Praxair, Inc.
James S. Sawyer
Executive Vice President, and
Chief Financial Officer

Barclays Capital Chemical ROC Stars Conference

May 12, 2011
Forward Looking Statement

This document contains “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are based on management’s reasonable expectations and assumptions as of the date the statements are made but involve risks and uncertainties. These risks and uncertainties include, without limitation: the performance of stock markets generally; developments in worldwide and national economies and other international events and circumstances; changes in foreign currencies and in interest rates; the cost and availability of electric power, natural gas and other raw materials; the ability to achieve price increases to offset cost increases; catastrophic events including natural disasters, epidemics and acts of war and terrorism; the ability to attract, hire, and retain qualified personnel; the impact of changes in financial accounting standards; the impact of changes in pension plan liabilities; the impact of tax, environmental, healthcare and other legislation and government regulation in jurisdictions in which the company operates; the cost and outcomes of investigations, litigation and regulatory proceedings; continued timely development and market acceptance of new products and applications; the impact of competitive products and pricing; future financial and operating performance of major customers and industries served; and the effectiveness and speed of integrating new acquisitions into the business. These risks and uncertainties may cause actual future results or circumstances to differ materially from the projections or estimates contained in the forward-looking statements. The company assumes no obligation to update or provide revisions to any forward-looking statement in response to changing circumstances. The above listed risks and uncertainties are further described in Item 1A (Risk Factors) in the company’s Form 10-K and 10-Q reports filed with the SEC which should be reviewed carefully. Please consider the company’s forward-looking statements in light of those risks.
End to End Integrated Gases Supplier

- Atmospheric Gases
  - Produced via separation of air molecules

- Process & Specialty Gases
  - Extracted from natural gas streams or chemical processes

- Distribution and Supply Methods
  - On-site
  - Via pipeline
  - Merchant liquid deliveries
  - Cylinder or packaged gases

We deliver flawlessly to meet our customers requirements
Portfolio of Diverse Markets, Geographies, and Supply Methods

Markets
- Food & Beverage 7%
- Healthcare 10%
- Other 11%
- Electronics 9%
- Chemicals 10%
- Metals 16%
- Energy 11%
- Aerospace 3%
- Manufacturing 23%

Geographies
- North America 54%
- Mexico
- Canada
- South America 19%
- Asia 11%
- Europe 16%
- United States

Distribution Method
- On-site 25%
- Merchant 30%
- Packaged Gases 29%
- Other 16%

Each must generate cash flow, grow and provide synergy
We Have Outperformed in Both Growth and ROC

High growth and ROC create shareholder value

Source: Bloomberg
(1) 2010, non-GAAP measure. For Praxair see 2010 Annual Report.
Business Model Focuses on ROC

- No speculative capex

- No commodity pricing

- High value, low cost product – reliability is key

- Long-term contracts – high renewal rates

- Production/distribution density drives returns
On-site Pipeline Supply

Praxair Chicago Area Pipeline Enclaves

Praxair Gulf Coast Pipeline Enclaves

Pipeline enclaves offer highest returns and customer reliability
Production Technology

● Product line plants
  – >90% of plant builds
  – Flexible platforms

● Increased sizes for gasification

● Technology Roadmap
  – Distillation
  – Heat transfer
  – Pre-purification
  – Turbomachinery
  – 45+ programs through 2015

Product Line Plants

Low Purity Oxygen

10-250 TPD

High Purity Oxygen

3,000 TPD

Oxygen Cost Index ($ per ton O$_2$)

Up to 30% improvement over 2006

3 + % capital and energy savings p.a.
Production and Distribution Density…

Praxair: Strongest North American supply system

On-site and Bulk Gases
- 325 production plants
- 10,000 customer locations
- 1700 distribution vehicles
- 11 pipeline enclaves

Packaged and Specialty Gases
- 410 distribution facilities
- >400,000 customers
- 1100 distribution vehicles
- 80 filling stations

… drives reliability, growth, and returns
Driving a Culture of Productivity

**PRODUCTIVITY**

~$320 MM

- **Plant Efficiency**
  - ~$ 120 MM
  - Compressors
  - Flexibility

- **Distribution**
  - ~$ 100 MM
  - Consolidation
  - Planning tools

- **Packaged Gas Operations**
  - ~$ 40 MM
  - “Shop floor”
  - Asset utilization

- **SG&A and other**
  - ~$ 60 MM
  - Streamline
  - Paperless

**Global Replication**

**Target 5% cost stack reduction each year**
Praxair Key Growth Drivers

Environment
- Air, water, waste regulations
- Development of alternative fuels
- Potential GHG regulations

Energy
- Global growth of refinery hydrogen
- Coal gasification in China
- Enhanced oil recovery

Emerging Economies
- Infrastructure development & domestic consumption
- Migrating application technologies
- Outsourcing of captive production

Supports annual organic sales growth of 8-12%
Applications for Industrial Gases

- Increase energy efficiency
  - Oxy-fuel combustion

- Higher productivity
  - Throughput, yield

- Improve environmental performance
  - Air
  - Water

~2-3% per year sales growth from high margin applications
Photovoltaic Supply Chain

**Crystalline**

- Hydrogen, Nitrogen
- Polysilicon
- Silicon Ingots
- Argon
- Nitrogen
- Silicon wafer
- Solar Cell
- Nitrogen, Argon, Silane, Ammonia, CF₄, Targets
- Solar Module

**Thin-Film**

- Oxygen, Nitrogen
- Substrate/Raw Materials
- Solar Module
- Nitrogen, Hydrogen, Argon, Silane, Helium, Phosphorous and Boron dopants, Ammonia, Target

Pictures courtesy of DOE's Office of Energy Efficiency and Renewable Energy; Hemlock Semiconductor

Praxair products used extensively throughout the supply chain
Energy Markets Drive Hydrogen Growth

● Developed markets
  – Heavy/sour crude capability
  – Shift to diesel
  – Replacing older, inefficient units

● Emerging Markets
  – Greenfield refining capacity
  – Adoption of Euro fuel standards
  – Heavy/sour crude capability
  – H₂ for chemicals
  – Trend toward outsourcing


<table>
<thead>
<tr>
<th>Region</th>
<th>Growth</th>
</tr>
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<tbody>
<tr>
<td>US/Europe</td>
<td>2%</td>
</tr>
<tr>
<td>India</td>
<td>15%</td>
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<tr>
<td>China</td>
<td>20%</td>
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<tr>
<td>Middle East</td>
<td>24%</td>
</tr>
<tr>
<td>Brazil</td>
<td>25%</td>
</tr>
</tbody>
</table>

Source: Purvin & Gertz, Praxair estimates

Praxair hydrogen volumes expected to grow 20% p.a.
Emerging Economies – Growth Outlook

- **Brazil**
  - Growing energy, metals and manufacturing markets
  - Strong domestic growth

- **Mexico**
  - Strong growth from energy sector
  - Upswing in industrial investment

- **China**
  - Petrochemicals and gasification
  - Industrialization of inland provinces

- **India**
  - Expanding middle class
  - Infrastructure investment

- **Middle East and Russia**

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### Per Capita Industrial Gas Consumption (% of US)

- **U.S.** 100%
- **ME* (GCC countries)** 52%
- **Mex** 27%
- **Brazil** 22%
- **Rus** 10%
- **China** 6%
- **India** 1%

*Decades of Organic Growth*

Source: Spiritus Consulting

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*GCC countries

Barclays Capital Chemical ROC Stars Conference - New York City 5/12/11
Emerging Markets Sales

$7.5B

2005

26%

$10B

2010

36%

$15B

2015F

45%

14% CAGR for emerging market growth

Accelerating growth in emerging markets

Asia
South America
Mexico
US and Canada
Europe
Expanding in the Middle East and Russia

Growth Drivers
- Massive infrastructure investment
  - Metals, Petrochemicals
- Energy production

Middle East
- ROC jv – leading position in UAE and Kuwait
- New oxygen contract for steel co – Bahrain

Russia
- Attractive opportunities in Urals district and Volgograd region – diverse industries
- Significant outsourcing opportunity – replace inefficient ASUs

Same business model – select new geographies
Major Enclaves in China

Caojing Enclave (SCIPIG)
- 50/50 joint venture (2 ASU’s and 2 HYCO units)
- $20 B investment - Bayer, Sinopec, BASF & BP
- Expansions with Bayer, Sinopec refinery

Daya Bay Enclave
- $4 B petchem investment - Shell and CNOOC
- Refinery and gasification expansions
- Expanding infrastructure - multiple customers
Chongqing

- Important growth center in the west
- Tremendous growth prospects
  - ~14% CAGR over the next 5 yrs
- Priority of Chinese government
  - 32 industrial parks
  - 3rd National New Area
- Large on-site potential
  - 5K TPD of O₂ signed

<table>
<thead>
<tr>
<th>National New Areas</th>
<th>Start</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shanghai Pudong</td>
<td>1990</td>
</tr>
<tr>
<td>Tianjin</td>
<td>2000</td>
</tr>
<tr>
<td>Chongqing</td>
<td>2010</td>
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</tbody>
</table>

Move inland to adapt to China development strategy
Project Backlog $2.5B USD

Mar 2011

Capex by Region

- US: 28%
- North America: 28%
- South America: 15%
- Europe, Russia: 13%
- Canada, Mexico: 13%
- Korea/Thailand: 10%
- India: 7%
- Asia: 44%

Capex by Market

- Energy: 31%
- Manufacturing: 28%
- Metals: 18%
- Electronics: 10%
- Chemicals: 13%

75% outside the U.S. – mostly energy and manufacturing
Long-term Growth Objectives

**Annual Organic Growth**

- Sales: 8-12%
- Operating Profit: 10-15%
- EPS: 12-18%

**Growing project backlog**
**Emerging markets growth**
**Modest recovery in US/EU**
**Continued productivity**
**Pricing > cost inflation**
**EBITDA ~30% of sales**
**Capex ~15% of sales**

*Non-GAAP measure, see page 39 of the 2010 annual report*

Free cash flow for increasing dividends and share purchases
Principles of Sustainable Development

**Governance and Integrity**
Maintain strong systems and a culture of global corporate governance, compliance, ethics, human rights, integrity and accountability.

**Strategic Leadership**
Stay current with, and take advantage of, emerging global opportunities, developments and challenges to position Praxair for the future.

**Customer Commitment**
Focus relentlessly on the delivery of customer value through continuous innovation that helps our customers enhance their product quality, service, reliability, productivity, safety, energy efficiency and environmental performance.

**Environmental Responsibility**
Achieve continuous environmental performance improvement and energy efficiency in our operations.

**Employee Safety and Development**
Provide opportunities that allow employees to develop to their fullest potential in a creative, inclusive and safe environment.

**Community Support**
Participate in community development in regions where we operate.

**Financial Performance**
Maintain year-on-year recognition from shareholders and stakeholders for top-tier financial performance.

**Stakeholder Engagement and Communication**
Partner with internal and external stakeholders to achieve a strong, secure and sustainable society, economy and environment.