia?) and target market (US Gulf Coast or Asia?)
Long-term contracted revenue signed pre-construction	✓ Long-term agreement to supply clean hydrogen to Dow's Fort Saskatchewan Path2Zero Project	X No offtake contracts pre-construction
Transparent, dependable double digit return profile	✓ Secured offtake reinforces returns in-line with Linde's traditional projects	X Speculative return profile with directional price exposure and no volume commitments
Immediately cash generative	✓ Multi-year cash flow robustly underwritten by volume agreement	X Opaque monetization strategy and uncertain free cash flow profile
Relatively low capital commitment	✓ $2 billion capital commitment	X $7 billion capital commitment
Accretive to franchise valuation	✓ Low discount rate / high multiple	X High discount rate / low multiple

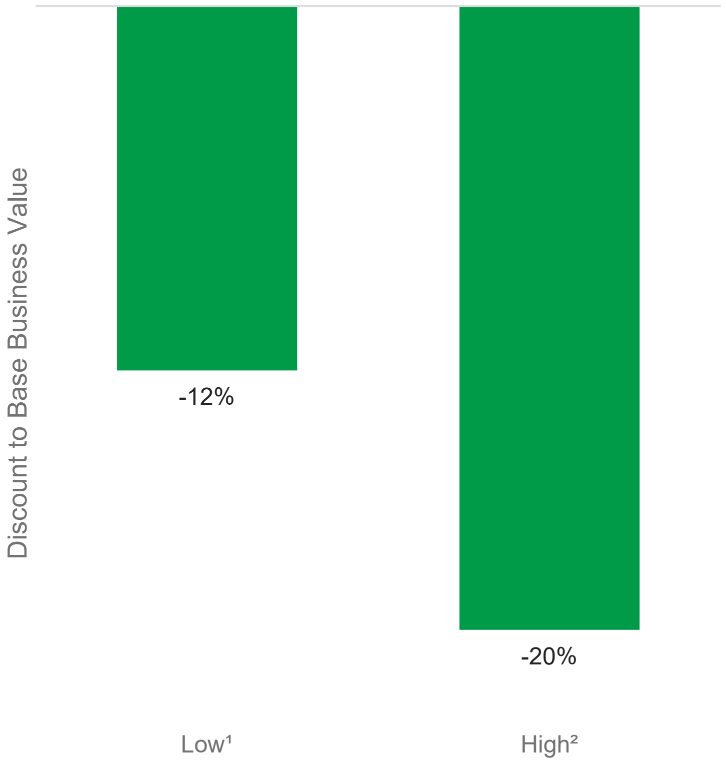
Note(s):
- Source: Bloomberg, Company filings, Peer analysis, the D. E. Shaw group proprietary analysis

Air Products' Market Valuation Implies Significant Value Destruction From Large Projects…

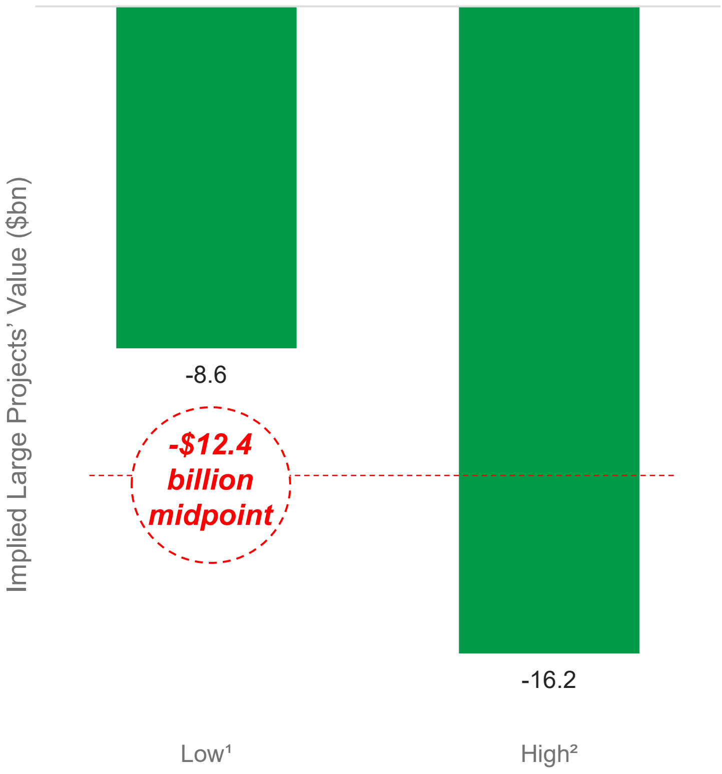
Assuming Air Products' core industrial gas business is valued in-line with Linde and Air Liquide…



… suggests the stock is trading at a meaningful discount to base business value…



… implying substantial negative value being ascribed to large projects[3]



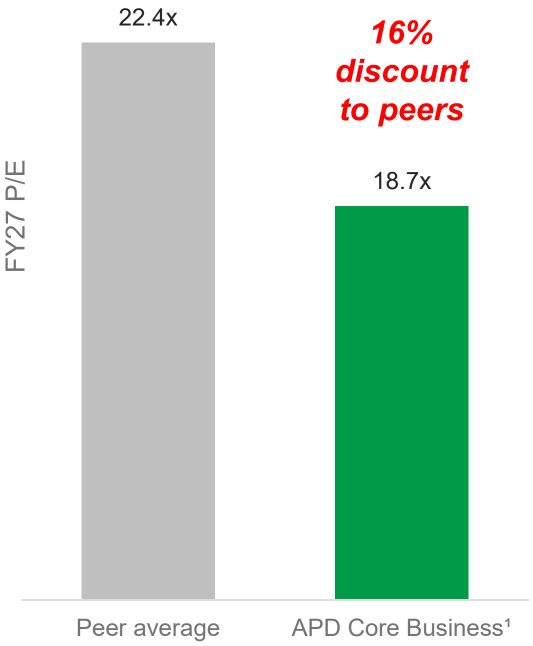
Note(s):

- Source: Company filings, Bloomberg, Sell-side estimates, the D. E. Shaw group proprietary estimates
- Market data as of 09/20/2024

1. Low case assumes APD's core industrial gas business trades at a 5% discount to FY27E consensus peer average multiple with large clean hydrogen projects contributing ~$1.00/sh to FY27 earnings
2. High case assumes APD's core industrial gas business trades at a 5% premium to FY27E consensus peer average multiple with large clean hydrogen projects contributing ~$1.00/sh to FY27 earnings
3. Base business excludes clean hydrogen projects at NEOM, Louisiana, Alberta, Rotterdam, and New York

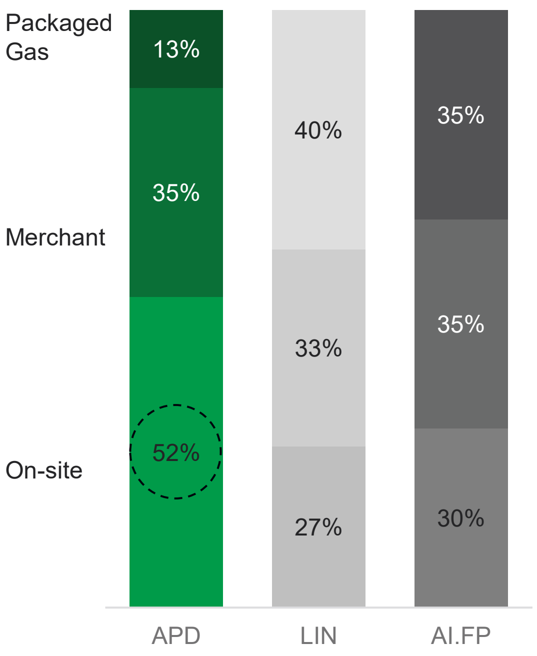
… Or A Material Relative Valuation Discount Despite Superior Economic Characteristics Within Core Business…

Assuming large projects are being valued at zero suggests industrial gas core is trading at 16% discount to peers…



… despite Air Products having superior on-site exposure relative to peers…

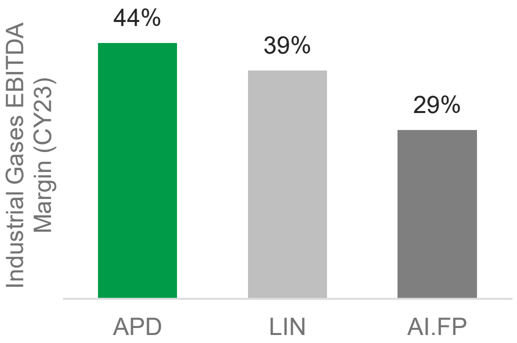
Industrial Gases Business Mix (2023)

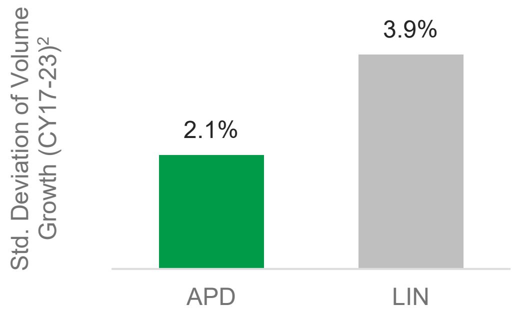


… which offers advantages over other modes of distribution…

- **Longer term contracts:** On-site revenues are mostly generated under 10-20 year contracts versus 3-5 year contracts for Merchant and 1-3 year contracts for packaged gases
- **Lower risk:** Long-term on-site contracts are generally supported by key provisions such as minimum purchase guarantees **("take-or-pay")** and pass-through of energy costs that transfers risk to customers
- **Less volatility:** On-site contracts limit sensitivity in sales and earnings to short-term pricing fluctuations in the spot market and refining customer operating rates

… as evidenced by higher margins than peers and lower volume volatility



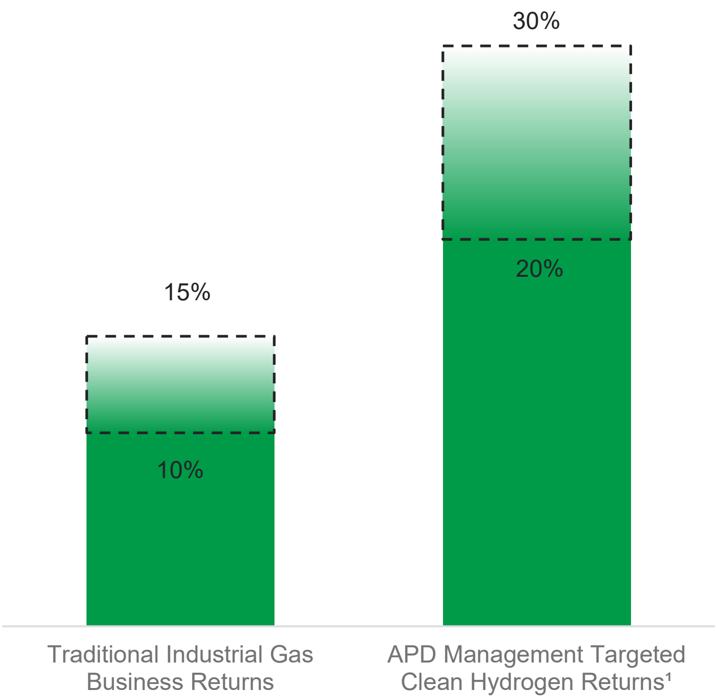


Note(s):
- Source: Company filings, Bloomberg, Sell-side estimates, the D. E. Shaw group proprietary estimates
- Market data as of 09/20/2024
- Peers include industrial gas companies Air Liquide and Linde

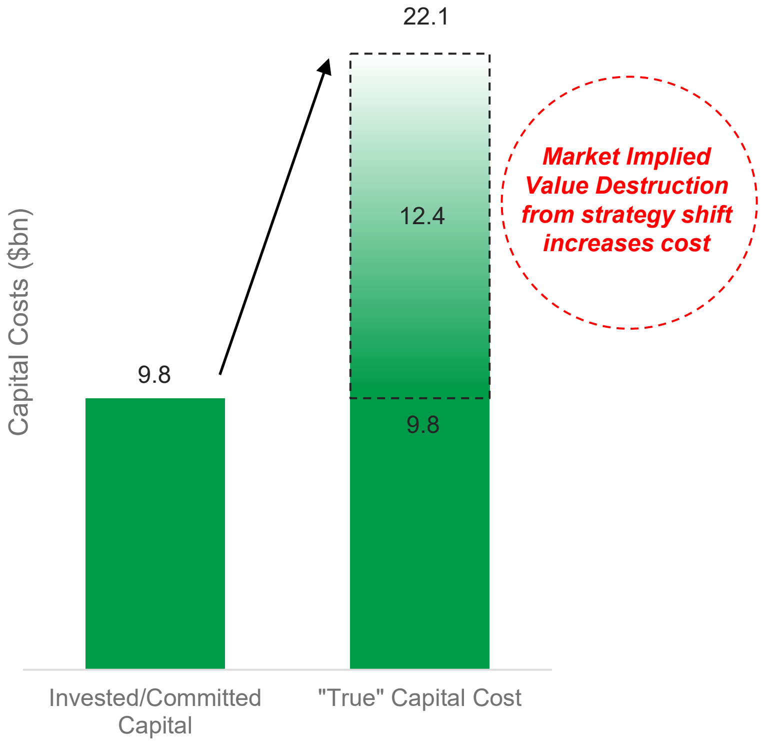
1. Base business excludes clean hydrogen projects at NEOM, Louisiana, Alberta, Rotterdam, and New York. Assumes clean hydrogen projects contribute ~$1.00/sh to FY27 earnings.
2. Volume growth only available for Air Products and Linde as Air Liquide does not publicly disclose volume growth

… Highlighting That Air Products’ Decision to Move Further Out On the Risk Curve Is Not Generating Higher Returns

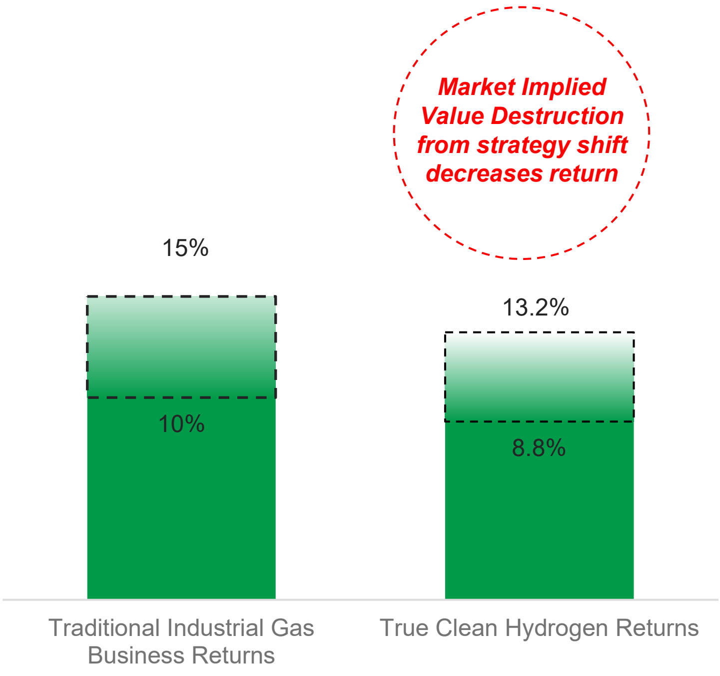
Air Products appears to be targeting higher returns and taking on more risk for clean hydrogen projects…



… resulting in base business value destruction and driving “true” capital costs to exceed actual capital invested…



… bringing realized returns to Air Products shareholders in line with or below core business results



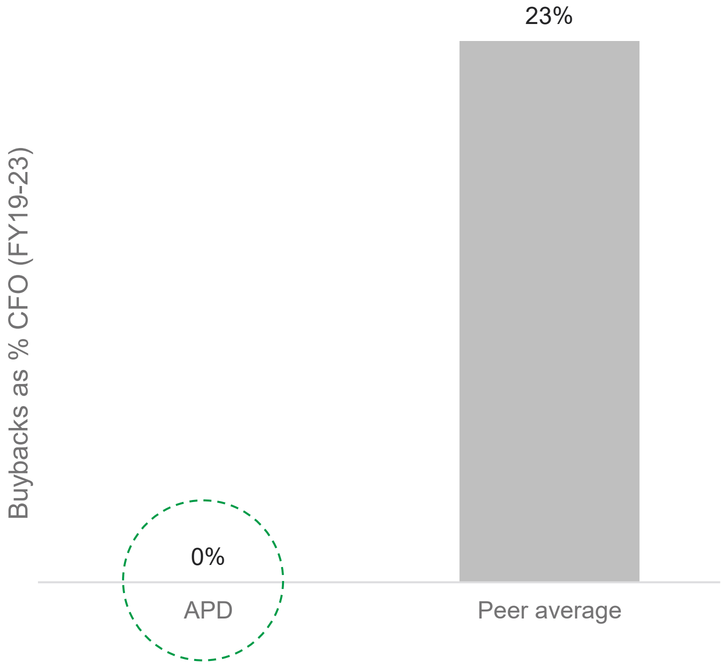
Note(s):

- Source: Bloomberg, Sell side estimates, Company filings, the D. E. Shaw group proprietary estimates
- Market data as of 09/20/2024
- Assuming Air Products’ core industrial gas business is valued in-line with peers suggests substantial negative value being ascribed to Louisiana and NEOM projects

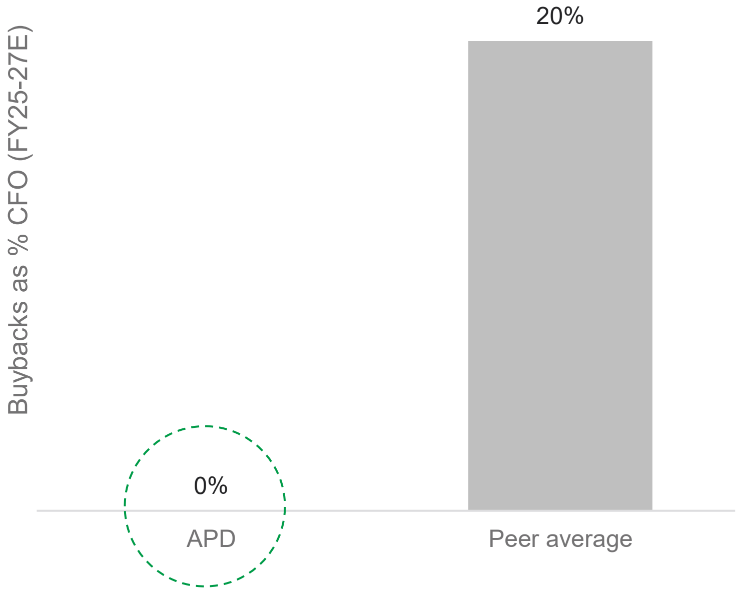
1. Returns in-line with €9-12/kg pricing for green hydrogen sold from NEOM. Management indicated that it is targeting green hydrogen price at ~2x of blue hydrogen and blue hydrogen ~2x grey hydrogen

Excess Capital Spend Has Left Less Room For Air Products to Repurchase Undervalued Shares…

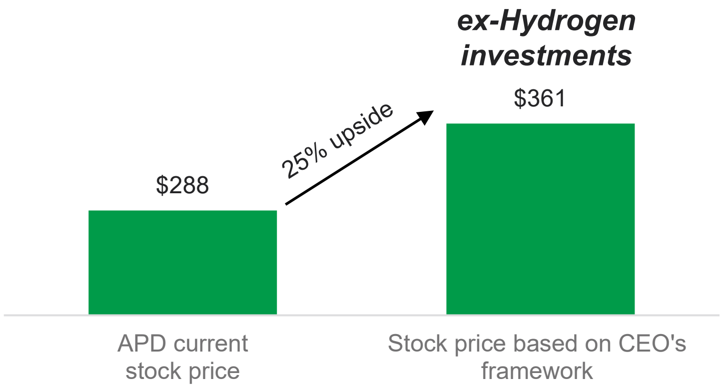
Air Products has not purchased a single share in the last five years unlike peers'[1] consistent allocation to buybacks…



… and this disparity in capital return is expected[2] to continue…



… despite the CEO's own investment framework[3] suggesting the stock is substantially undervalued



FY24 guidance mid point:	**$12.35**
Current peer average PE:	***29.2x***

"**We should be trading at around 28x, like to other people** because our base industrial gas business, no matter what we do with the hydrogen, they still have our base industrial gas business. That is worth 28x, 29x, 27x."

- ***Air Products CEO at Barclays Conference, Feb 2024***

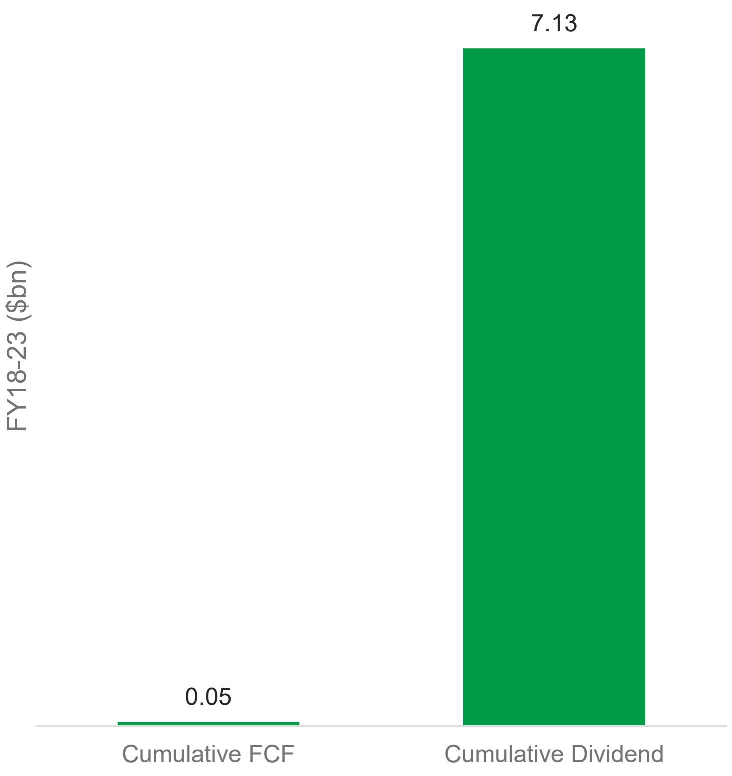
Note(s):

- Source: Company filings, Bloomberg, Conference call transcripts
- Market data as of 09/20/2024
- Peer data has been calendarized to Air Products' Fiscal Year ending 9/30

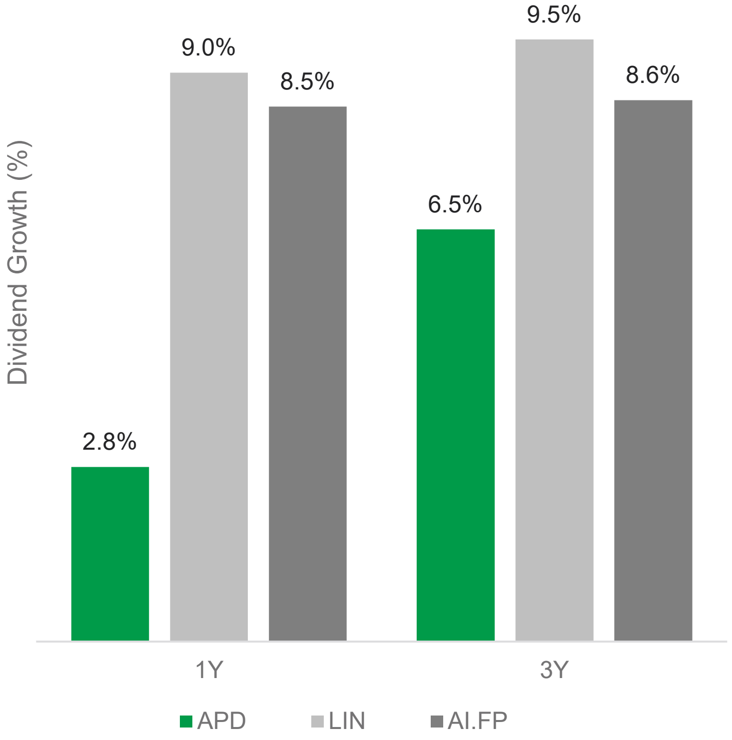
1. Peers include industrial gas companies Air Liquide and Linde
2. Buyback projections based on consensus estimates
3. CEO framework based on comments made in February 2024 at Barclays Industrial Conference. Assumes base business trades in line with peers, mid-point of earnings guidance, and zero value assigned to hydrogen projects.

… And Rendered Air Products' Dividend Less Attractive

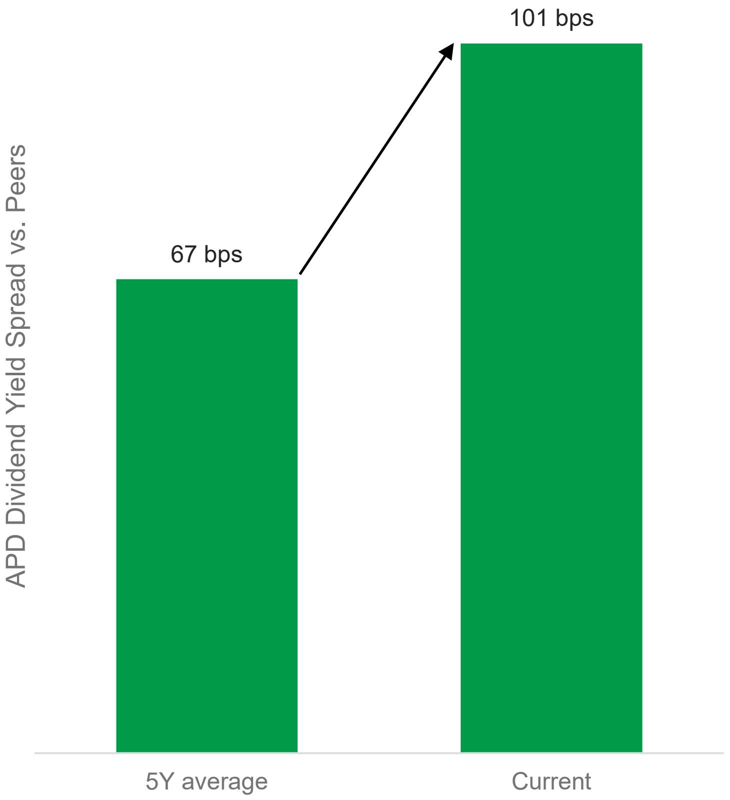
Air Products is unable to cover its dividend with internally generated free cash flow…



… contributing lower dividend growth relative to peers…



… and a substantially higher dividend yield versus peers and history



Note(s):

- Source: Company filings, Bloomberg
- Market data as of 09/20/2024
- Peers include industrial gas companies Air Liquide and Linde
- 1Y and 3Y periods calculated from the date of latest dividend

Management Has Recently Acknowledged Investor Concerns…

Air Products recently said it would refrain from announcing more large projects until they secure offtakes for existing projects…

“I think **we announced many, many projects and the investors got very concerned**… certainly the **impression was with the investors that we are building plants without having a clue about where to sell it…** We **want to fully demonstrate that there is demand before we make any FID -- announce any major projects.**”

- *Air Products CEO, Q3 2024 Earnings Call*

… and the recently announced offtake agreement with TotalEnergies is a step in the right direction…

AIR PRODUCTS

Decarbonization of European Refineries: A first agreement signed between TotalEnergies and Air Products for the delivery of Green Hydrogen

- TotalEnergies and Air Products have signed a **15-year agreement for the annual supply in Europe of 70,000 tons of green hydrogen starting in 2030**
- **Air Products will deliver at TotalEnergies’ Northern European refineries’ doorstep, green hydrogen** from Air Products’ global supply network
- This first long-term deal follows TotalEnergies’ call for **tenders for the supply of 500,000 tons per year of green hydrogen to decarbonize TotalEnergies’ European refineries**

- *Air Products press release, 7 June 2024*

… with seemingly attractive green hydrogen prices in the € 7-8 / kg range, which is economically viable for European refiners

“If a refinery is using green hydrogen and replacing this grey hydrogen… I have a double credit, so the crediting system **allows me potentially to pay probably € 7-8 / kg**”

- *TotalEnergies CEO at WEF Event, April 2024*

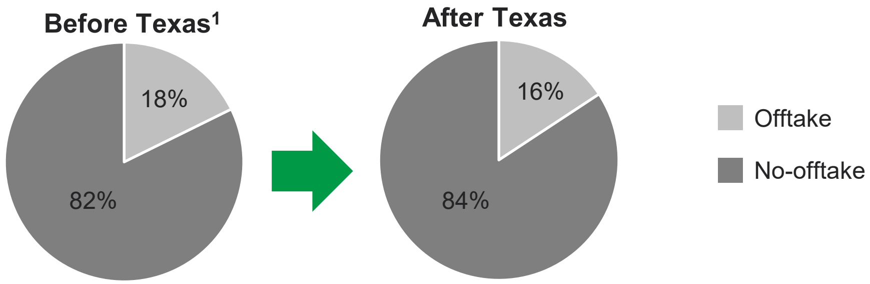
Note(s):
- Source: Company filings, Conference call transcripts, World Economic Forum

… But Seemingly Still Plans to Push Forward With Large Projects Like Texas Green Hydrogen Without Signed Offtakes…

Final Investment Decision on Texas green hydrogen project will further amplify investor concerns…

	Type	Details
AIR PRODUCTS / aes	Green Hydrogen 210tpd	• **$4bn investment** • Jointly owned by APD and AES • APD to be the **exclusive offtaker and marketer of green hydrogen under a 30-year take or pay contract** • Subject to receipt of local/state/federal incentives

… as it is yet another multi-billion dollar project Air Products plans to sanction without offtakes once IRA clarity is gained…



"… **we can demonstrate to you that [Northen Texas project] is fully sold out in a few years because…** when you look at the demand in California for green hydrogen… you can **easily come up with the demand to fill that project up**… main reason that we are holding on that project is because we want to understand the [IRA] definition of green"

- Air Products CEO, Q3 2024 Earnings Call

… causing further deviation from traditional industrial gas business model

	Traditional business model	Texas green hydrogen
Established end market	✓	X
Long-term contracted revenue signed pre-construction	✓	X
Transparent, dependable double digit return profile	✓	X
Immediately cash generative	✓	X
Relatively low capital commitment	✓	X

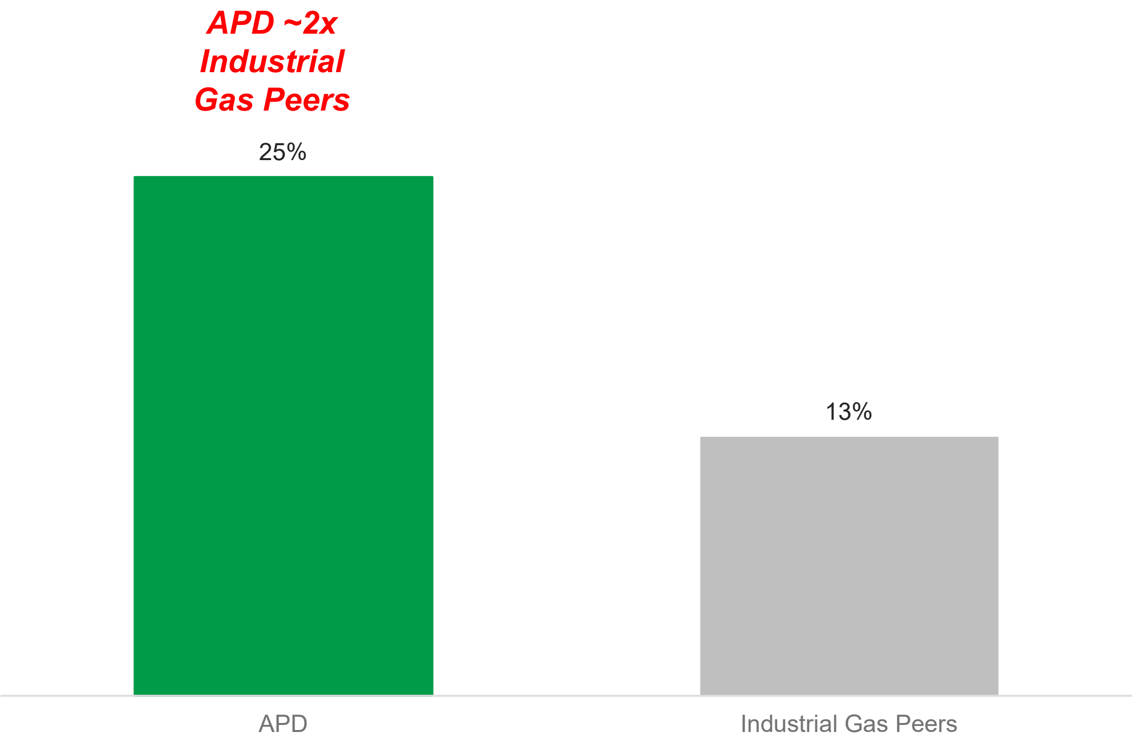
Note(s):
- Source: Company filings, Sell side research, the D. E. Shaw group proprietary analysis

1. Assumes TotalEnergies agreement serviced entirely by NEOM. Before Texas contracted portion includes Alberta (65%), Rotterdam (100%) and NEOM (35%) based on management commentary and sell-side reports

… Creating Persistent Concern That Management Will Continue Imprudent Spending At Elevated Levels

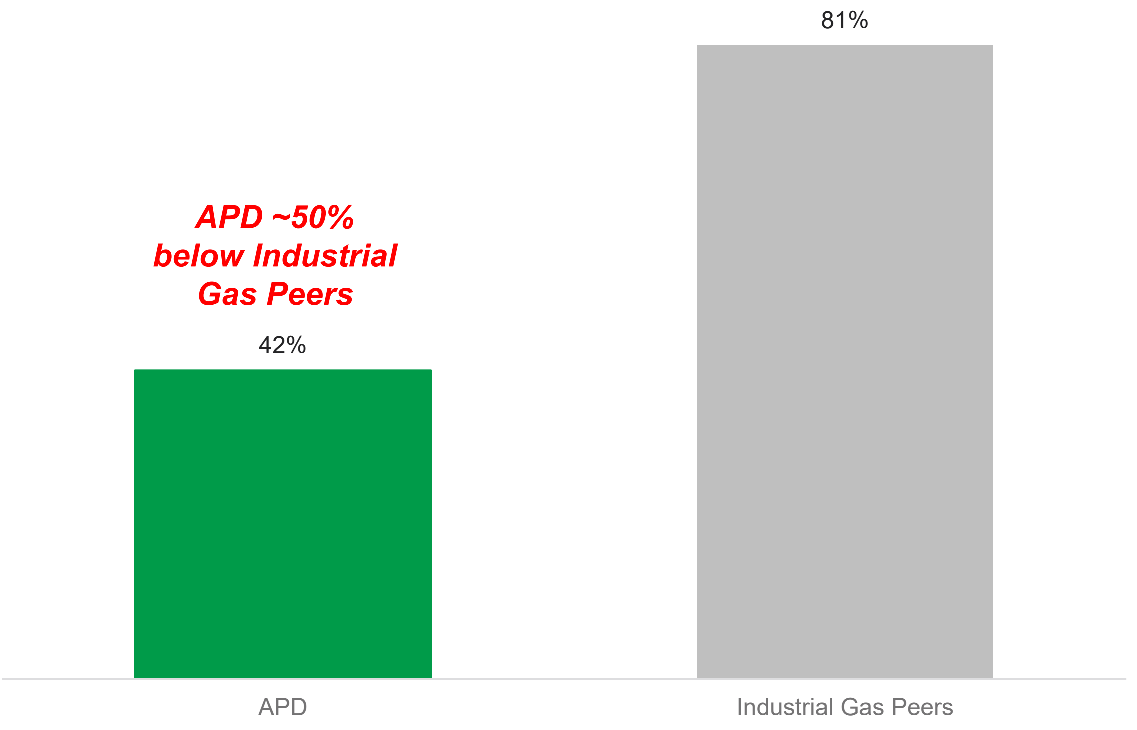
Air Products is expected to spend at nearly double the rate of peers well into the future…

FY 27 CAPEX % of Sales



… driving materially lower free cash flow expectations due to lower conversion

FY 27 FCF Conversion[1] (%)



Note(s):

- Source: Bloomberg, Visible Alpha, Company filings, Sell side research
- Peers include industrial gas companies Air Liquide and Linde

1. FCF conversion calculated as (Operating Cash Flow – Capex) / Adjusted Net Income

INVESTORS ARE CONCERNED WITH AIR PRODUCTS' GOVERNANCE PRACTICES

Air Products' Board Recently Approved an Evergreen Contract Extension For Its CEO…

Air Products' Board of Directors gave CEO a 5-year contract extension in 2020…

Gas Supply Industries Applications MyAirProducts

05/21/2020 | LEHIGH VALLEY, PA

Air Products Again Extends Seifi Ghasemi's Term as Chairman, President and Chief Executive Officer

"In November 2017, Air Products entered into an amended and restated employment agreement with Ghasemi through September 30, 2022. **This new amendment agreement extends Ghasemi's term through September 30, 2025**."

- *APD press release, May 21, 2020*

… and renewed it again on an evergreen basis in 2023…

Gas Supply Industries Applications MyAirProducts

05/18/2023 | LEHIGH VALLEY, PA

Air Products' Board of Directors Again Extends Seifi Ghasemi's Term as Chairman, President and Chief Executive Officer

"… entered into a new amended **agreement that will initially extend Ghasemi's employment term to September 30, 2028**.

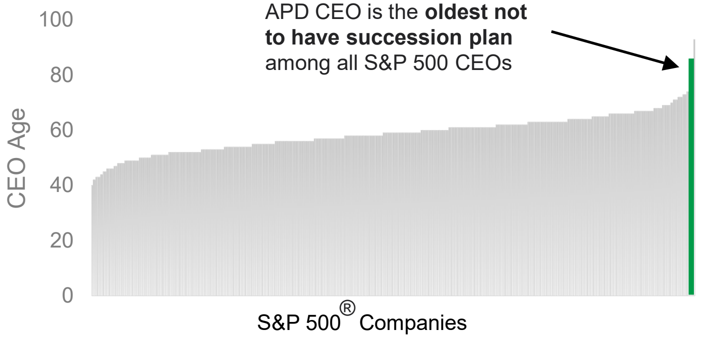
On September 30, 2024, and each year thereafter, the **contract term will automatically renew to be a five-year term…**"

- *APD press release, May 18, 2023*

*****Perpetual term*****

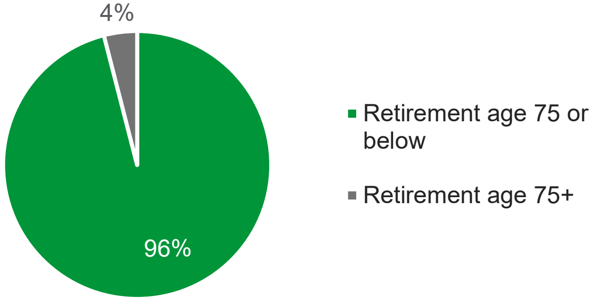
"More recently, APD has underperformed LIN by 3,000 bps since the board gave Seifi Ghasemi a contract extension in May that will allow Ghasemi to keep working until at least 2028." *- Gordon Haskett, February 2024*

… contributing to Air Products having the oldest CEO without a successor in place



… despite most boards having 75+[1] retirement policy, including Air Products until recently[2]

Retirement age breakdown for boards with retirement ages



Note(s):
- Source: Bloomberg, Company filings, Third party research

1. U.S. Spencer Stuart Board Index 2024. Approximately two-thirds of boards have a mandatory retirement policy.
2. Air Products 2022 proxy statement highlights mandatory retirement age of 75 years old

… And Search For Successor is Complicated by Limited Visibility Into Duration of CEO's Tenure…

Air Products' CEO communicated an intention to hire an external potential successor…

"**With good governance in mind, I have decided to bring into the company a fully qualified potential successor as President and a member of our Board of Directors**. This person should be well known to investors with a **clear record of success, preferably a current or former CEO of a public company with significant international experience and relationships**. I have started this process, and we will take our time to find the right person for the job."

- Air Products CEO, Q3 2024 Earnings Call

… but also seemed to indicate that he did not plan on leaving the Company anytime soon…

"…as I have articulated that many times, **I fully intend to continue leading Air Products, ensuring that our growth strategy is fully implemented, our mega projects are built**, and we are serving our customers with low carbon and zero carbon hydrogen."

- Air Products CEO, Q3 2024 Earnings Call

… which has been confirmed by recent Investor Relations commentary…

"… the person that comes in… will have to **play a supporting role to Seifi for a couple of years because he, again, articulated that he's not going any place**…"

- Air Products Investor Relations, Jefferies Industrial Conference, September 2024

… and may present challenges to finding highly qualified executives willing to take the role

"…**we'd assume most all quality candidates** who fit the above description **would not want to bide time in the President role indefinitely…**"

- Barclays, August 2024

Note(s):
- Source: Conference call transcripts, Sell-side research

… Which Could Last Another Decade

"As it pertains to the new management board, we've got a terrific group… **that will help Seifi guide the company over the next decade**."

- Air Products Investor Relations, Jefferies Industrial Conference, September 2024

Note(s):
• Source: Conference call transcripts, Sell-side research

Air Products' Independent Board Members Do Not Appear to Be Managing the Succession Process

Air Products' largest shareholders agree that CEO succession is one of the most critical responsibilities of any well-functioning board…

Vanguard
9.5% ownership

"One of the **most important responsibilities of a board is to select and appoint a company's CEO**. When we identify that a board has not appropriately carried out its responsibilities… regarding CEO succession planning… **the funds may not support the election of relevant directors to express governance and oversight concerns"**

- *Vanguard Investment Stewardship Voting Insights, June 2023*

BlackRock
7.5% ownership

"Companies should **have a robust CEO and senior management succession plan in place at the board level** that is reviewed and updated on a regular basis… **Where there is significant concern regarding the board's succession planning efforts, we may vote against members of the responsible committee…"**

- Blackrock Proxy Voting Guidelines for U.S. securities, 2024

STATE STREET
4.5% ownership

"In order to carry out their primary responsibilities, directors undertake activities that include…**selecting the CEO and other senior executives… creating a succession plan for the board and management**"
– State Street Global Proxy Voting and Engagement Policy, March 2024

J.P.Morgan
~3% ownership

"The responsibilities of the [Nominating] Committee should include… **maintaining formal and transparent arrangements for succession planning at the… senior management level**."

- *JP Morgan Asset Management, Corporate Governance Principles and Proxy Voting Guidelines, February 2021*

… but the Air Products Board seems to have ceded control over this important process to the CEO himself

"**I have decided** to bring into the company a fully qualified potential successor… as President and a member of our Board of Directors. This person should be well known to investors with a clear record of success, preferably a current or former CEO of a public company with significant international experience and relationships. **I have started this process**, and we will take our time to find the right person for the job."

- Air Products CEO, Q3 2024 Earnings Call

"… and with the demands that investors have, several folks on that [management] board don't have a lot of external exposure, which is why **Seifi said I'm looking to bring someone externally**"

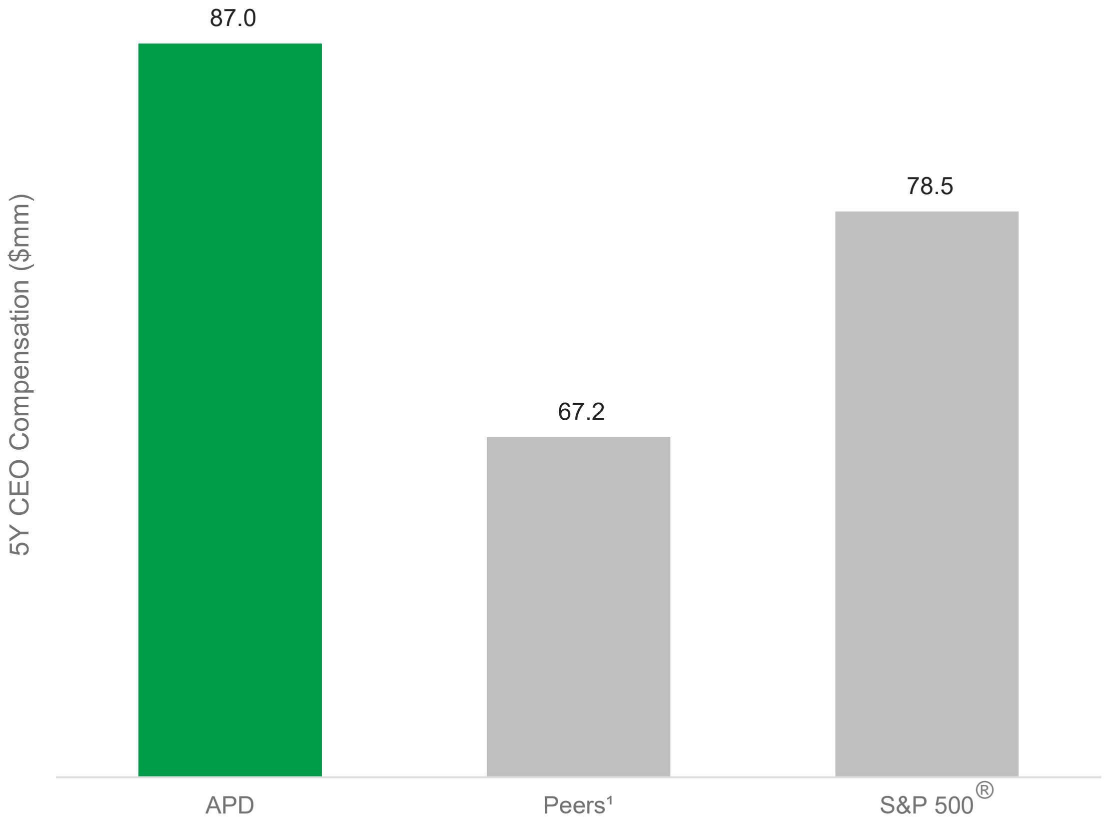
- Air Products Investor Relations, Jefferies Industrial Conference, September 2024

Note(s):
- Source: Bloomberg, Buy-side proxy voting policies, Conference call transcripts

Air Products Has Seen a Decoupling Between Executive Compensation And Total Shareholder Returns…

One dollar invested in Air Products five years ago has generated lower shareholder value than one invested in both peers and S&P 500® …

… yet Air Products' CEO has been paid materially more than peers and more than S&P 500® average



Note(s):
- Source: Bloomberg, Company proxy filings
- Market data as of 09/20/2024

1. Peers include industrial gas companies Air Liquide and Linde

… Driven by an Executive Compensation Program That Creates a Low Bar For Outsized CEO Pay Outcomes…

Air Products' long-term incentive plan rewards median performance with outsized (75th percentile[1]) pay outcomes because of his past performance, effectively paying Mr. Ghasemi twice for prior periods of outperformance[2]

"It is the **Committee's intent that the long-term incentive value and total direct compensation opportunity for Mr. Ghasemi be at the 75th percentile of the Peer Reference Group** to reflect Mr. Ghasemi's superior performance throughout his tenure[2] with Air Products."

– *Air Products 2024 Proxy Filing*

Note(s):

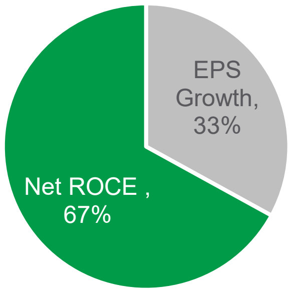
- Source: Company 2024 proxy filing

1. Air Products is the only company amongst its proxy peer group that targets above median compensation for its CEO
2. Air Products total shareholder return during CEO's tenure (208%) has actually lagged industrial gas peers, Linde (331%) and Air Liquide (217%), as well as proxy peers (243%). Proxy Peers include AECOM, Baker Hughes Co, Celanese Corp, Dover Corp, DuPont de Nemours Inc, Eastman Chemical Co, Ecolab Inc, EMCOR Group Inc, Fluor Corp, Fortive Corp, Illinois Tool Works Inc, Ingersoll Rand Inc, Linde PLC, MasTec Inc, Parker-Hannifin Corp, PPG Industries Inc, Quanta Services Inc & TechnipFMC PLC

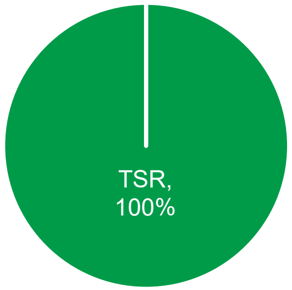
… And Ignores a Critical Metric in Capital Intensive Industries…

Return on Capital is completely absent from Air Products' LTIP despite historically considering it a critical performance measure…

Air Products' 2014 LTIP Metrics

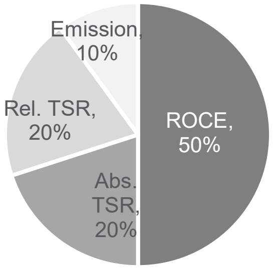


Air Products' Current LTIP Metrics

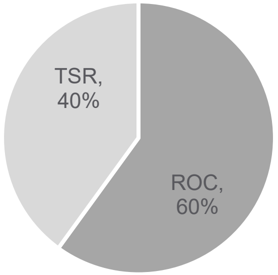


… while peers' evaluation frameworks prioritize Return on Capital as a measure of performance…

Air Liquide's LTIP Metrics



Linde's LTIP Metrics



	Includes ROC/ROCE?	ROC/ROCE Weightage
Air Products	✗	0%
Air Liquide	✓	50%
Linde	✓	60%

… and highlight the importance of Return on Capital in a capital-intensive industry

"The ROCE, which makes it possible to measure the Return on Capital Employed, **is relevant in a highly capital-intensive industry**."

– Air Liquide 2023 Universal Registration Document

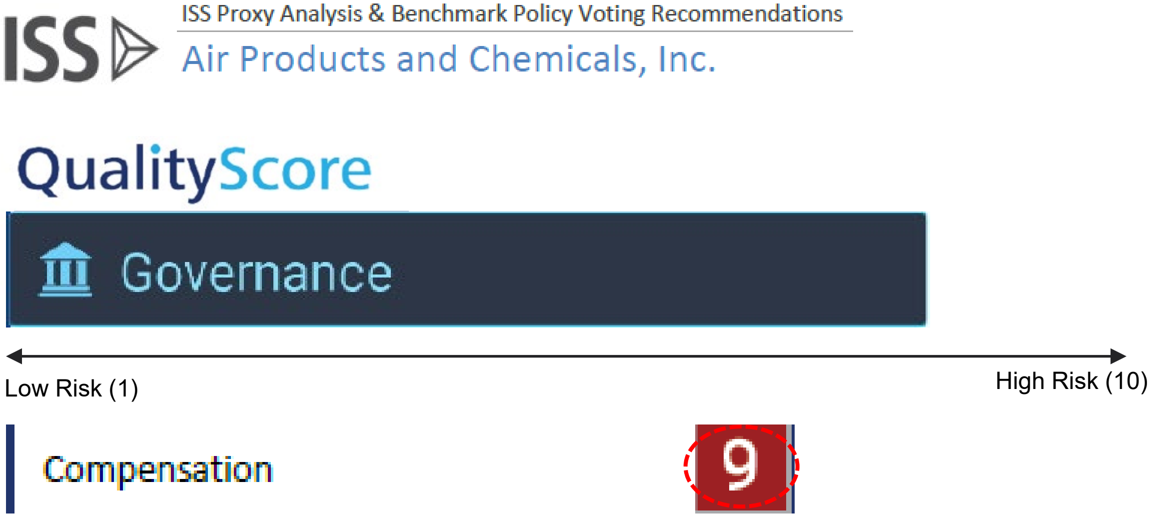
"The HC Committee determined that using a Return on Capital (ROC) performance goal is appropriate as it encourages and rewards the executive team for focusing decisions **and taking actions that drive long term ROC performance**"

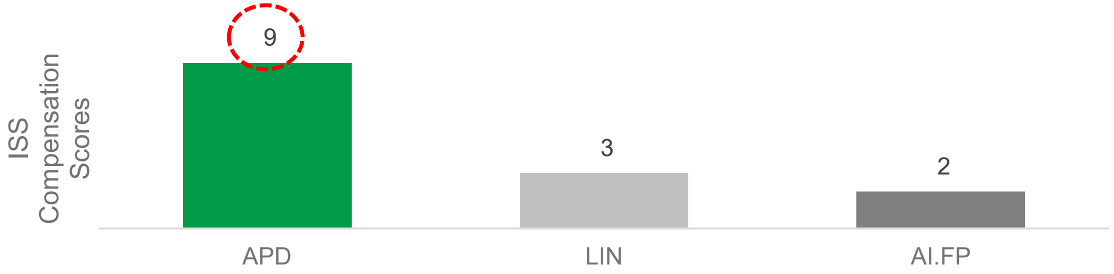
– Linde 2024 Proxy Filing

Note(s):
- Source: Company proxy filings

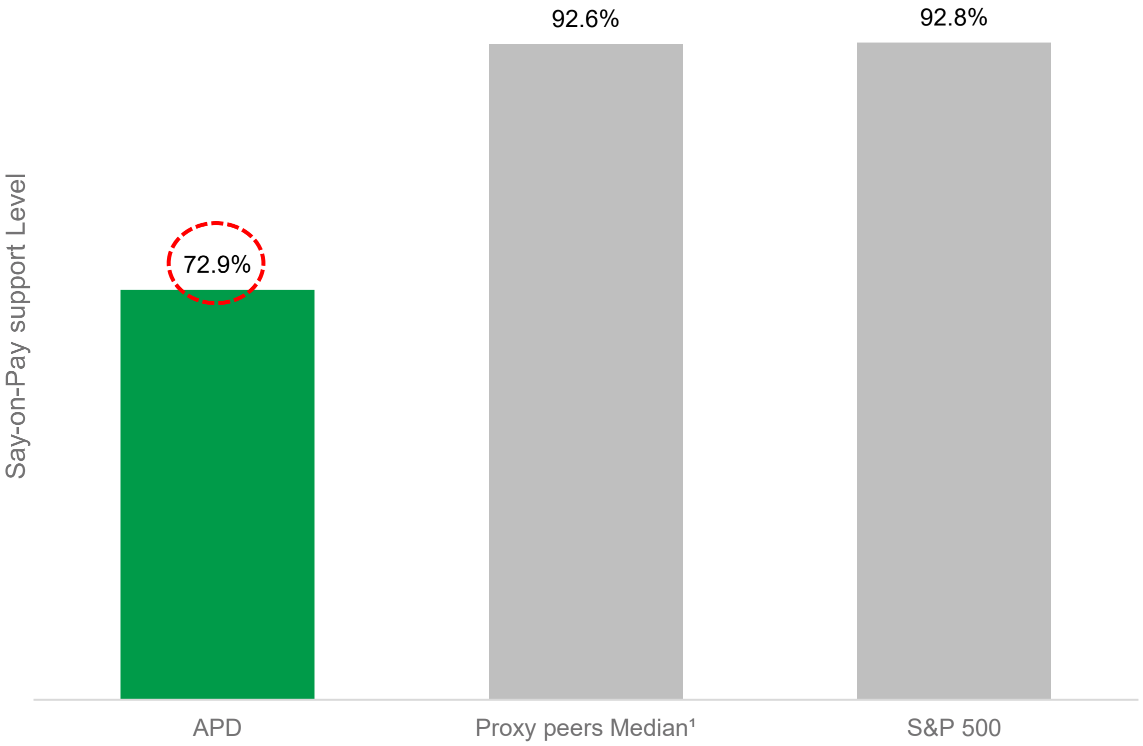
… Driving Limited Shareholder Support For Executive Compensation Practices at The Company

ISS placed Air Products squarely in the high-risk category as it pertains to Compensation structure





Air Products' Say-on-Pay support level at the 2024 advisory vote was meaningfully below that of proxy peers and broader market



Note(s):
- Source: Bloomberg, Institutional Shareholder Services Governance Report as of December 2023, Company proxy materials

1. Proxy Peers include AECOM, Baker Hughes Co, Celanese Corp, Dover Corp, DuPont de Nemours Inc, Eastman Chemical Co, Ecolab Inc, EMCOR Group Inc, Fluor Corp, Fortive Corp, Illinois Tool Works Inc, Ingersoll Rand Inc, Linde PLC, MasTec Inc, Parker-Hannifin Corp, PPG Industries Inc, Quanta Services Inc & TechnipFMC PLC

THE D. E. SHAW GROUP’S PLAN TO DELIVER VALUE TO ALL SHAREHOLDERS

The D. E. Shaw Group's Plan Could Unlock Substantial Value

1 **Revise capital allocation framework**

a) De-risk existing large project investments
   - ✓ Sign off-take agreements at economics in-line with or better than industrial gas returns

b) Pursue prudent future capital deployment
   - ✓ Limit annual capex to $2.0-$2.5 billion beyond 2026 (capex not to exceed mid-teens as a percentage of revenue)
   - ✓ Tie further capital spending on hydrogen projects, including Texas green hydrogen, to offtake milestones

c) Use excess cash flow to repurchase discounted shares
   - ✓ Immediately repurchase shares up to 3.0x target net leverage ratio in FY25
   - ✓ Future excess free cash allocated towards additional repurchases

2 **Improve corporate governance**

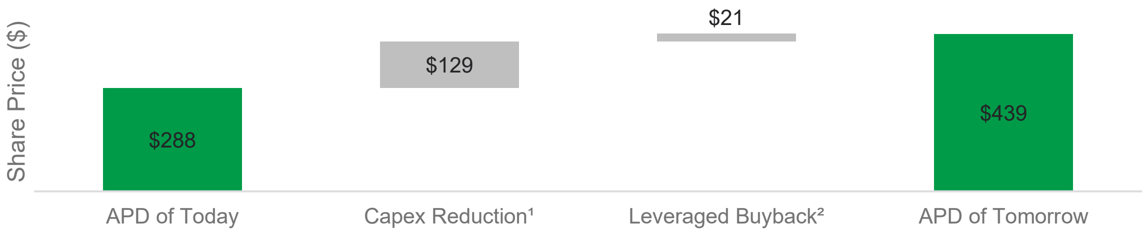
a) Establish succession plan with formal transition timeline

b) Add D. E. Shaw group's proposed directors to the Board

c) Restructure compensation to improve alignment with strategy and performance

Revised capital allocation framework can increase normalized free cash flow to $3.3 billion…

… creating the potential to increase equity value per share by over 50% at peer free cash flow yields



FY27 Capex % of Sales:	25%	14%
FY27 FCF Conversion[3]:	42%	83%
FY27 FCF Yield:	2.4%	3.6%
FY27 EV / EBITDA:	11.8x	15.6x
FY27 P/E:	17.6x	22.9x

Note(s):
- Source: Company filings, Bloomberg, Visible Alpha, the D. E. Shaw group proprietary estimates
- Market data as of 09/20/2024

1. Assumes Air Products targets normalized capex at mid-teens (14%) as a percentage of revenue facilitated by a mix of project debt financing (65-70% LTV) and equity partnership to reduce APD's equity capital commitment to clean hydrogen projects (Louisiana, New York, NEOM downstream) in FY 2027 and future years. APD target FY 2027 FCF yield in-line with industrial gas peer average of 3.6%.
2. Target FY25 net leverage (net debt / Adj. EBITDA) of 3.0x declines to 2.5x in FY27. Incremental cash flow from reduced capital commitment to support additional buybacks.
3. FCF conversion calculated as (Operating Cash Flow – Capex) / Adjusted Net Income

Air Products Should Sign Offtake Agreements Consistent With Industrial Gas Return Levels For NEOM…

Air Products took a step in the right direction by signing an offtake agreement with TotalEnergies…

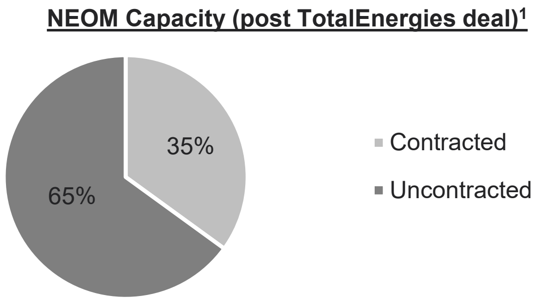
AIR PRODUCTS

Decarbonization of European Refineries: A first agreement signed between TotalEnergies and Air Products for the delivery of Green Hydrogen

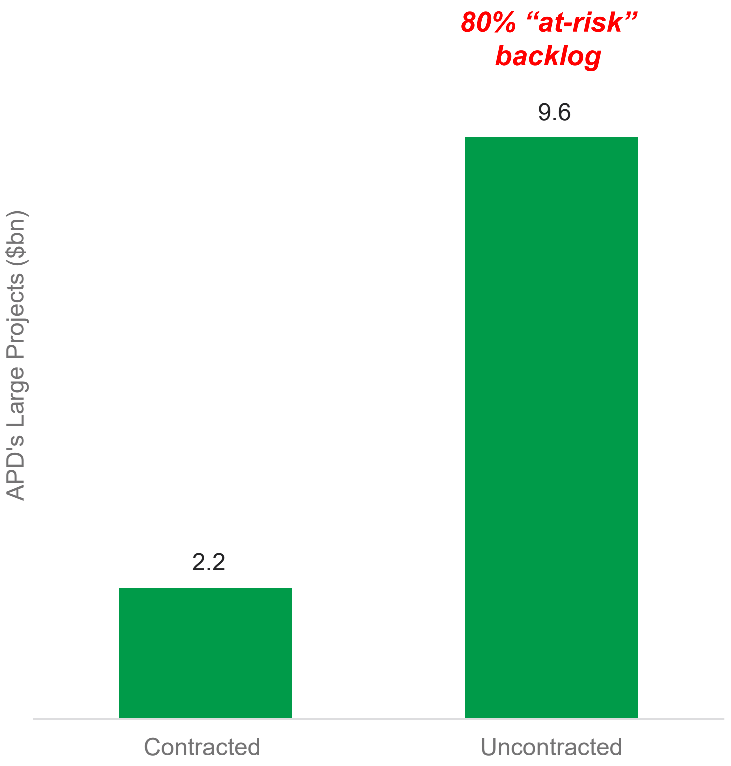
15-year agreement for **annual supply in Europe of 70,000 tons of green hydrogen starting in 2030** from Air Products' global supply network

– *Air Products Press Release, June 2024*

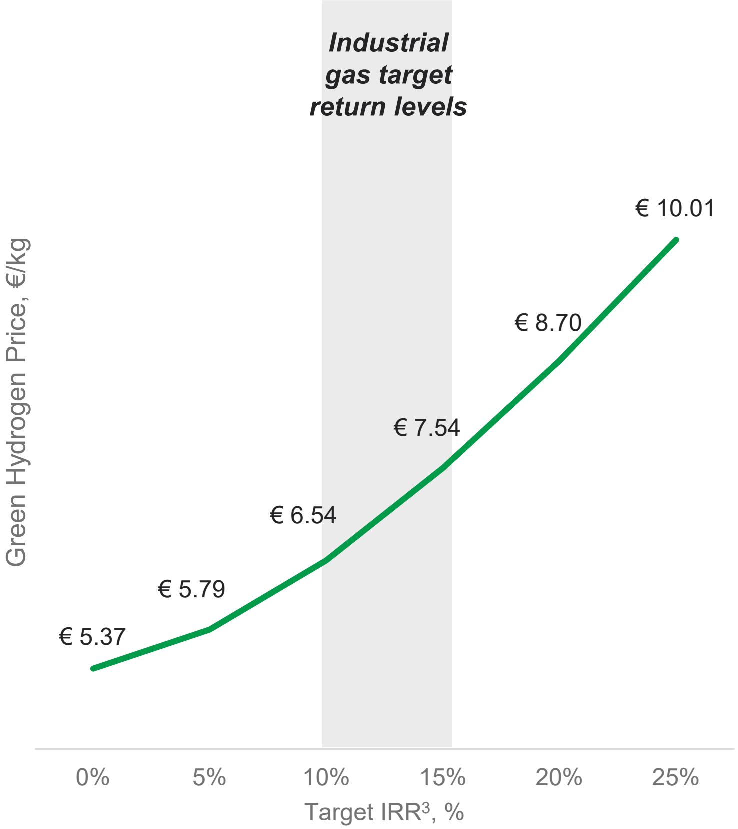
… but roughly two-thirds of NEOM capacity remains uncontracted…



… contributing to nearly $10 billion of its clean hydrogen project spend[2] remaining "at risk"…



… despite Air Products' ability to lock in double digit returns at NEOM today by signing offtake agreements at € 6.5 - 7.5 / kg



Note(s):

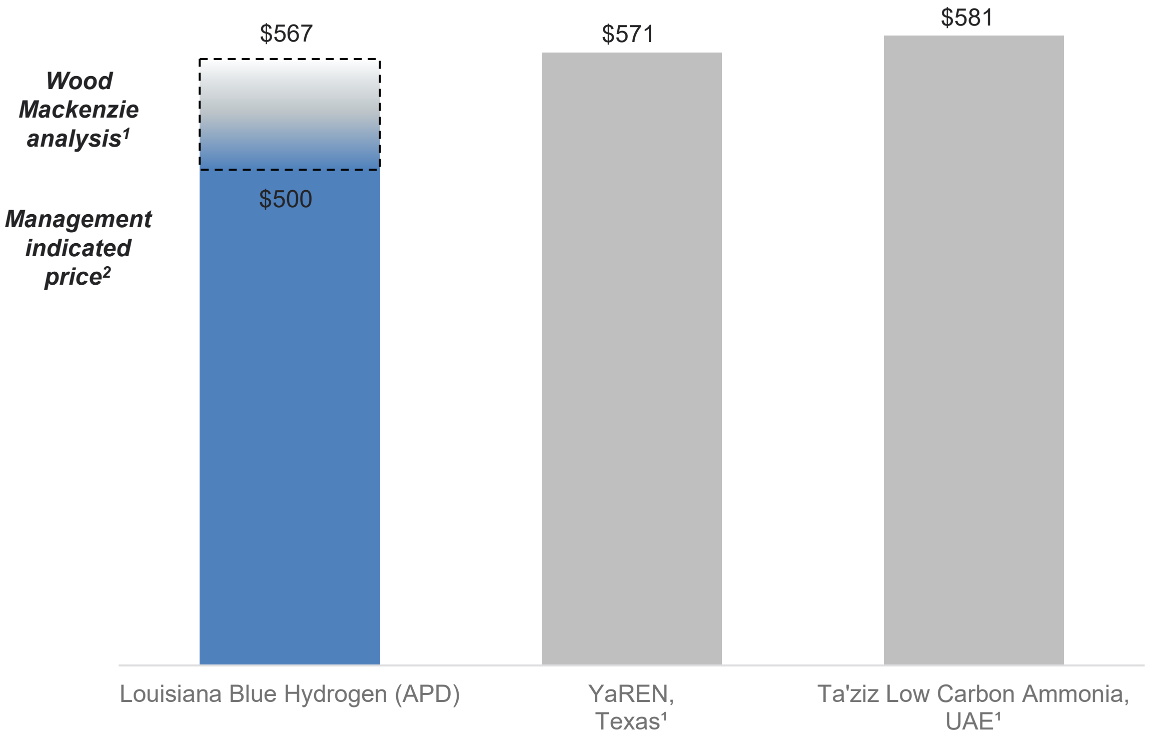
- Source: Company filings, the D. E. Shaw group proprietary estimates, Wood Mackenzie proprietary analysis

1. Assumes TotalEnergies contract is serviced entirely by NEOM. NEOM capacity estimated at ~200ktpa of hydrogen implying 70ktpa TotalEnergies deal is ~35% of capacity
2. Clean hydrogen projects include projects at NEOM, Louisiana, Alberta, Rotterdam, and New York of which contracted portion includes Alberta (65%), Rotterdam (100%) and NEOM (35%) based on management commentary and sell-side reports
3. NEOM post-tax IRR assumes APD ammonia offtake price $650/ton, ammonia shipping cost $45/ton, ammonia cracking cost $150/ton, hydrogen distribution cost $400/ton, ammonia cracking losses 10% (in-line with management guidance), shipping losses 1%, distribution losses 1%, and tax rate 20%. NEOM Upstream economics assume PV capacity factor 38%, wind capacity factor 33%, Ez load factor 59%, ammonia load factor 60%, tax rate of 20%, and project debt interest rate 3-5%.

… And the Louisiana Blue Hydrogen Clean Energy Complex…

Air Products' Louisiana blue hydrogen complex is cost advantaged relative to other large-scale projects…

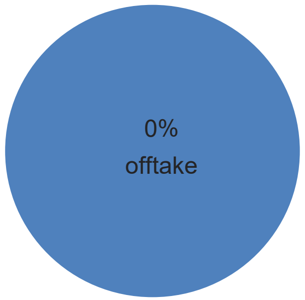
<u>Ammonia Price Required for 10% IRR[1]</u>



… yet YaREN and Ta'ziz have each signed up <u>both offtake agreements and equity partners</u>. Air Products has neither

High-Risk

<u>Air Products' Louisiana project</u>



Equity partners

<u>None</u>

Revenue visibility	Low
Return profile	Speculative
Capital intensity	High

Low Risk

<u>YaREN project</u>

Equity partners:

- Enbridge (50%)
- Yara (50%)

<u>Ta'ziz project</u>

Equity partners:

- ADNOC
- ADQ
- Mitsui
- GS Energy
- Fertiglobe

Revenue visibility	High
Return profile	Dependable
Capital intensity	Low

Note(s):

- Source: Company filings, the D. E. Shaw group proprietary estimates, Wood Mackenzie proprietary analysis

1. Wood Mackenzie proprietary estimate of levelized cost of ammonia at 10% IRR hurdle (unlevered, post-tax return). Includes cost of capital, cost of hydrogen production and ammonia synthesis. Excludes shipping costs (FOB).
2. Management commentary September 2023

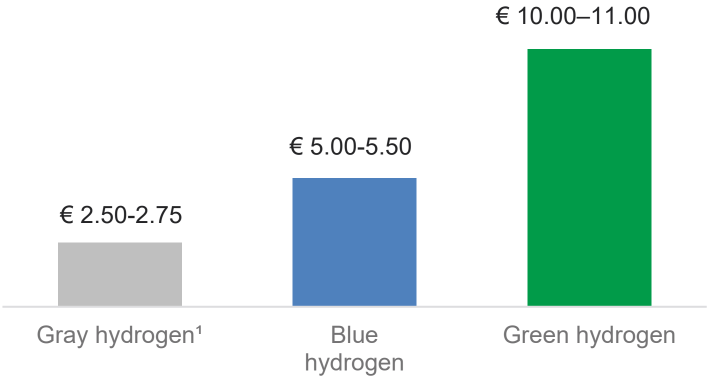
… Yet Management Appears to Be Betting On Uneconomic Customer Behavior

Management has suggested a target of over €10/kg for green hydrogen delivered to Europe…

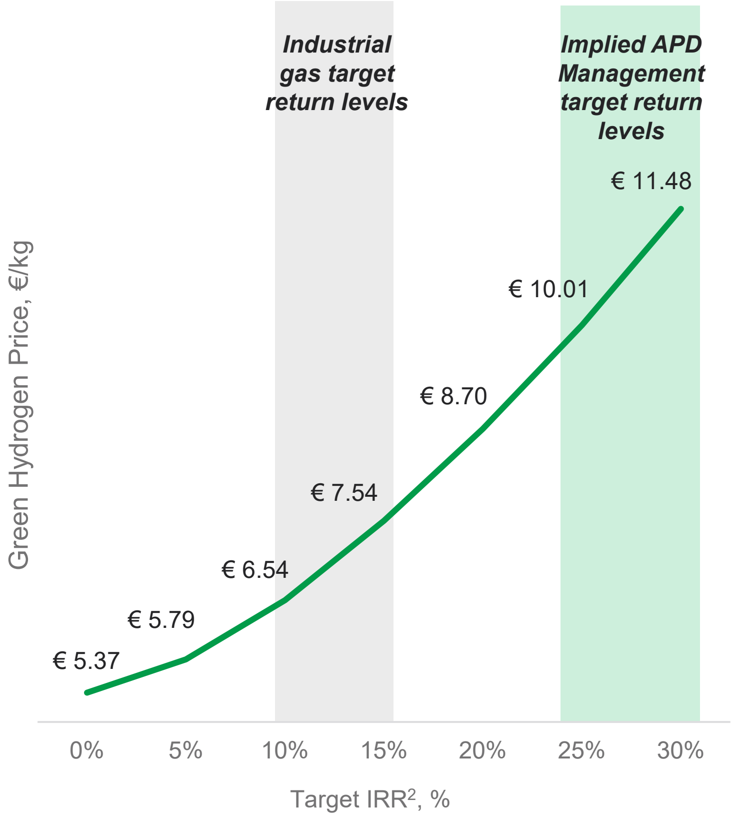
"…if the gray price is something, the blue price is at least twice that, and the green price is twice that. So it's double for blue and then double blue for green… So I think you all have a pretty good idea of the kind of pricing that we are looking for…"

– Air Products CEO, Q3 2024 Earnings Call

Management Target Hydrogen Selling Price (€/kg)

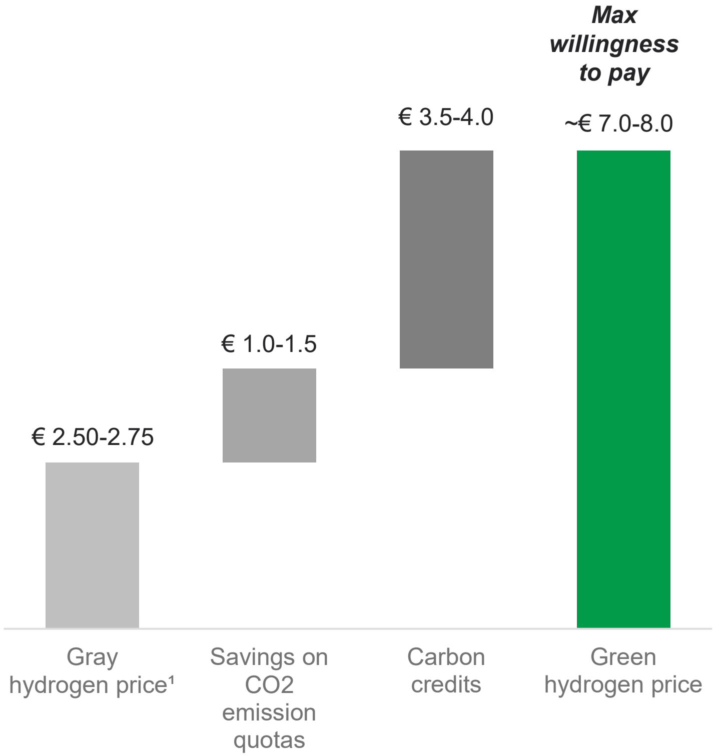


… aspiring for returns in excess of 25%...



… despite limited evidence of customers' willingness to pay more than €8/kg

Illustrative European Refinery Hydrogen Economics (€/kg)



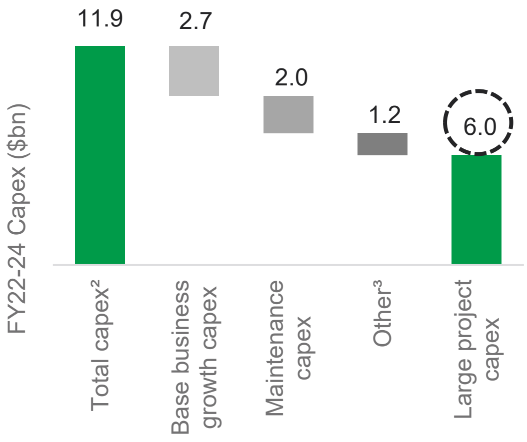
Note(s):

- Source: Company filings, Conference call transcripts, Wood Mackenzie proprietary analysis, direct commentary from European refiners, the D. E. Shaw group proprietary estimates

1. Wood Mackenzie proprietary estimate
2. NEOM post-tax IRR assumes APD ammonia offtake price $650/ton, ammonia shipping cost $45/ton, ammonia cracking cost $150/ton, hydrogen distribution cost $400/ton, ammonia cracking losses 10% (in-line with management guidance), shipping losses 1%, distribution losses 1%, and tax rate 20%. NEOM Upstream economics assume PV capacity factor 38%, wind capacity factor 33%, Ez load factor 59%, ammonia load factor 60%, tax rate of 20%, and project debt interest rate 3-5%.

Offtake Agreements Create Potential For Large Project Capex Reduction Through Project Finance…

Air Products will have spent roughly 40% of its large project backlog[1] by the end of this year…



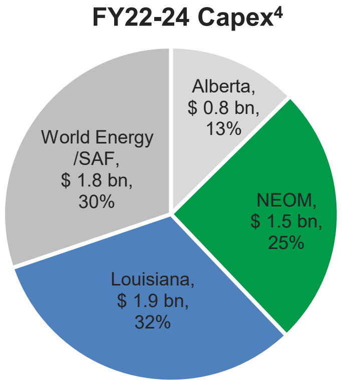
"…$1 billion a year that we spend on our day-to-day investments... And our maintenance Capex is around $500 million, $600 million. So $1.5 billion and then the rest of it is for the big projects."

- Air Products CEO, 1Q24 Earnings Call

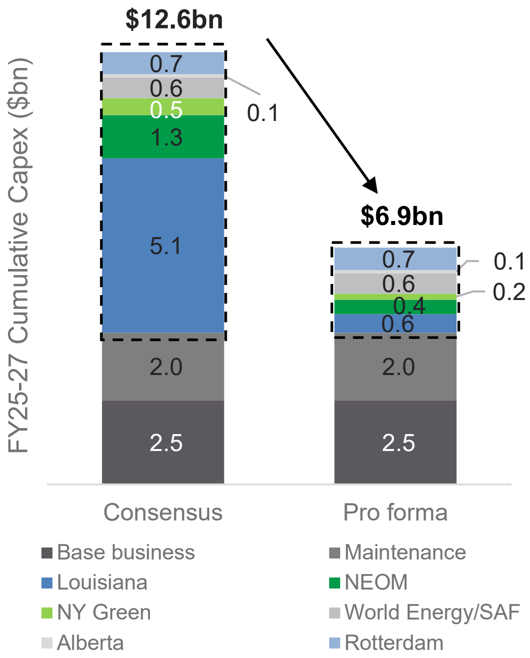
… allocated primarily toward NEOM and Louisiana

On FY24 capex: "The $5 billion to $5.5 billion is **mainly going to be spent on… NEOM in Saudi Arabia… a substantial amount of it will go to our blue hydrogen facility…"**

- Air Products CEO, 1Q24 Earnings Call



Remaining large project capex[4] contributions can be reduced through project debt financing[5]…



… which management has indicated some willingness to pursue for Louisiana

"… we will seriously consider like we did with NEOM **to lever the project and finance the project**.

So you might end up that out of the $7 billion our actual cash outlay for the project might be $2 billion, $2.5 billion, $3 billion, not $7 billion."

- Air Products CEO, Q4 2023 earnings call

Note(s):

- Source: Company filings, Visible Alpha, Air Products earnings and conference call transcripts, the D. E. Shaw group proprietary estimates

1. Large project backlog includes clean hydrogen projects (NEOM, Louisiana, Alberta, Rotterdam, New York) as well SAF project in California with World Energy. Air Products' energy transition backlog total of ~$15bn as of 3Q FY2024
2. Total capex excludes $2.6 billion investment in Jazan and $0.7 billion in Uzbekistan syngas processing facility from FY22-24
3. "Other" capex includes carbon monoxide and green hydrogen projects in Texas as well as Taiwan semiconductor project
4. Large project backlog capex breakdown estimated using management commentary as well as reported figures for World Energy/SAF and NEOM upstream JV
5. Assumes project debt for Louisiana and New York, NEOM downstream at 65%-70% LTV upon signing offtakes for majority of capacity

… Which Would Substantially De-Risk Existing Capital Investments

NEOM, Louisiana and New York can begin to look more like industrial gas projects with offtakes signed

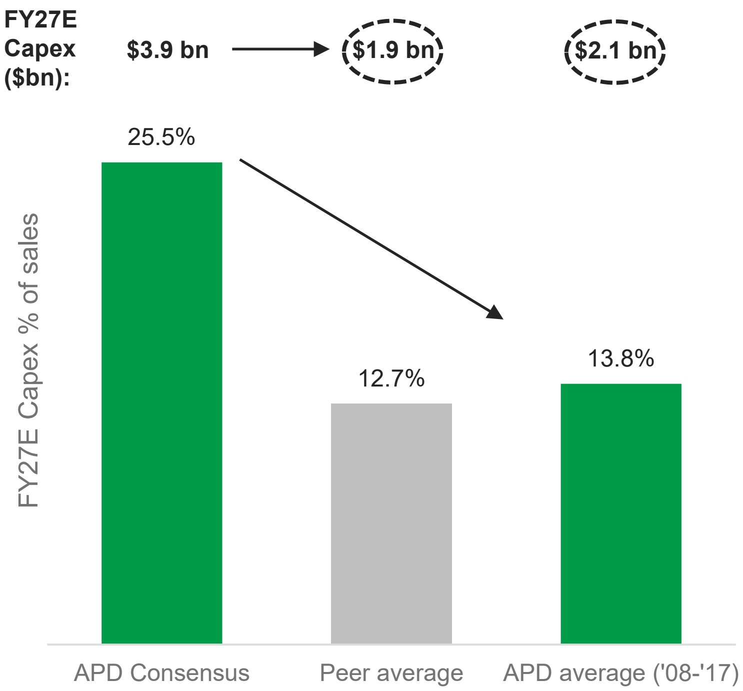
	Large Projects Current Structuring		***Large Projects De-risked Structuring***	
Revenue visibility	Partially contracted revenue stream	X →	Fully contracted revenue stream	✓
Return profile	Speculative return profile	X →	Dependable double-digit returns	✓
Capital intensity	High capital commitment (~$10 billion)	X →	Relatively low capital commitment[1] (~$4-5 billion)	✓
Perceived risk	High discount rate / low multiple	X →	Low discount rate / high multiple	✓

Note(s):
- Source: Company filings, Sell-side estimates, Bloomberg, the D. E. Shaw group proprietary estimates

1. Assumes project debt and equity financing available for Louisiana, New York and NEOM downstream upon signing offtakes for majority of capacity

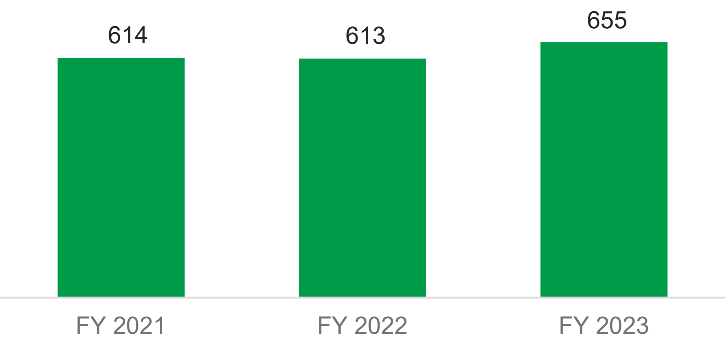
Air Products Should Target Spend Levels In Line With Industrial Gas Peers And Its Own History…

Relevant benchmarks suggest Air Products can dramatically reduce capital spending…

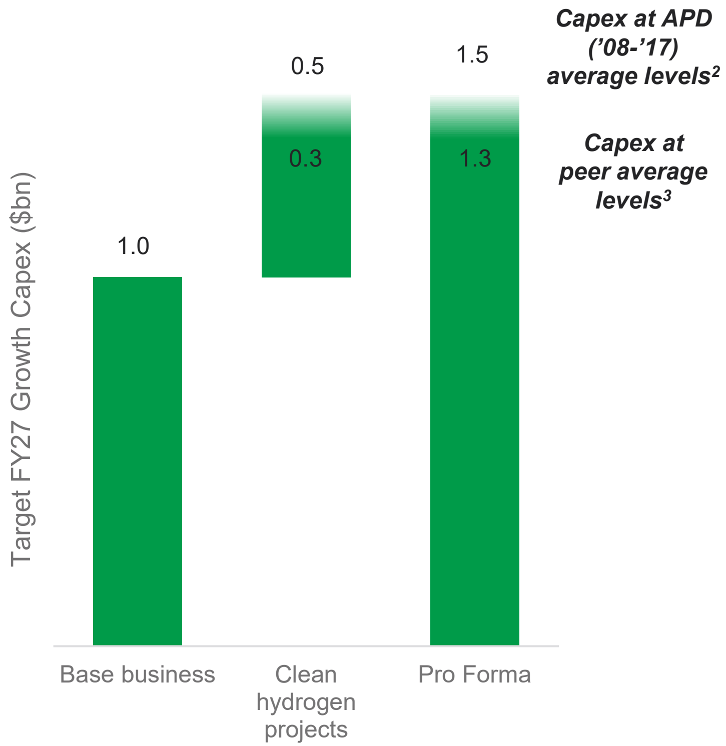


… which would allow Air Products to comfortably cover recent levels of maintenance Capex…

Average maintenance Capex[1]: $627mm



… and still spend on base business growth investments while continuing to spend on clean hydrogen



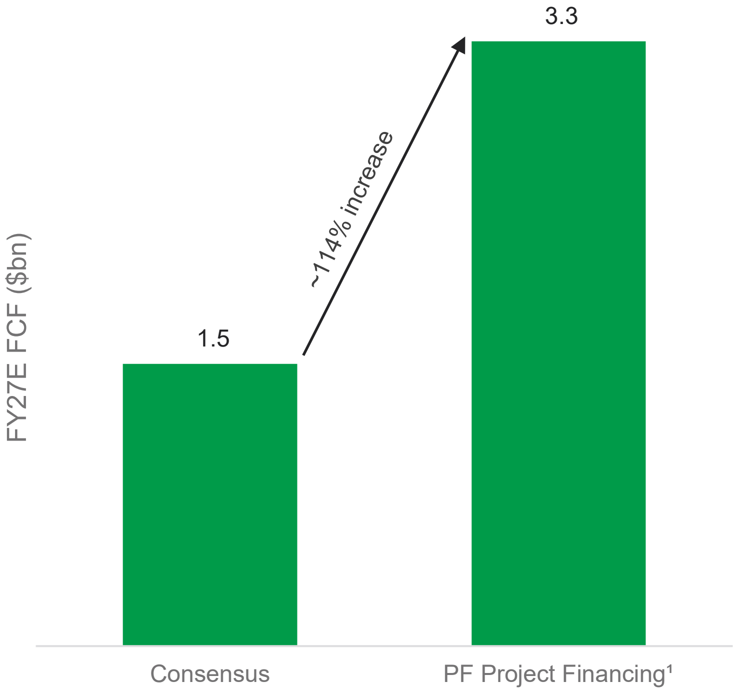
Note(s):

- Source: Bloomberg, S&P® Capital IQ, Visible Alpha, Company filings, the D. E. Shaw group proprietary estimates
- Peers include industrial gas companies Air Liquide and Linde, whose data has been calendarized to Air Products' Fiscal Year ending 9/30
- Capex figures exclude acquisitions

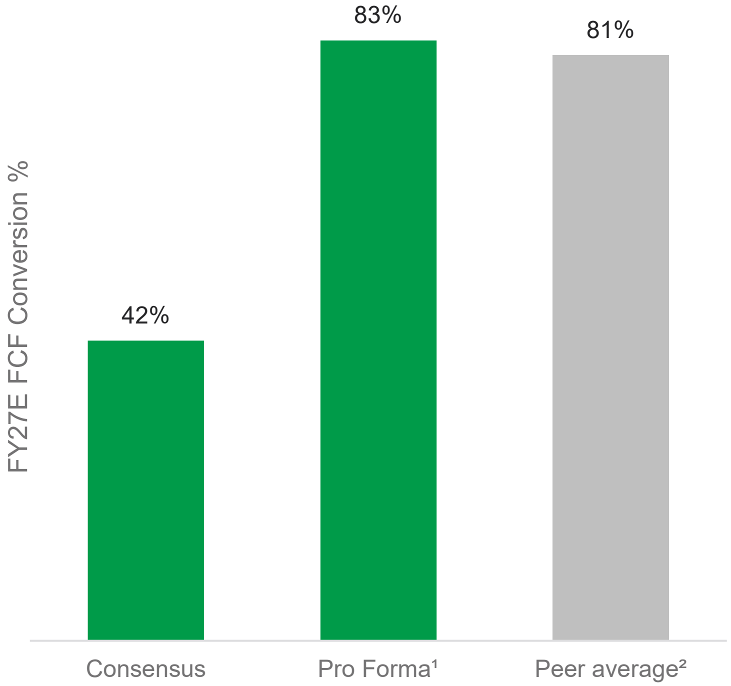
1. Maintenance capex adjusted for expenses of ~$400mm towards new corporate HQ
2. Total Air Products capex estimated taking Air Products' historical capex percentage of sales and subtracting annual maintenance capex of ~$650mm
3. Total Air Products capex estimated taking industrial gas peer historical capex percentage of sales and subtracting annual maintenance capex of ~$650mm

… Which Would Increase Free Cash Flow Generation And Enhance Value For Shareholders

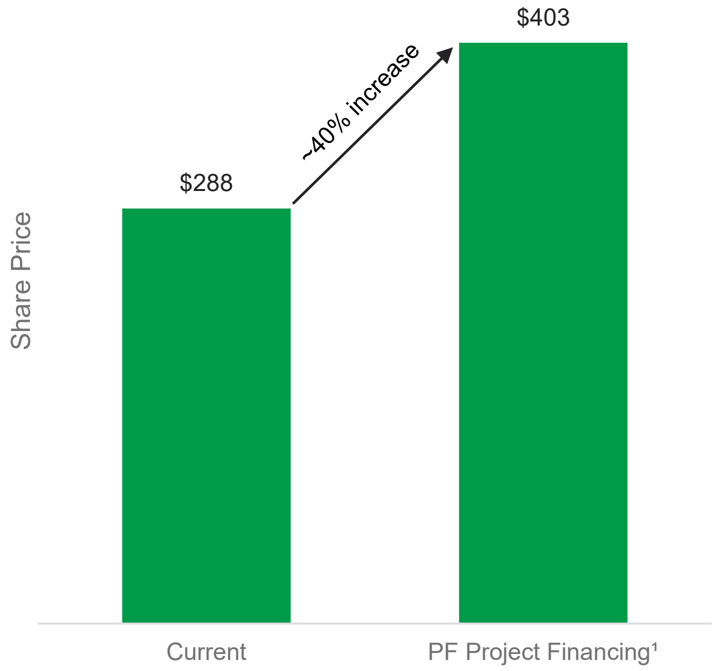
Efforts to rein in capital spending would increase sustainable free cash flow to equity…



… and improve conversion of free cash flow towards industrial gas peer levels…



… creating substantial value for shareholders before any incremental cash flow is deployed to buybacks



	Current	PF Project Financing[1]
FY27 FCF yield[3]:	**2.4%**	**3.6%**
FY27 PE (x):	**17.6x**	**23.0x**

Note(s):
- Source: Company filings, Sell-side estimates, Visible Alpha, Bloomberg, the D. E. Shaw group proprietary estimates
- Market data as of 09/20/2024
- Peer data has been calendarized to Air Products' Fiscal Year ending 9/30

1. Assumes normalized capex at mid-teens (14%) as a percentage of revenue facilitated by project debt financing (65-70% LTV) at Louisiana/New York/NEOM Downstream
2. 2016-2023 average FCF conversion for industrial gas peers Air Liquide and Linde (adjusted for Airgas and Praxair acquisitions, respectively). FCF conversion calculated as (Operating Cash Flow – Capex) / Adjusted Net Income
3. FY27 FCF yield 3.6% in-line with average of industrial gas peers Air Liquide and Linde

SUMMARY OF VALUE CREATION FROM D. E. SHAW GROUP'S RECOMMENDATIONS

Summary of The D. E. Shaw Group's Recommendations

1. Accelerate efforts to de-risk existing large project commitments by signing offtake agreements at reasonable return hurdles

2. Publicly commit to tying future capital investment to offtake agreements, consistent with well-established practice in the industrial gas sector, including large-scale Green Hydrogen facility in Northern Texas

3. Establish and publicly announce a new capital allocation framework whereby Air Products' CapEx levels will not exceed the mid-teens as a percentage of revenue beyond fiscal year 2026

4. Communicate a clear, credible, and transparent CEO succession plan

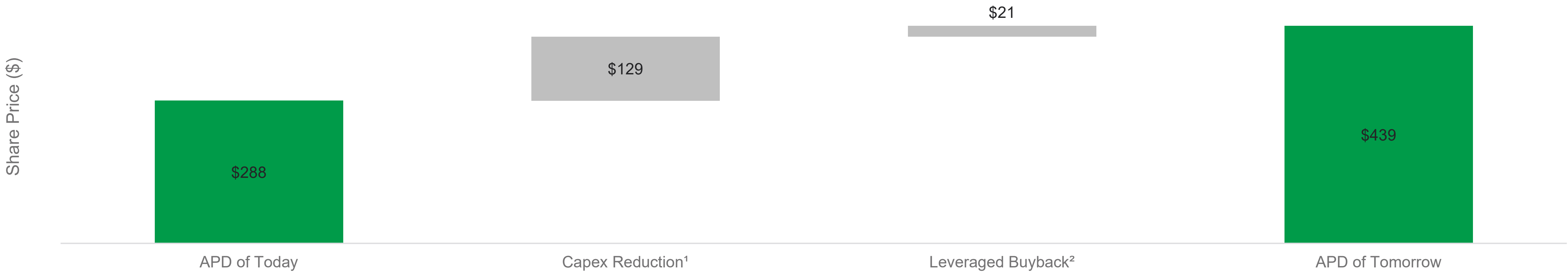
5. Refresh the Board with highly qualified, independent directors with relevant experience leading capital-intensive businesses and managing succession processes

6. Restructure executive compensation to improve alignment with strategy and performance

7. Form one or more ad hoc Board committees to focus on and oversee these critical initiatives on behalf of shareholders

Improving Capital Allocation Can Generate Over $25 Billion of Equity Value For Air Products Shareholders

Combination of the D. E. Shaw group's recommendations could add ~$150 of equity value per share and result in over 50% upside to Air Products' current share price



	APD of Today	APD of Tomorrow
FY27 Capex % of Sales:	25%	14%
FY27 FCF Conversion[3]:	42%	83%
FY27 FCF Yield:	2.4%	3.6%
FY27 EV/EBITDA:	11.8x	15.6x
FY27 P/E:	17.6x	22.9x

Note(s):
- Source: Company filings, Bloomberg, Visible Alpha, the D. E. Shaw group proprietary estimates
- Market data as of 09/20/2024

1. Assumes Air Products targets normalized capex at mid-teens (14%) as a percentage of revenue, facilitated by a mix of project debt financing (65-70% LTV) and equity partnership to reduce APD equity capital commitment to clean hydrogen projects (Louisiana, New York, NEOM downstream) in FY 2027 and future years. APD target FY 2027 FCF yield in-line with industrial gas peer average of 3.6%.
2. Target FY25 net leverage (net debt / Adj. EBITDA) of 3.0x declines to 2.5x in FY27. Incremental cash flow from reduced capital commitment to support additional buybacks.
3. FCF conversion calculated as (Operating Cash Flow – Capex) / Adjusted Net Income

D E Shaw & Co

1166 Avenue of the Americas
Ninth Floor
New York, NY 10036

(212) 478-0000
FAX (212) 478-0100

September 6, 2024

Board of Directors
Air Products and Chemicals, Inc.
1940 Air Products Boulevard
Allentown, PA 18106-5500

Re: Underperformance and Value Enhancing Opportunities at Air Products and Chemicals

Dear Members of the Board:

We are writing to you on behalf of certain investment funds advised by D. E. Shaw & Co., L.P., a member of the D. E. Shaw group. The D. E. Shaw group is a global investment and technology development firm with more than $60 billion in investment capital and a history of working with companies to help build long-term value. Funds advised by D. E. Shaw & Co., L.P. are shareholders of Air Products and Chemicals, Inc. (the "Company" or "APD") and currently hold a significant economic position in the Company.

Air Products is a great company with tremendously valuable assets. Industrial gas companies like Air Products benefit from an enviable business model that provides their owners with highly predictable recurring revenue and cash flow streams, often governed by long-term "take or pay" contracts. Historically, Air Products has been viewed as "best in breed" among its peers, owing to its integrated on-site business model, which results in better-than-average visibility into volumes and enables the Company to generate the highest margins in the industry.

Despite these advantages, Air Products has not kept pace with other industrial gas companies or the broader market on a total shareholder return basis over numerous relevant time periods, including over the last one, three, five and seven years. We believe this persistent underperformance stems primarily from Air Products' high-risk capital allocation strategy. By investing ever-increasing sums of capital in new projects without "locked-in" revenue, Air Products has made a deliberate decision to migrate its business further out on the risk curve, making Air Products' stock less attractive for institutional investors looking for predictable returns. While we applaud the role Air Products is playing in decarbonizing our future through investments in clean hydrogen projects, investors strongly prefer that these efforts carry less risk and more closely align with the Company's core industrial gas business model. Notably, the Company's departure from the predictable returns of its core business has caused investors to discount *not only* the clean hydrogen projects themselves, *but the entire* enterprise, destroying billions of dollars in value in the process.

Furthermore, the significant uncertainty around Air Products' unstructured CEO succession process has contributed to the Company's relative valuation discount. To date, the Board has failed to develop a credible succession plan for the Company's CEO, Seifi Ghasemi, despite significant shareholder appetite for it to do so, and appears to have entrusted Mr. Ghasemi with the sole responsibility of identifying his own replacement[1], contravening basic notions of proper board oversight and good corporate governance.

We appreciate the Company's recent acknowledgment of its challenges. Yet, we remain deeply concerned that the Board has not gone far enough to address them. The Company's continued underperformance and discounted valuation suggest our concerns are broadly shared. In our view, comprehensively addressing these concerns requires that Air Products embrace meaningful change in the immediate future. We are confident that the right set of actions with respect to capital allocation and succession would narrow the Company's valuation gap to its industrial gas peers and create substantial value for shareholders. Our analysis, as summarized below, indicates an opportunity for the Board to create over $25 billion of incremental equity value for Air Products' shareholders, resulting in over 50% upside to Air Products' current stock price, all while still pursuing its decarbonization growth strategy.

[1] During the Company's 2024 fiscal third quarter earnings call, the CEO said that <u>he</u> has "decided to bring into the company a… potential successor" and that <u>he</u> has "started this process"

Air Products Has Meaningfully Underperformed its Potential

Air Products' total shareholder returns have significantly lagged those of the Company's two closest publicly traded competitors in the industrial gas sector, Air Liquide S.A., and Linde plc, as well as the average returns of the Company's self-selected Proxy Peer Group, and those of the broader market, over nearly every relevant time period.

APD's Total Shareholder Return vs:	1 Year	3 Year	5 Year	7 Year
Industrial Gas Peer Group[1]	-23%	-39%	-95%	-118%
Air Liquide	-18%	-30%	-56%	-52%
Linde	-27%	-47%	-133%	-185%
Proxy Peer Group[2]	-19%	-52%	-97%	-25%
S&P 500®	-27%	-19%	-70%	-32%

Note(s):
- Source: Bloomberg, Institutional Shareholder Services Governance Report, Company proxy filings
- Market data as of 08/30/2024
- Peer index returns calculated on an equal weighted basis
- Total shareholder return inclusive of dividends

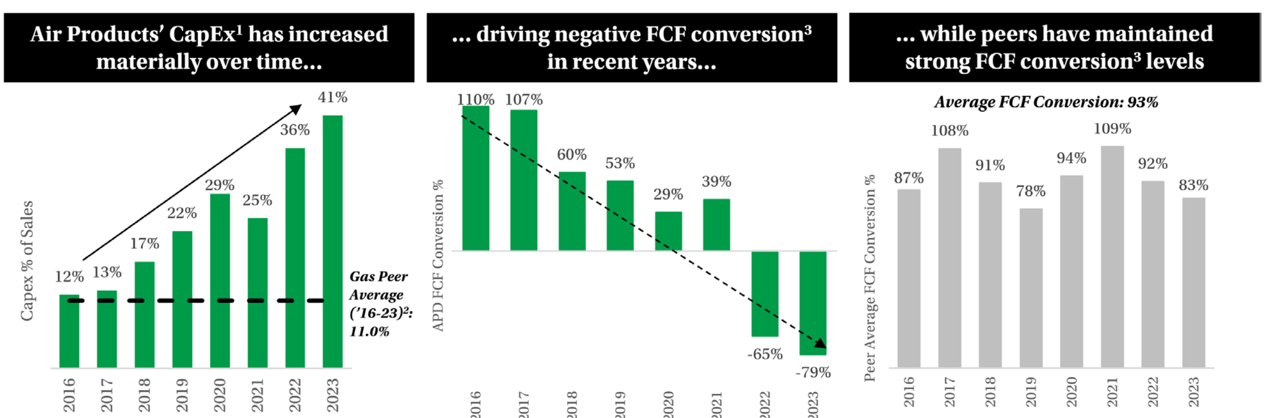
1. Industrial Gas peers include Air Liquide SA and Linde plc
2. Proxy peers include Baker Hughes Co, Celanese Corp, Dover Corp, DuPont de Nemours Inc, Eastman Chemical Co, Eaton Corp PLC, Ecolab Inc, Emerson Electric Co, Fluor Corp, Fortive Corp, Illinois Tool Works Inc, Ingersoll Rand Inc, Johnson Controls International plc, Linde PLC, NextEra Energy Inc, Occidental Petroleum Corp, Parker-Hannifin Corp, PPG Industries Inc, Quanta Services Inc, Schlumberger NV and TechnipFMC PLC

We believe these results stem directly from the Company's capital allocation strategy and lack of a credible succession plan for the Company's CEO.

Capital Allocation Strategy Substantially Increases Risk

Driven primarily by Air Products' clean hydrogen strategy, the Company's capital expenditures have increased dramatically in recent years, rising to 41% of sales in fiscal 2023. This elevated level of CapEx is far beyond what investors are accustomed to, many times the levels spent by direct peers, and well in excess of what is necessary to sustain and grow the business.

The Company's risky clean hydrogen strategy has resulted in substantially lower free cash flow conversion and returns on capital relative to peers. Free cash flow has turned sharply negative in recent years and is expected to remain negative until larger projects come online in the latter part of the decade. Meanwhile, the Company's direct peers continue to maintain strong free cash flow conversion levels of over 90% of net income on average, which is in line with what Air Products historically delivered to shareholders.



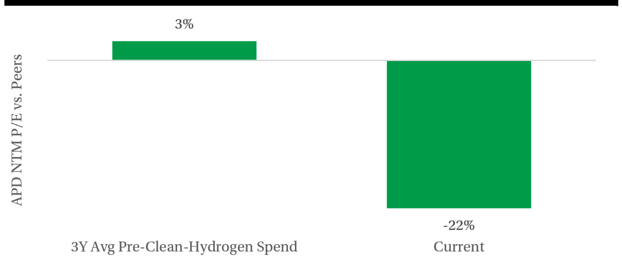
Note(s):
- Source: Company filings
- Peers include Air Liquide S.A. and Linde plc. Metrics presented on Air Products' Fiscal Year ending 9/30

1. Capex figures excludes acquisitions
2. Air Liquide and Linde metrics adjusted for Airgas and Praxair acquisitions, respectively. Capex figures excludes acquisitions
3. FCF conversion calculated as (Operating Cash Flow – Capex) / Adj. Net income

We are concerned not just by Air Products' level of spending, but the nature and structure of the spend, which represent a meaningful departure from the Company's historical strategy. Specifically, Air Products has begun to normalize the practice of committing to multi-billion-dollar projects without securing offtake partners to ensure a dependable return stream for the capital invested. This strategy is more akin to that of a high-risk commodity trading business than the stable industrial gas infrastructure business that Air Products historically operated successfully, and which investors valued and rewarded with a premium valuation. The increased risk profile of Air Products' recent investments has caused investors to apply higher discount rates / lower multiples to the cash flows of the ***entire*** business, for fear that Air Products will continue to invest in highly speculative projects without offtake agreements in place. Air Products' strategy stands out from that employed by the Company's peers, which have adopted a more conservative approach while still investing in clean hydrogen projects[2] and, in so doing, have delivered consistent, attractive returns for investors.

While the Company's recent deal with TotalEnergies for the NEOM Green Hydrogen Company joint venture was a step in the right direction, the majority of Air Products' clean hydrogen projects still lack offtake agreements. We understand that management believes the Company will generate higher returns if it takes more risk but, unlike the predictable returns in the core industrial gas business, there is no guarantee of robust demand and higher prices in the future and, more importantly, it comes at a substantial cost in the form of an impaired valuation multiple for all of Air Products that is likely to persist for years absent action by the Company. We estimate that the Company's clean hydrogen strategy has led to the destruction of roughly $15 billion of equity value within the core industrial gas business.

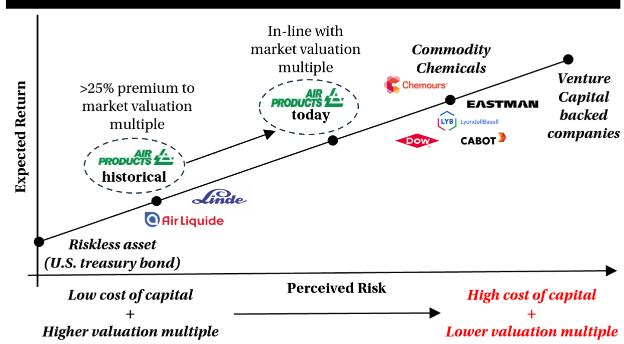
Air Products has historically traded[1] at a modest premium to industrial gas peers, but capital allocation fears have driven it to trade at a steep discount…



Standard deviation above/ (below) historical average[1]:

(4.5x)

…given a deliberate decision by the Air Products Board of Directors to move the Company further out on the risk curve



Note(s):
- Source: Bloomberg
- Market data as of 08/30/2024
- Industrial gas peers include Air Liquide S.A. and Linde plc

1. Historical three-year period through the end of calendar 2021 after which Air Products began to invest heavily in clean hydrogen projects

Management's acknowledgement of these concerns and attempts to assure the market that it will exercise discipline when allocating capital has been met by investor skepticism. Management has said the Company will refrain from announcing more large projects until it is able to secure offtakes for existing projects; yet, at the same time, management has indicated that it is contemplating making a final investment decision on a $4 billion, first-of-its-kind, "mega-scale" Green Hydrogen production facility in Texas without signed offtake agreements. From the market's perspective, there has been limited change in the Company's actual strategy to match its rhetorical shift.

[2] Linde recently announced a $2 billion investment to build a clean hydrogen facility in Alberta, Canada supported by a long-term offtake agreement to supply Dow's Fort Saskatchewan site at economics in line with the return profile of its core industrial gas business model.

Existing Succession Plan Limits Likelihood of Success

We acknowledge the Board's recent communications around succession planning which represent a small step in the right direction, somewhat alleviating investor concerns stemming from the abrupt departure of the Company's Chief Operating Officer. That said, we continue to find the Board's succession plan problematic for several reasons:

First, there is no defined timeline for succession, with Mr. Ghasemi's evergreen employment contract automatically renewing for five years on an annual basis.

Second, we believe Mr. Ghasemi's indefinite term limits the Company's ability to attract a top-tier successor, who is unlikely to be willing to wait for Mr. Ghasemi to decide to retire without visibility into when that retirement will take place, especially given the Company's recent termination of an apparent successor. Recent comments from the Company's investor relations team that the successor candidate "will have to play a supporting role to Seifi for a couple years because… he's not going any place" are likely to further dissuade talented executives from entering the process.

Third, the Board appears to have ceded control of the CEO succession process – one of the most important responsibilities of any board – to Mr. Ghasemi himself. The CEO's remarks on the Company's last earnings call suggest that Mr. Ghasemi was both the impetus behind, and is firmly in control of, this critical process.

The D. E. Shaw Group's Plan Could Generate Substantial Value for Shareholders

Despite a sustained period of substantial underperformance, we believe Air Products has a significant opportunity to create enduring value for shareholders. We believe there are several crucial capital allocation and governance actions that the Company can take today, which, based on our analysis, could result in over 50% appreciation in Air Products' share price, equating to over $25 billion of value creation for shareholders. In our view, the appropriate set of actionable initiatives includes the following:

1. Establish and publicly announce a new capital allocation framework whereby Air Products' CapEx levels will not exceed the mid-teens as a percentage of revenue beyond fiscal year 2026;
2. Accelerate efforts to de-risk existing investments by signing offtake agreements at reasonable return hurdles and tying further capital spend to offtake milestones, including North Texas Green Hydrogen;
3. Communicate a clear, credible, and transparent succession plan that includes a formal transition timeline for the current CEO and identifies a world-class successor;
4. Refresh the Board of Directors with highly qualified, independent directors who are well-known to the investment community; and
5. Form an ad hoc Strategy and Succession Committee, which includes the new independent directors, to assist the Board in revising its capital allocation framework and carrying out a formal succession process.

Next Steps

We respectfully request the opportunity to meet with the Board, within two weeks, to share our detailed analysis and to begin a constructive dialogue on our perspectives outlined in this letter. Our preference is to engage with you in private on these important issues and we look forward to working with you to unlock value for all Air Products shareholders.

Best Regards,

Edwin Jager　　　　Michael O'Mary

Managing Director
D. E. Shaw & Co., L.P.

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