

Moving forward



# Creating Shareholder Value

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# Forward-looking statements

This presentation contains “forward-looking statements” within the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, including statements about earnings guidance, business outlook and investment opportunities. These forward-looking statements are based on management’s reasonable expectations and assumptions as of the date this release is furnished. Actual performance and financial results may differ materially from projections and estimates expressed in the forward-looking statements because of many factors not anticipated by management, including, without limitation, global or regional economic conditions and supply and demand dynamics in market segments into which the Company sells; political risks, including the risks of unanticipated government actions; acts of war or terrorism; significant fluctuations in interest rates and foreign currencies from that currently anticipated; future financial and operating performance of major customers; unanticipated contract terminations or customer cancellations or postponement of projects and sales; our ability to execute the projects in our backlog; asset impairments due to economic conditions or specific events; the impact of price fluctuations in natural gas and disruptions in markets and the economy due to oil price volatility; costs and outcomes of litigation or regulatory investigations; the success of productivity and operational improvement programs; the timing, impact, and other uncertainties of future acquisitions or divestitures, including reputational impacts; the Company’s ability to implement and operate with new technologies; the impact of changes in environmental, tax or other legislation, economic sanctions and regulatory activities in jurisdictions in which the Company and its affiliates operate; and other risk factors described in the Company’s Form 10-K for its fiscal year ended September 30, 2017. The Company disclaims any obligation or undertaking to disseminate any updates or revisions to any forward-looking statements contained in this presentation to reflect any change in the Company’s assumptions, beliefs or expectations or any change in events, conditions, or circumstances upon which any such forward-looking statements are based.

# Air Products is a leading global manufacturer and distributor of:

- Oxygen
- Nitrogen
- Argon
- Rare Gases
- Helium
- Hydrogen
- Carbon Dioxide
- Carbon Monoxide
- Syngas
- LNG Heat Exchangers
- Turbo Expanders

We are a public company trading on the NYSE (symbol: **APD**)

# Air Products today

**\$8.2**  
billion in sales  
from continuing operations in 2017

**~15,000**  
employees

**50+**  
countries

**~\$35B**  
market cap

**7+**  
decades in business

**170,000+**  
customers

**1800**  
miles of industrial  
gas pipeline

**750+**  
production  
facilities

**30+**  
industries  
served

# Our goal

Air Products will be the **safest,**  
**most diverse** and **most profitable**  
industrial gas company in the world,  
providing excellent service to our  
customers

# Our management philosophy

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|                          |   |
|--------------------------|---|
| <b>Shareholder Value</b> | Cash is king; cash flow drives long-term value.<br>What counts in the long term is the increase in <b>per share value</b> of our stock, not size or growth. |
|--------------------------|---|

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|                  |  |
|------------------|--|
| <b>CEO Focus</b> | Capital allocation is the most important job of the CEO. |
|------------------|--|

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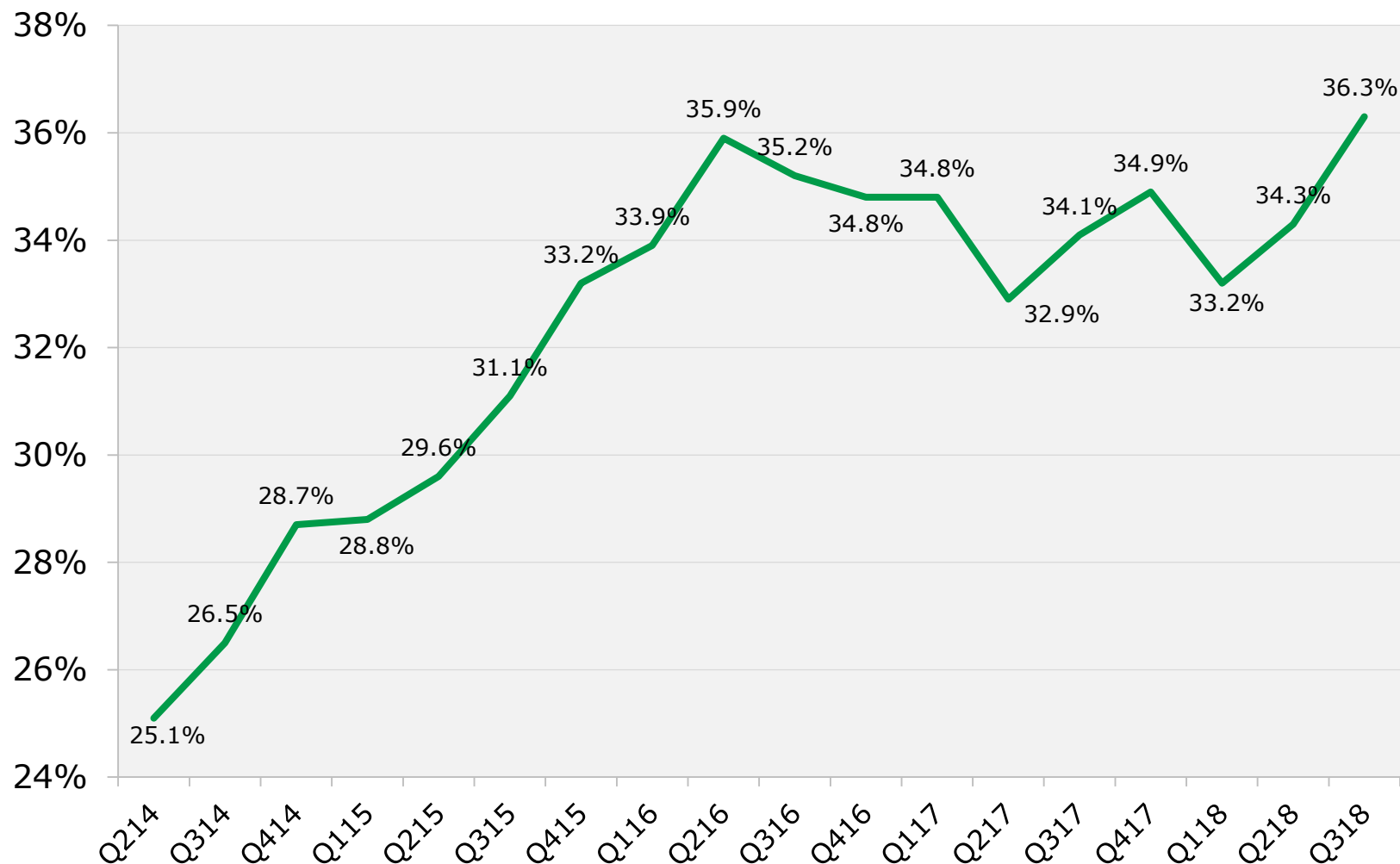
|                        |  |
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| <b>Operating Model</b> | Decentralized organization releases entrepreneurial energy and keeps both costs and politics (“bureaucracy”) down. |
|------------------------|--|

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# Our strategy

In the past four-and-a-half years, we successfully executed a strategy to **focus** Air Products' portfolio, **restructure** the organization, significantly improve **profit margins**, and strengthen the **balance sheet**.

# EBITDA margin trend



Non-GAAP measures, see appendix for reconciliation and pro forma adjustments

# Air Products balance sheet

|                     | Jun 30<br>(\$B) |
|---------------------|-----------------|
| Total cash          | \$3.0           |
| Total debt          | \$3.9           |
| Net debt            | \$0.9           |
| Net debt/LTM EBITDA | ~0.3X           |

# Moving forward

We are now well positioned to grow Air Products:

- Utilizing our **strong balance sheet** and **innovative initiatives**
- Building on our **core capabilities**

# Target areas for growth

## **2018 – 2022** **Capital Deployment**

- Acquisitions \$1 - \$1.5B
- Traditional organic growth \$4B
- Asset buyback \$2 - \$2.5B

• **Gasification and syngas production**

**\$8 - \$9B**

**Total**

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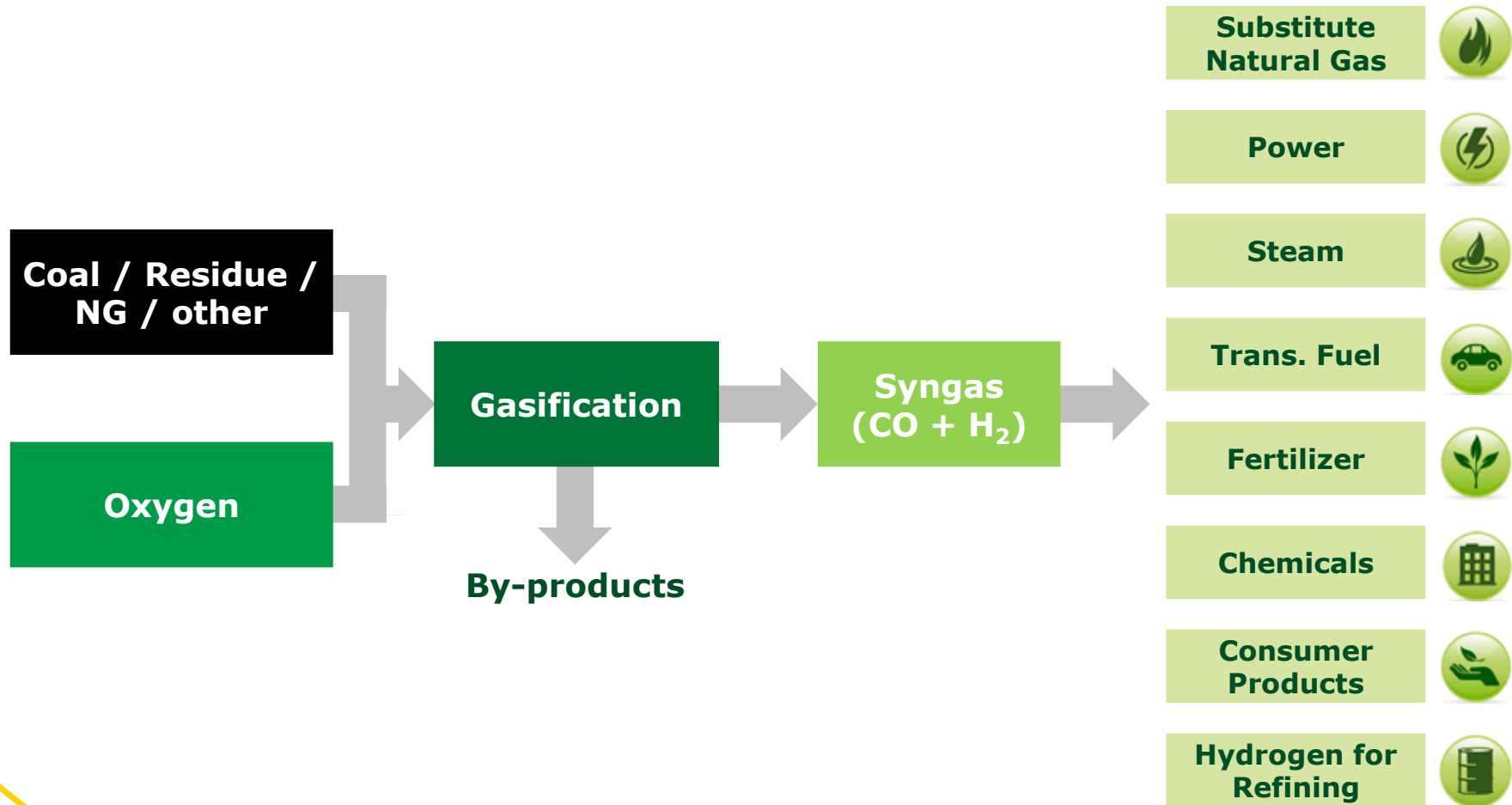
**\$15 - \$17B**

# Gasification process

Partial oxidation process to convert **coal, high sulfur liquids** or **natural gas** into **syngas** to be used in the production of chemicals, diesel fuel, high-end olefins or power

# Gasification Process

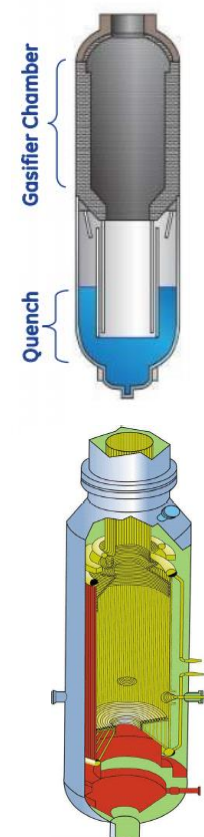
## A way to make syngas



# Benefits of Gasification

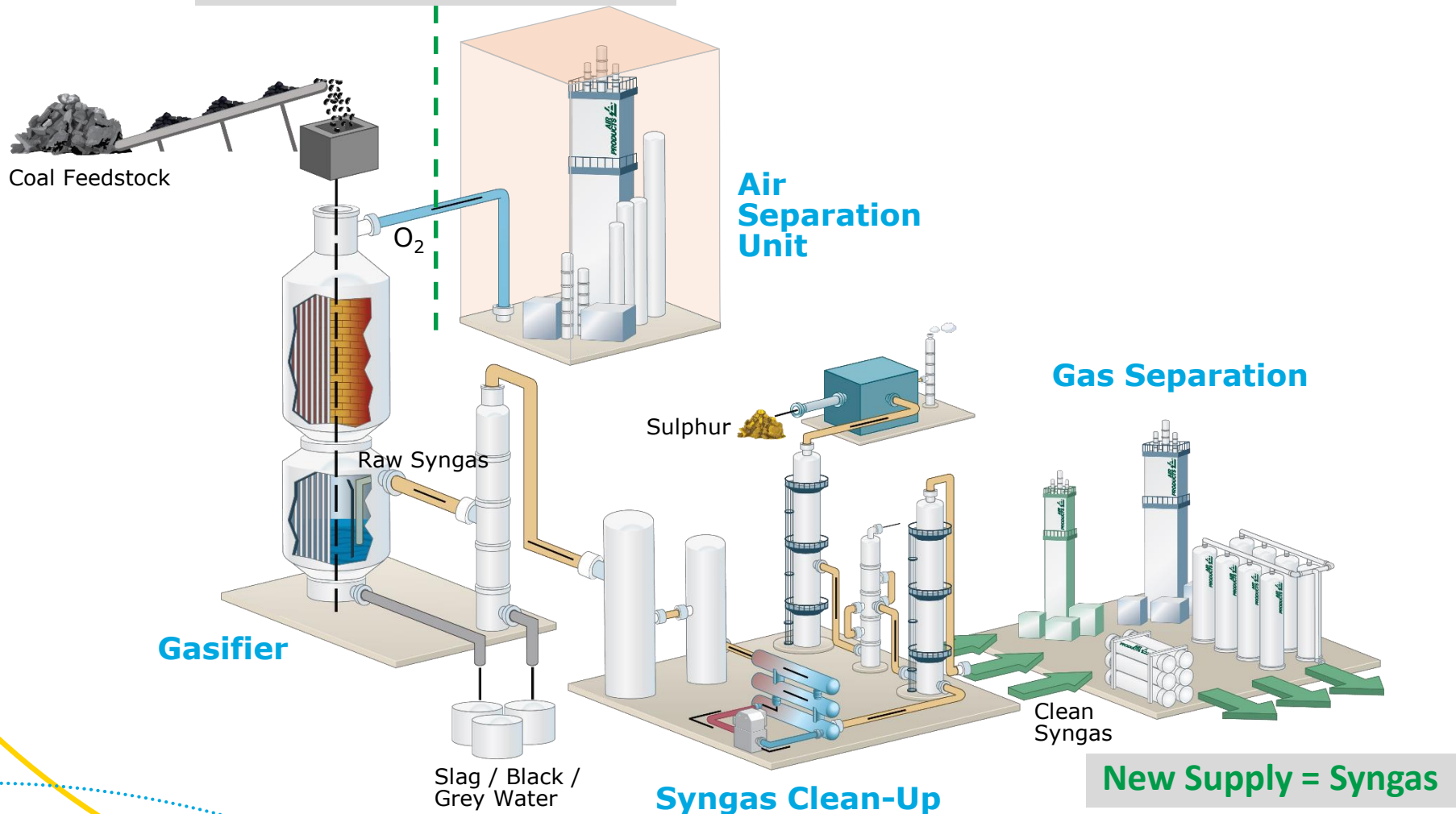
## A versatile and mature technology

- Gasification technology has been in use since the 1800s
  - Widely used to produce transportation fuel due to petroleum shortage in WWII
- Adaptable to various hydrocarbon feedstocks
  - Coal, petcoke, oil residue, natural gas, and others
  - Utilizes natural resources available
- Diverse applications / end products
  - Syngas for power generation and chemicals
  - H<sub>2</sub> for refineries
  - CO for chemicals
- Sustainability
  - No smog-causing particulates
  - Concentrated, capture-ready CO<sub>2</sub> stream
  - Sulfur removal allows the use of high sulfur coal
- Low incremental operating cost
  - Economical in low oil price environment



# Gasification

Traditional Supply = Oxygen



# Drivers for Gasification - 1

- Countries with massive resources of **coal** who want to reduce dependence on imported oil for the production of liquid fuel (CTL) or high-end chemicals (CTO)
  - South Africa
  - China
  - India

## Drivers for Gasification - 2

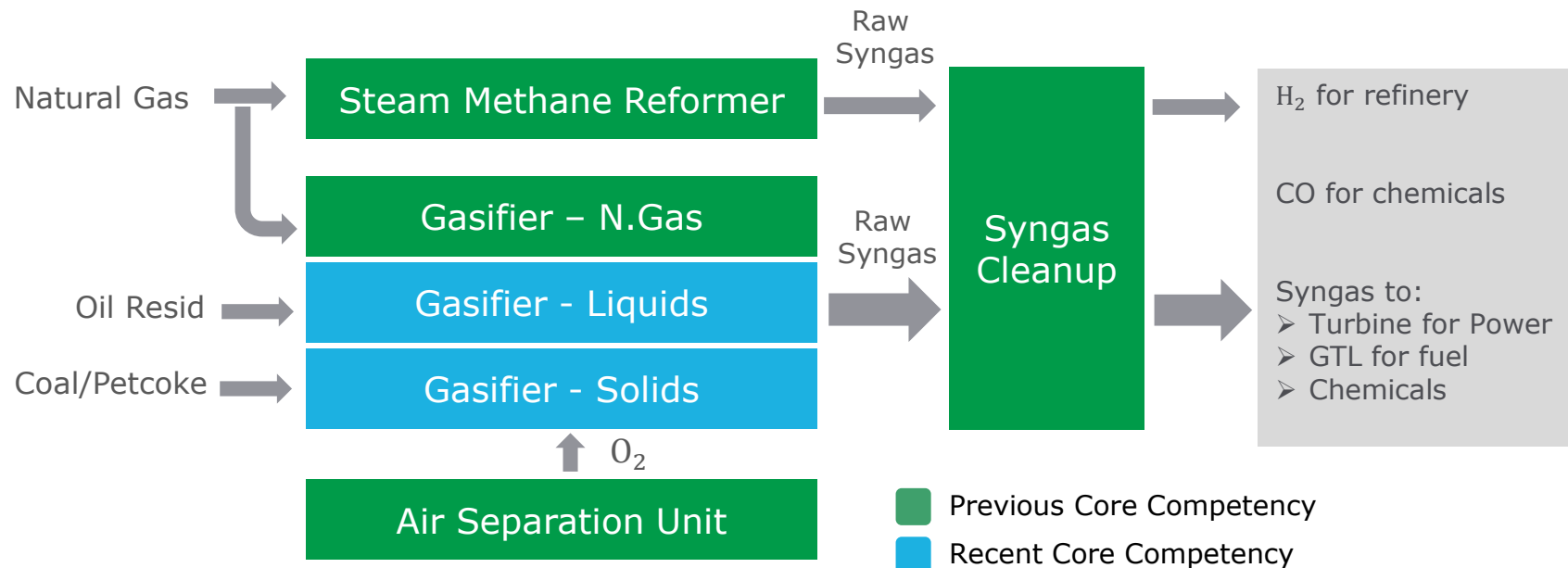
- Countries with significant **natural gas** reserves that want to create additional value by converting natural gas to liquid fuel (CTL) or high-end chemicals (CTO)
  - United States
  - Russia
  - Uzbekistan
  - Algeria

## Drivers for Gasification - 3

- Refineries all over the world that need to find a use for **high sulfur bottom-of-the-barrel liquids** which can no longer be used as fuel for ships (IMO 2020)

# Air Products syngas production

Air Products has the core competencies required to be a supplier of syngas



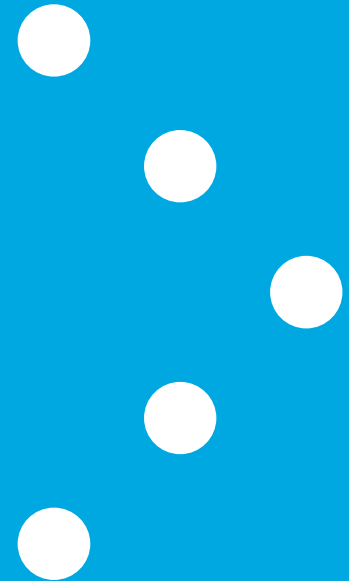
- We recently acquired Shell gasification technology to enhance our core competency in gasification

# Shell gasification technology

## Leading technology in the industry

- Shell gasification
  - Solid (coal / petcoke) - Air Products owns 100%
  - Liquid (oil residue) - Air Products 50/50 with Shell
  - Built 170+ liquid and 34 coal gasifiers since 1950s
  - Currently 120 gasifiers in operation (96 liquid, 24 coal)

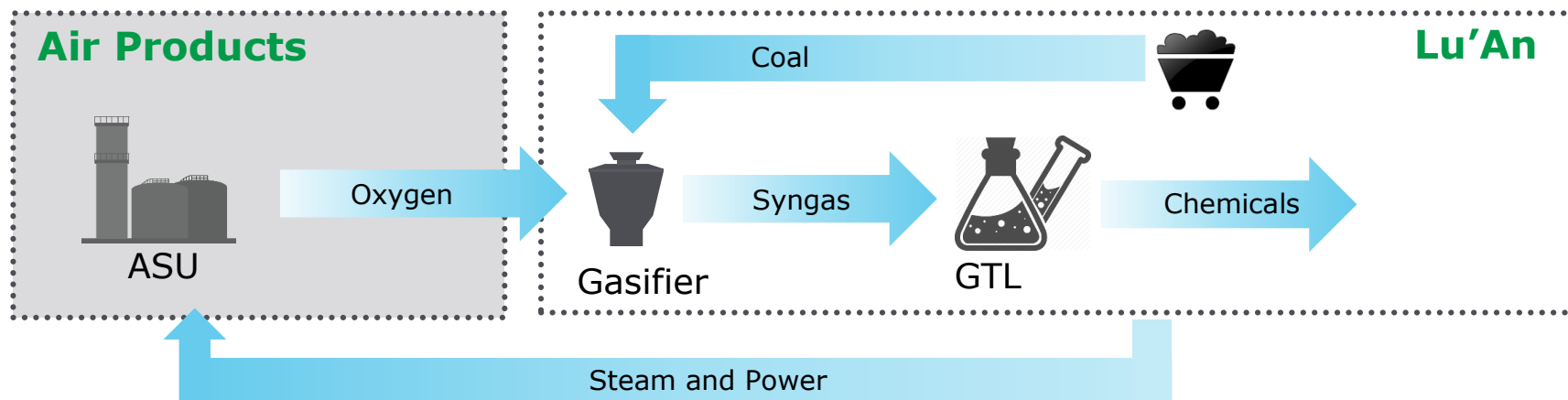
Gasification projects  
since adoption of our  
growth strategy in 2015



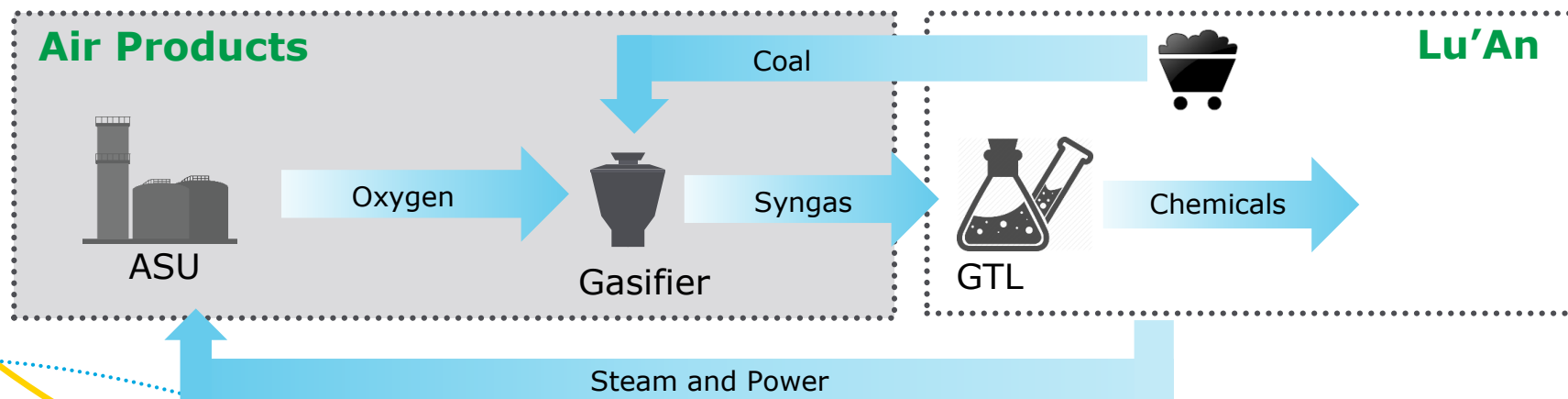
# Lu'An Changzhi City, Shanxi, China

## Expanded scope

### Before JV:



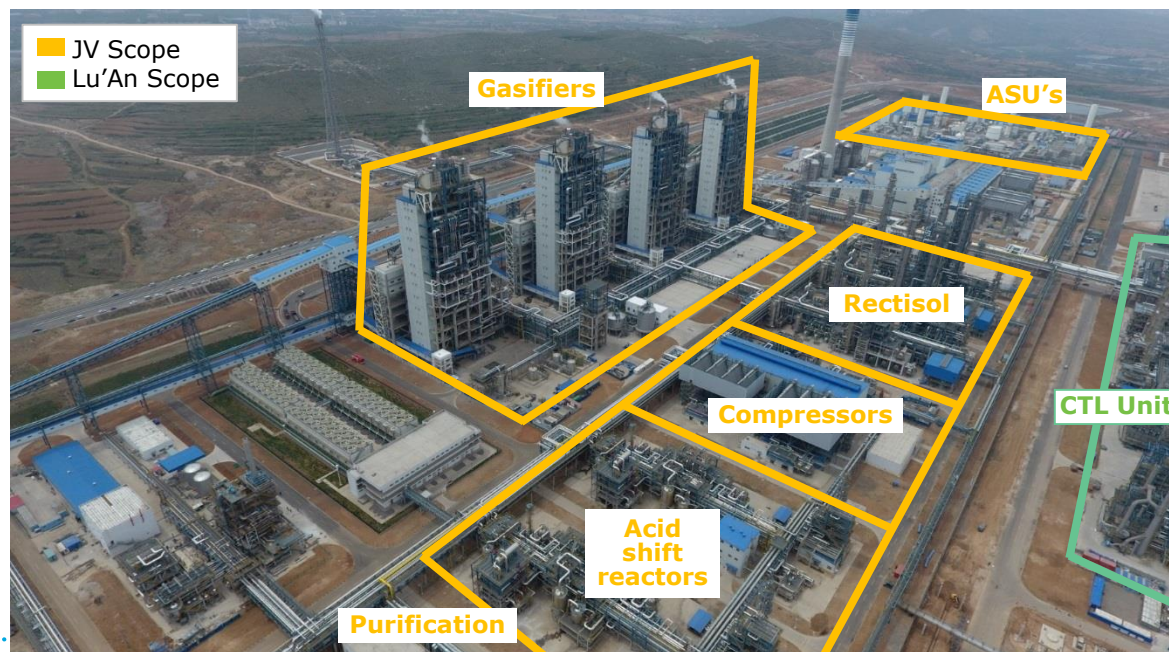
### After JV:



# Air Products & Lu'An Clean Energy Company

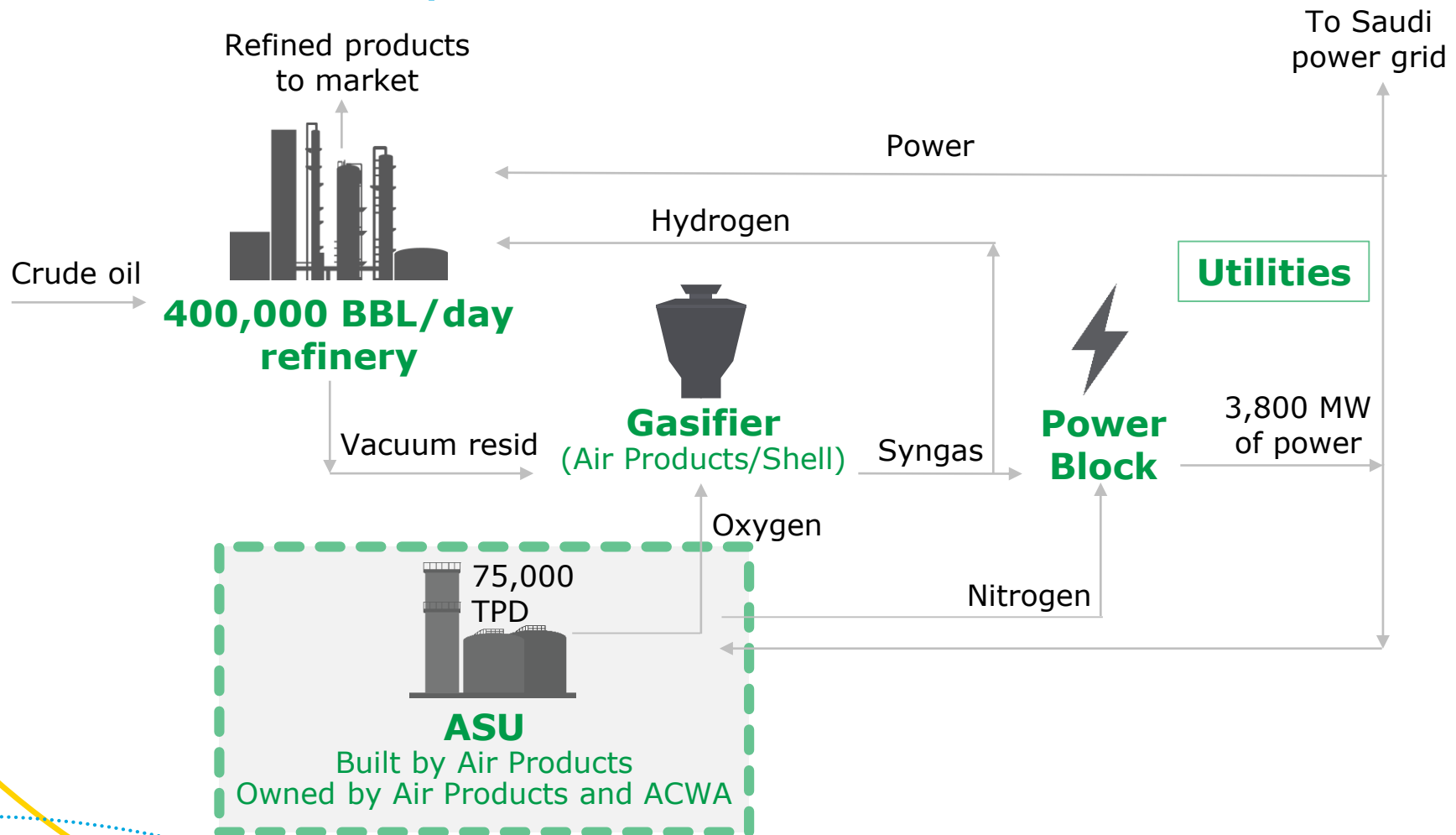
## \$1.3 billion coal-to-syngas production joint venture

- JV: Air Products Lu'An (Changzhi) Co., Ltd – Shanxi, China
  - Ownership = 60% APD / 40% Lu'An
  - Lu'An supplies coal, steam & power and receives syngas
  - JV to receive fixed monthly fee
  - APD will fully consolidate JV financials
  - Closed April 2018 with phased startup, >\$0.25 EPS in FY19



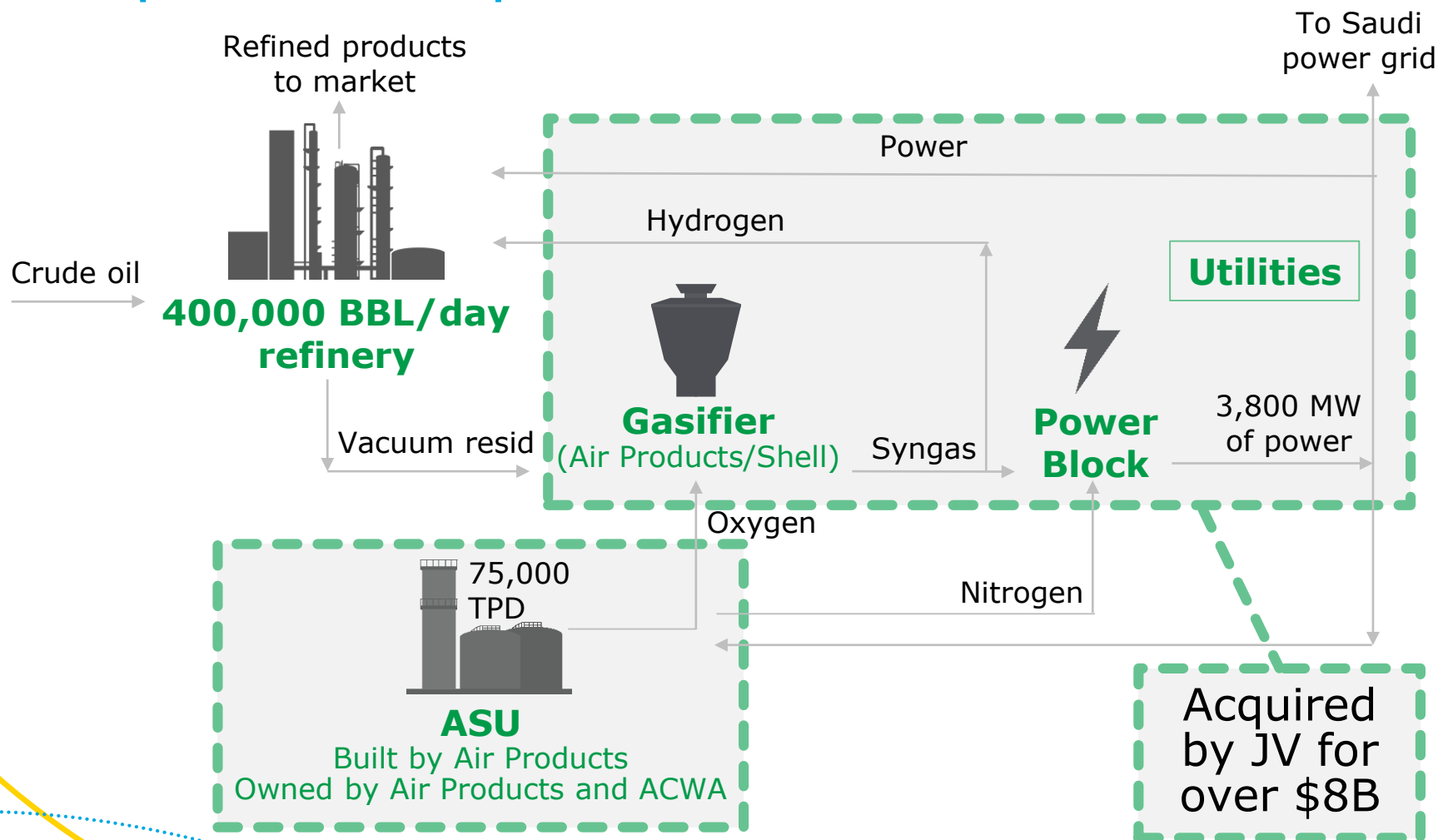
# Jazan project – Saudi Arabia

## Current scope



# Jazan project – Saudi Arabia

## Expanded scope



# Jazan gasification/power JV

- Customer: Saudi Aramco
- Location: Jazan Economic City, Saudi Arabia
- Scope: gasification, power block and associated utilities
- Cost: >\$8B, 40% equity / 60% non-recourse project financing
- Ownership:
  - Air Products 55-65%
  - Saudi Aramco 10-20%
  - ACWA Power 25%
  - Other local partners 0-10%
- Contract: 25 years
  - JV to supply power and H<sub>2</sub> and receive feedstock for gasification
  - JV to receive fixed monthly fee
- Expected to be fully onstream by FY2020

# Air Products & Yankuang/SFEC

## \$3.5 billion coal-to-syngas joint venture

- Investment Cooperation Agreement
  - Signed November 9, 2017 in the presence of President Trump and President Xi during the U.S. Department of Commerce's Trade Mission to China
- \$3.5 billion coal-to-syngas production facility JV
  - Yulin City, Shaanxi, China
  - Air Products majority JV control – expect to fully consolidate financials
  - JV to receive fixed monthly fee
  - Onstream expected 2021

# Juitai New Materials

- Customer: Juitai New Materials coal-to-MEG project
- Location: Hohhat, Inner Mongolia China
- Scope: ASU, gasification and syngas cleanup
- Cost: \$650M, 100% owned by Air Products
- Contract: 20 years
  - Air Products supplies syngas to Juitai and receives coal and utilities from Juitai
  - Air Products responsible for capital and operating costs / efficiency and reliability (consistent with our typical on-site projects)
  - Air Products to receive fixed monthly fee
- Project on-stream before 2022. Full Year EPS >\$0.20.

# Hydrogen leadership

Air Products is already the largest global supplier of **hydrogen** to refineries and is also the leading developer and supplier of hydrogen fueling stations for use in the hydrogen cars for the future.

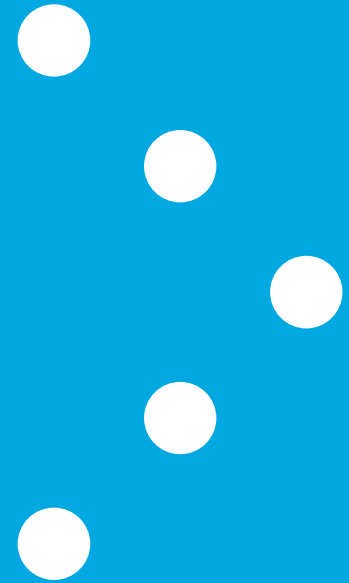
# Syngas leadership

Air Products is now, by far, the world leader in **syngas** technologies and production expertise. We are well positioned to participate in this fast growing opportunity.

# Our competitive advantage

The only sustainable element  
of long-term competitive  
advantage is the degree of  
**commitment** and **motivation**  
of the people in the enterprise

# Appendix Slides



# Appendix:

## Adjusted EBITDA Trend

| \$ Millions                                     | Q117        | Q217        | Q317         | Q417        | FY17         | Q118        | Q218       | Q318       | Q318 vs PY |     | Q318 vs PQ |       |
|---|-------------|-------------|--------------|-------------|--------------|-------------|------------|------------|------------|-----|------------|-------|
|   |             |             |              |             |              |             |            |            | \$         | %   | \$         | %     |
| Income From Continuing Operations               | 258.2       | 310.1       | 106.4        | 480.5       | 1,155.2      | 162.7       | 423.6      | 444.7      |            |     |            |       |
| Add: Interest expense                           | 29.5        | 30.5        | 29.8         | 30.8        | 120.6        | 29.8        | 30.4       | 34.9       |            |     |            |       |
| Less: Other non-operating income (expense), net | (0.2)       | 5.3         | 3.7          | 7.8         | 16.6         | 9.8         | 11.1       | 12.8       |            |     |            |       |
| Add: Income tax provision (benefit)             | 78.4        | 94.5        | 89.3         | (1.3)       | 260.9        | 291.8       | 56.2       | 107.1      |            |     |            |       |
| Add: Depreciation and amortization              | 206.1       | 211.8       | 216.9        | 231.0       | 865.8        | 227.9       | 240.0      | 245.6      |            |     |            |       |
| Add Non GAAP pre-tax adjustments (1)            | <u>82.5</u> | <u>10.3</u> | <u>284.3</u> | <u>36.2</u> | <u>413.3</u> | <u>32.5</u> | <u>0.0</u> | <u>0.0</u> |            |     |            |       |
| Adjusted EBITDA                                 | 654.9       | 651.9       | 723.0        | 769.4       | 2,799.2      | 734.9       | 739.1      | 819.5      | 96.5       | 13% | 80.4       | 11%   |
| Sales   | 1,882.5     | 1,980.1     | 2,121.9      | 2,203.1     | 8,187.6      | 2,216.6     | 2,155.7    | 2,259.0    |            |     |            |       |
| Adjusted EBITDA Margin                          | 34.8%       | 32.9%       | 34.1%        | 34.9%       | 34.2%        | 33.2%       | 34.3%      | 36.3%      |            |     | 220bp      | 200bp |

### (1) Non GAAP Pre-Tax Adjustments

|  | Q117        | Q217        | Q317         | Q417        | FY17         | Q118        | Q218       | Q318       |
|--|-------------|-------------|--------------|-------------|--------------|-------------|------------|------------|
| Business separation costs                          | 32.5        | 0.0         | 0.0          | 0.0         | 32.5         | 0.0         | 0.0        | 0.0        |
| Cost reduction and asset actions                   | 50.0        | 10.3        | 42.7         | 48.4        | 151.4        | 0.0         | 0.0        | 0.0        |
| Goodwill and intangible asset impairment charge    | 0.0         | 0.0         | 162.1        | 0.0         | 162.1        | 0.0         | 0.0        | 0.0        |
| Equity method investment impairment charge         | 0.0         | 0.0         | 79.5         | 0.0         | 79.5         | 0.0         | 0.0        | 0.0        |
| Gain on land sale                                  | 0.0         | 0.0         | 0.0          | (12.2)      | (12.2)       | 0.0         | 0.0        | 0.0        |
| Tax reform repatriation – equity method investment | <u>0.0</u>  | <u>0.0</u>  | <u>0.0</u>   | <u>0.0</u>  | 0.0          | <u>32.5</u> | <u>0.0</u> | <u>0.0</u> |
| Non GAAP pre-tax adjustments                       | <u>82.5</u> | <u>10.3</u> | <u>284.3</u> | <u>36.2</u> | <u>413.3</u> | <u>32.5</u> | <u>0.0</u> | <u>0.0</u> |

Moving forward



Thank you  
tell me more

**AIR**  
**PRODUCTS** 