Praxair, Inc.

James S. Sawyer
Executive Vice President and Chief Financial Officer

Morgan Stanley Global Chemicals and Agriculture Conference
November 12-13, 2013
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; the impact of information technology system failures, network disruptions and breaches in data security; 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. Additionally, financial projections or estimates exclude the impact of special items which the company believes are not indicative of ongoing business performance. 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.
James S. Sawyer
Executive Vice President & Chief Financial Officer

Jim Sawyer became executive vice president and chief financial officer of Praxair, Inc. in 2006. He had been senior vice president and chief financial officer since 2003. He is responsible for the company’s finance, audit, treasury, accounting, tax, information technology and investor relations functions.

Sawyer joined the company in 1985 and became assistant treasurer the following year. In 1986, he was named manager of capital markets planning and three years later became area treasurer for Europe. He was appointed assistant treasurer for Praxair in 1992, vice president and treasurer in 1994, and vice president and chief financial officer in 2000.

A native of Greenwich, Connecticut, Sawyer holds a bachelor of science degree in geology and environmental sciences from Wesleyan University, and a master's degree in business administration from the Sloan School of Management at Massachusetts Institute of Technology. He is a member of the Conference Board's Senior Financial Officers Council and the Financial Executives Institute.
Matthew J. White
Senior Vice President & Chief Financial Officer
(effective January 1, 2014)

Matt White was appointed president of Praxair Canada in 2011.

White joined Praxair in 2004 as finance director of Praxair’s largest business unit, North American Industrial Gases. In 2008, he became vice president and controller of Praxair, Inc., then was named vice president and treasurer in 2010. Before joining Praxair, White was vice president, finance, at Fisher Scientific and before that he held various financial positions, including group controller, at GenTek, a manufacturing and performance chemicals company.

White earned a bachelor of science degree in industrial engineering from Penn State University and a master’s degree in business administration-finance from the University of Delaware. He is a certified public accountant and a CFA charterholder.
Unique Revenue Model

- No speculative capex
- Long-term contracts – high renewal rates
- No commodity pricing
- Critical product, but low percentage of customer’s cost stack

Strong Profitability and Cash Flow

- Productivity – target at least 5% reduction in cost stack annually
- Integrated supply / distribution density strategy and contract terms drive profitability and high ROC

Consistent Outperformance

*Source: Factset*
What We Do and Products We Supply

- We supply customers with atmospheric, process and specialty gases, high-performance coatings, and related services and technologies

- Atmospheric Gases
  - Produced when air is purified, compressed, cooled, distilled and condensed
  - Oxygen, nitrogen, argon and rare gases

- Process & Specialty Gases
  - Produced as by-products of chemical production or recovered from natural gas
  - Carbon dioxide, helium, hydrogen, semiconductor process gases, and acetylene
Advantages of Praxair’s US Integrated Model

CUSTOMERS

- Pipeline
- On-Site
- Merchant
- Packaged

CONTRACTS

- Long-term: 15 – 20 years
  - Take-or-pay provisions ensure base return
  - Pass-through escalation formulas for energy and inflation preserve return throughout project life
- Medium-term: 3 – 7 years
  - Requirements contracts with mix of open contracts, formula and other terms that anticipate changing market conditions
  - Low-cost energy purchase & efficient production drives profitability
- Short-term: 1 – 3 years or purchase order contracts
  - Bundle gas, rent, services, equipment and technology to maximize customer value

# of Transactions / Contract Flexibility
- Low / High

Capital Intensity / Volume
- Low / High

Integrated supply & contract terms drive high ROC
Diverse Markets

Manufacturing 25%
- Cutting – O₂
- Welding – O₂, N₂, Ar, H₂, He, blends
- Glass – O₂, N₂, Ar, H₂, He
- Automotive – O₂, N₂, Ar, H₂, Xe, Ne

Metals 18%
- Steel production – O₂
- Stainless steel – Ar, O₂
- Metal finishing / coating – H₂
- Inerting – Ar, N₂

Energy 11%
- Refining – H₂
- Natural gas fracturing – N₂
- Enhanced oil recovery – N₂, CO₂
- LNG in Brazil

Chemicals 10%
- Production – O₂, N₂, H₂
- Coal gasification – O₂
- Syngas production – CO
- Process control – specialty gases

Electronics 8%
- Semiconductor – process gases
- Photovoltaics – N₂, Ar, SiH₄
- Flat panel - O₂, N₂, Ar, H₂, He, NH₃

Healthcare 8%
- Hospitals – O₂, N₂, CO₂
- MRI – He
- Sterilization – sterilant gases
- Anesthesia – N₂O

Food & Bev 6%
- Carbonation – CO₂
- Freezing – N₂, CO₂
- Inerting – N₂
- Hydrogenation – H₂

% of 2012 sales
Praxair Five Year Outlook

Emerging Markets
- Russia
- Brazil infrastructure
- Mexico oil & gas
- China gasification

High single-digit sales growth
- North America manufacturing
- Growing applications & intensity

Energy
- US petchem projects
- Canada natural resources

Environmental
- Air & water quality

High performance culture
Disciplined pricing
Integrated supply & density
Sustainable productivity
Energy management
P&L accountability

Industry-leading ROC 14-15%
Increasing free cash flow
1-2% annual share reduction

Growth from diverse sources… continued leverage down the P&L
North America Unrivalled Integrated Supply Network

2012 Sales $ 5.6B

- Strength across all three countries: U.S., Canada and Mexico
- Solid growth fundamentals:
  - Metals
  - Manufacturing
  - Energy: Refining and Oil & Gas Services
  - Chemical
- Packaged gas acquisition opportunities

- 500 production plants
- 3,000 distribution vehicles
- Fully-integrated supply system

We are growing and building density
Shale Impacts on Praxair and U.S. Customers

**Chemicals 11%**
- Low-cost natural gas feedstock
- New chemical plant investment
- Packaged gas opportunities

**Energy 17%**
- Low-cost natural gas/lower hydrogen costs
  - Availability of light/sweet
  - Less dry gas fracing with CO₂

**Metals 14%**
- Low-cost natural gas/lower power costs
- More natural gas in blast furnace requires higher oxygen intensity
- Energy infrastructure build-out

**Manufacturing 32%**
- Lower power costs
- Increased competitiveness
- Merchant and packaged gas
- Demand from energy market

Improved fundamentals and competitiveness for ~75% of U.S. customers

% of 2012 North America sales
Improving Quality of Our US Packaged Gases Business

**US Pkg Gases Market**

- **2001**
  - Independents: 67%
- **2012**
  - Independents: 50%

**Praxair Accomplishments**
- Acquired $0.7B sales
- Increased density
- Extended geographic footprint

**Texas Leadership**

- **Sales**
  - Pre-2005: ~
  - Current: ~
- **OP**
  - Pre-2005: ~
  - Current: ~
- **Profitability**
  - Pre-2005: ~
  - Current: ~

**Density Benefits**
- Lower cost to serve
- Higher efficiency
- Productivity & margin improvement

**Praxair Profitability**

- **Operating margin %**
  - **2001**
  - **2012**

- **High Fragmentation**
- **Low Fragmentation**

**Consolidate… build density… and grow operating margin**
US Packaged Gases Growth Drivers

**Metal Fabrication**
- Customer process audits
- Dedicated welding expertise
- Enabling customer productivity

**Specialty Gases**
- Differentiated offerings
- Process control & calibration
- Environmental benefits

Typical uses in Refinery
- PortaGas acquisition
  - Improved packaging
  - Calibration mixtures
    - Environmental hygiene
    - Personnel safety

$250+ million organic sales growth over the next five years
South America

- Unrivaled network, strong #1 position
- 100 years of operations
- Fully-integrated on-site, merchant and packaged gases business

Sales of $2.1B / IG Market = $4.5B

- Solid underlying fundamentals
  - Infrastructure development
  - 2014 World Cup and 2016 Olympics
  - Domestic demand
  - Energy

- #1 or #2 position in 8 out of 9 countries

Best positioned and preferred supplier
South America Outlook

**Challenges**

- Currency volatility
- High labor and power costs
- Slow pace of government sponsored construction projects
- End of commodity “super cycle”

**Opportunities**

- Vast mineral and hydrocarbons resources
  - Energy and infrastructure projects
- Growing middle class with under-met needs
- Manufacturing base expansion
- Steel industry repositioning

Opportunities outweigh challenges
Expect mid-to-high single digit sales growth annually the next 5 years

Resilient Performance in Any Environment

Historical Performance vs. IP

- High bar for productivity
- Price discipline
- Contract optimization
- World-class CRM program
- Applications technology
- Unmatched supply reliability

Praxair South America Sales (in local currency)
CAGR = 9%

Industrial Production (region weighted average)
CAGR = 3%


Expect mid-to-high single digit sales growth annually the next 5 years
Praxair Europe

Growth:
- Russia investments
- Pipeline expansion in Antwerp
- Oil & Gas in the North Sea

Ongoing Productivity Initiatives:
- Rightsizing
- Asset rationalization
- Back office consolidation

Margin upside with recovery…continued targeted investment strategy
Praxair Russia

Praxair Locations

- Existing
- Backlog

Investment Strategy

- Integrated supply + density
- Quality customers
- Heavily industrialized zones

Sales Outlook

- $20 (2013)
- $250 (2017F)

More opportunities than expected… execution every bit as tough
Praxair Asia

2012 Sales $ 1.4B

- Quality customers and projects
- Major enclaves in China
  - Caojing, Daya Bay, Chongqing

Praxair Asia Sales

- Thailand
- Korea
- India
- China

Geographic selectivity … profitable growth
Industrial Parks / Enclaves in China

Strict project selection, focus on areas where density can be developed.

- **DAYA BAY**
  - 800 tons per day
  - $4B investment by Shell and CNOOC
  - Refinery expansions

- **CAOJING**
  - Several air separation and hydrogen plants
  - $20B investment by Bayer, Sinopec, BASF & BP, Evonik

- **CHONGQING**
  - >5,000 tons per day
  - $5B petchem complex
  - BASF and others
China Macro & Opportunities

IG Consumption Per Capita (% of US)

US 100%
China 20%

Decades of organic growth

Macro Environment

- Slower overall economic growth
+ Rebalancing industrial sector
+ Government policy driving environmental compliance and technology-intensive industries
+ Faster growth inland

Opportunities

- Refining
- Chemicals
- Energy efficiency
- Environmental protection

IG Consumption Per Capita (% of US)

Praxair China Sales

Base Growth
New Projects

2012
2017F

~15% CAGR

Strong outlook for industrial gases
Praxair Surface Technologies

2012 Sales $ 0.7B

- Apply high-tech metallic and ceramic coatings
- Supply thermal spray consumables
  - Powder
  - Equipment
- Use technical competencies to solve problems
  - Metallurgy and material science
  - Coating development
  - Application engineering

A high-tech coatings business focused on turbine engines
Updated Hydrogen Demand Outlook

+ Diesel demand growing globally

+ Strengthening low-sulfur regulations

- Latin America projects slow to materialize

- China coal gasification versus SMR
  + Creating oxygen opportunities

+ US Shale Oil & Gas supply growth driving US refining / chemicals competitiveness
  - Light crude will moderate current hydrogen usage
  + Improved competitiveness driving exports
  + Revitalization of petchem industry will create robust industrial gas demand

Double sales with existing projects...upside from new opportunities

Praxair Hydrogen Sales Growth

US Refined Products Balance (MM BPD)

Praxair Hydrogen Sales Growth

<table>
<thead>
<tr>
<th>Year</th>
<th>Exports</th>
<th>Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>0</td>
<td>(0.9)</td>
</tr>
<tr>
<td>2009</td>
<td>0.9</td>
<td>84%</td>
</tr>
<tr>
<td>2010</td>
<td>1.8</td>
<td>84%</td>
</tr>
<tr>
<td>2011</td>
<td>90%</td>
<td>84%</td>
</tr>
<tr>
<td>2012</td>
<td>90%</td>
<td>84%</td>
</tr>
</tbody>
</table>

Projects
- IOCL
- Valero (2)
- Motiva
- Chevron

Potential
- Global refinery
- US Petchem

2012
- $0.7

2017F
- $1.7

$B
- $0.3
Potential for $1B to $2B in IG industry capex going forward

SMR steam methane reforming
POX partial oxidation

Morgan Stanley Global Chemicals and Agriculture Conference – Boston – 11/12-13/2013

GTL gas to liquids
PSA pressure swing adsorption

ATR autothermal reforming
Applications in Emerging Markets

Environmental
Metfab
Steel / Metals
Pharmaceuticals
Food & Beverage

IG Consumption Per Capita (% of US)

100%

Decades of organic growth

US 20% China 12% Mexico 10% Brazil 2% India

Applications migration driving emerging market growth
Productivity & Reliability

**D A I L Y   O P E R A T I O N S**

Production  Distribution  Customers  Suppliers

Operations Support (Variation Analysis)

- vs. design
- vs. similar
- vs. state-of-the-art
- in demand
- in utility costs

Dedicated Productivity Specialists

- Value stream experts
- Data systems
- “Hunter” mentality

Robust analysis & execution = continuous productivity benefits
# Productivity Sources Over the Next Several Years

**Target a 5% Minimum Reduction in Cost Stack Annually**

<table>
<thead>
<tr>
<th>Source</th>
<th>Cost Range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plant Efficiency</strong></td>
<td>$400-450 MM</td>
</tr>
<tr>
<td>- Turbomachinery upgrades</td>
<td></td>
</tr>
<tr>
<td>- Cold box optimization</td>
<td></td>
</tr>
<tr>
<td>- Advanced predictive control monitoring</td>
<td></td>
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<tr>
<td><strong>Distribution and Customer Service</strong></td>
<td>$100-150 MM</td>
</tr>
<tr>
<td>- Dynamic tour scheduling</td>
<td></td>
</tr>
<tr>
<td>- Tank optimization</td>
<td></td>
</tr>
<tr>
<td>- Fuel efficiency; on-board computers</td>
<td></td>
</tr>
<tr>
<td><strong>Packaged Gases</strong></td>
<td>$150-200 MM</td>
</tr>
<tr>
<td>- Network optimization and improved facilities workflow</td>
<td></td>
</tr>
<tr>
<td>- Mobile filling station / automation</td>
<td></td>
</tr>
<tr>
<td>- Asset tracking</td>
<td></td>
</tr>
<tr>
<td><strong>Reliability</strong></td>
<td>$50-100 MM</td>
</tr>
<tr>
<td>- Migrate new reliability technologies</td>
<td></td>
</tr>
<tr>
<td>- Global preventive and predictive maintenance program</td>
<td></td>
</tr>
<tr>
<td>- Vibration monitoring platform</td>
<td></td>
</tr>
<tr>
<td><strong>Business Process and Procurement</strong></td>
<td>$500-600 MM</td>
</tr>
<tr>
<td>- Sourcing contract management</td>
<td></td>
</tr>
<tr>
<td>- Low-cost country sourcing</td>
<td></td>
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<tr>
<td>- Global business process replication</td>
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</tbody>
</table>

**Productivity is sustainable**
Distribution Productivity Analysis

Minimize Cost Per Mile

Breakdown

- Fuel 40%
- Driver 35%
- Maint. 10%
- Other 15%

Breakdown

- Driver behavior
- Buying strategy
- Tire technology
- Miles actual versus planned
- Site opportunity time
- Driver utilization
- Road Calls / breakdowns
- Corrective / preventive ratio
- Accidents

Maximize Pounds Per Mile

(pounds per trip ÷ miles per trip)

Pounds Per Trip Indicators

- Trailer size
- Loading trailers to capacity
- Delivering full loads
- Delivering at optimal levels
- Residual volume decisions
- Tank sizing
- Forecasting accuracy

Miles Per Trip Indicators

- Number of deliveries
- Inter-customer miles
- Sequencing of deliveries

Daily business changes create continuous opportunities
Balanced use of cash to maximize return to shareholders

Cash Flow Projections (2013-17F Cumulative)

- **Cash Flow Generated from Operations**: $17 billion (24% of sales)
  - Asia
  - South America
  - Europe
  - North America

- **Cash Flow Distributed**: $7 billion (10% of sales)
  - Asia
  - South America
  - Europe
  - North America

- **Cash Flow Invested**: $10 billion (14% of sales)
  - Asia
  - South America
  - Europe
  - North America
Dividends history

Annual Dividends ($ MM)

CAGR 20%

~$ 5 Billion Distributed

Increasing annual dividend for 20 years
### Sustainable Development Targets 2009-2015

<table>
<thead>
<tr>
<th>Business Drivers</th>
<th>Economic</th>
<th>Environmental</th>
<th>Social</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENERGY</td>
<td></td>
<td>Zero Waste</td>
<td></td>
</tr>
<tr>
<td>ENVIRONMENT</td>
<td>$3 Billion Eco-Portfolio</td>
<td>GHG benefit 2X total GHG emissions</td>
<td></td>
</tr>
<tr>
<td>EMERGING ECONOMIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXECUTION</td>
<td>$500 Million cumulative savings from Sustainable Productivity</td>
<td>Energy Efficiency</td>
<td>1.3MM Hours invested in safety training</td>
</tr>
</tbody>
</table>
Appendix
Eco-portfolio – 27% of 2012 sales…

- Oxy-fuel combustion
- VOC emissions control
- Water treatment
- Energy efficient windows

…help customers reduce their environmental footprint
2012 Sales Breakdown

End Markets
- Aerospace: 3%
- Energy: 11%
- Chemicals: 10%
- Electronics: 8%
- Metals: 18%
- Manufacturing: 25%
- Food & Beverage: 6%
- Healthcare: 8%
- Other: 11%

Geographies
- North America: 50%
- Europe: 13%
- South America: 19%
- Asia: 12%

Distribution Method
- Onsite: 25%
- Packaged Gases: 29%
- Merchant: 31%
- Other: 15%
Managing Our Capital Projects

- Opportunities consistent with stated strategies
- Standard global hurdle rate >> cost of capital
- Single project evaluation model
- Terms & conditions review
- Risk-based return criteria

Process focus supports long-term return on capital goals
Praxair Investment Criteria

Lower Risk ← Standard Global Hurdle Rate → Higher Risk

Guaranteed Cash Flows
- Cost Reduction – Take or Pay – Merchant

Customer & Asset
- Counter-party risk
- Underlying asset viability

Sovereign Risks
- Foreign exchange volatility
- Contractual enforcement
- Ease of doing business

Execution
- Product line offering
- Execution complexity

Strategic Alignment
- Density & integrated supply systems
- Stand alone plants
- Opportunistic
Sample Project Return on Capital

- Annuity-based business model
- Accretive to ROC within ~5 years
- Successive renewals

Praxair Consolidated Return on Capital Average

Investment → Initial Contract Term → Renewal
For further information, please contact:

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