Creating Shareholder Value

Seifi Ghasemi
Chairman, President and Chief Executive Officer

Credit Suisse 2018
Basic Materials Conference

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Forward-looking statements

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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
- **$35B market cap**
- **1800 miles of industrial gas pipeline**
- **~15,000 employees**
- **7+ decades in business**
- **750+ production facilities**
- **170,000+ customers**
- **50+ countries**
- **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

<table>
<thead>
<tr>
<th>Shareholder Value</th>
<th>Cash is king; cash flow drives long-term value. What counts in the long term is the increase in <strong>per share value</strong> of our stock, not size or growth.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEO Focus</td>
<td>Capital allocation is the most important job of the CEO.</td>
</tr>
<tr>
<td>Operating Model</td>
<td>Decentralized organization releases entrepreneurial energy and keeps both costs and politics (&quot;bureaucracy&quot;) down.</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th></th>
<th>Jun 30 ($B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cash</td>
<td>$3.0</td>
</tr>
<tr>
<td>Total debt</td>
<td>$3.9</td>
</tr>
<tr>
<td>Net debt</td>
<td>$0.9</td>
</tr>
<tr>
<td>Net debt/LTM EBITDA</td>
<td>~0.3X</td>
</tr>
</tbody>
</table>
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

- **Acquisitions**: $1 - $1.5B
- **Traditional organic growth**: $4B
- **Asset buyback**: $2 - $2.5B
- **Gasification and syngas production**: $8 - $9B

**Total**: $15 - $17B

#### 2018 – 2022 Capital Deployment
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

Coal / Residue / NG / other

Oxygen

By-products

Gasification

Syngas (CO + H₂)

Substitute Natural Gas

Power

Steam

Trans. Fuel

Fertilizer

Chemicals

Consumer Products

Hydrogen for Refining
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, pet coke, oil residue, natural gas, and others
  - Utilizes natural resources available

- Diverse applications / end products
  - Syngas for power generation and chemicals
  - H2 for refineries
  - CO for chemicals

- Sustainability
  - No smog-causing particulates
  - Concentrated, capture-ready CO2 stream
  - Sulfur removal allows the use of high sulfur coal

- Low incremental operating cost
  - Economical in low oil price environment
Gasification

Coal Feedstock

Traditional Supply = Oxygen

Air Separation Unit

O₂

Gasifier

Raw Syngas

Slag / Black / Grey Water

Syngas Clean-Up

Sulphur

Gas Separation

New Supply = Syngas

Clean Syngas
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:**

- **Air Products**
  - ASU
  - Oxygen
  - Coal
  - Gasifier
  - Syngas
  - GTL
  - Chemicals
  - Steam and Power

**After JV:**

- **Air Products**
  - ASU
  - Oxygen
  - Coal
  - Gasifier
  - Syngas
  - GTL
  - Chemicals
  - Steam and Power

Only major product flows shown
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

400,000 BBL/day refinery

Crude oil

Refined products to market

ASU
Built by Air Products
Owned by Air Products and ACWA

75,000 TPD

Vacuum resid

Gasifier
(Air Products/Shell)

Syngas

Power

Hydrogen

Oxygen

Nitrogen

Power Block

Utilities

3,800 MW of power

To Saudi power grid

Only major product flows shown
Jazan project – Saudi Arabia
Expanded scope

- 400,000 BBL/day refinery
- 3,800 MW of power

Crude oil

Refined products to market

Vacuum resid

Gasifier (Air Products/Shell)

Syngas

Power Block

Power

Hydrogen

Oxygen

Nitrogen

ASU

Built by Air Products
Owned by Air Products and ACWA

To Saudi power grid

Utilities

3,800 MW of power

75,000 TPD

Acquired by JV for over $8B

Only major product flows shown
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 H₂ 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

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

(1) Non GAAP Pre-Tax Adjustments

<table>
<thead>
<tr>
<th>$ Millions</th>
<th>Q117</th>
<th>Q217</th>
<th>Q317</th>
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<th>Q118</th>
<th>Q218</th>
<th>Q318</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business separation costs</td>
<td>32.5</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>32.5</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Cost reduction and asset actions</td>
<td>50.0</td>
<td>10.3</td>
<td>42.7</td>
<td>48.4</td>
<td>151.4</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Goodwill and intangible asset impairment charge</td>
<td>0.0</td>
<td>0.0</td>
<td>162.1</td>
<td>0.0</td>
<td>162.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Equity method investment impairment charge</td>
<td>0.0</td>
<td>0.0</td>
<td>79.5</td>
<td>0.0</td>
<td>79.5</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Gain on land sale</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>(12.2)</td>
<td>(12.2)</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Tax reform repatriation – equity method investment</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>32.5</td>
<td>0.0</td>
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</table>
Thank you
tell me more