Goldman Sachs Basic Materials Conference
Secular Growth

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Forward Looking Statements

The forward-looking statements contained in this announcement concerning demand for products and services, the expected macroeconomic environment, sales, margins, earnings growth rates, and other financial goals involve risks and uncertainties, and are subject to change based on various factors. These include the impact of changes in worldwide and national economies, the cost and availability of electric power, natural gas and other materials, development of operational efficiencies, changes in foreign currencies, changes in interest rates, the continued timely development and acceptance of new products and processes, the impact of competitive products and pricing, the impact of tax, accounting and other legislation, litigation, government regulation and the effectiveness and speed of integrating new acquisitions into the business.
Secular Growth

2004 Sales $6.6 Billion

End Markets

- Healthcare 11%
- Energy 12%
- Electronics 7%
- Food and Beverage 7%
- Other 12%
- Manufacturing 21%
- Metals 16%
- Chemicals 10%
- Aerospace 4%

Organic Growth (Y.O.Y.)*

- Manufacturing + 10%
- Metals + 21%
- Energy + 18%
- Healthcare + 6%
- Chemicals + 8%

* Ex currency, nat gas, and acquisitions

Sales grow faster than our end markets

2004 Global GDP +4%
## Applications Technology Drives Growth

### ENVIRONMENTAL
- Low Nox Combustion
- VOC recovery
- Hydrogen for fuel cells
- Oxygen/carbon dioxide wastewater treatment

### ENERGY SAVINGS
- CoJet® - EAF / BOF
- Oxy-fuel combustion
- Cryo-freezing
- Hot $O_2$ – blast furnace

### PRODUCTIVITY
- Welding mixes
- Nitrogen temperature Control – Bio pharma
- Ozone in food
- Fracturing & EOR - oil & gas

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Revenue growth from applications that improve environmental performance or increase energy efficiency and customer productivity
Oxy-Fuel Combustion

EXTERNAL DRIVERS
- Past – Productivity
- Current
  - Energy efficiency
  - NOx reduction
- Future
  - CO₂ reduction

INDUSTRIES SERVED
- Glass
- Steel
- Cement
- Aluminum
- Utility boilers

HOW IT WORKS
- O₂ combustion eliminates nitrogen in air
- Flame temperature control

TYPICAL BENEFITS
- 10-50% energy savings
- 10-20% throughput increase
- 80-90% NOx reduction
Hydrogen

2004 Global Sales - $690 MM

North America
- Strong demand from refiners
- 310 miles of pipeline on US Gulf Coast, with production capacity of 600 MMSCFD
- Significant growth areas outside of Gulf Coast

Europe
- Hydrogen production in Italy and Spain
- Sulfur reductions in fuels scheduled for 2009

China
- Caojing hydrogen plant start-up in 2005

2005 Sales forecast to approach $900 MM and expected to grow 20% p.a. through 2010
North America – Hydrogen Growth Drivers

- Low sulfur fuel regulations
- Strong demand for gasoline and diesel
- Heavy crude upgrading
- Outsourcing hydrogen supply
- Upgrading hydrogen production technology
- Canadian synthetic crude
  - Upgrading bitumen
  - Refining

Expect several additional SMR’s to be sited in 2005
Oil/Gas Well Fracturing and Services

- US Rockies rig count has increased 75% since 2002
- CO₂ and N₂ widely used to fracture low permeability formations during well completion
- Praxair best positioned
  - Location
  - Expertise
  - Relationships
- Additional pipeline services

$200 MM revenues expected to grow 25% p.a.
Enhanced Oil Recovery (EOR)

Typical EOR Production Curve

OIL RECOVERED (bbls)

Primary Stage
Gravity Drainage

Secondary Stage
Water Flooding

Recovery % of Original Oil in Place

~10%

>20%

~15-20%

TIME

Long term potential to recover 120 B barrels of oil in NA

Sources: Falcon Environmental
**PEMEX Enhanced Oil Recovery Project**

**PEMEX Samaria Oil Fields**

- PEMEX’s main source of light crude
- Current production approx. 150 MBPD
- Production has declined from 1979 peak of 600 MBPD
- N\textsubscript{2} injection and new wells expected to recover additional 470 MM barrels of oil and 540 BCF of natural gas through 2018

**Praxair**

- 15 year Take or Pay contract
- >6500 TPD of nitrogen production
- Delivered via pipeline to multiple injection wells
- Start-up Q1 2007
Brazil: Growth from Energy Markets

- **Increasing role of natural gas**
  - Greater availability / supply
  - Govt. promoting natural gas use
  - Competitive prices

- **Conversions from alternative fuels**
  - 3.5% of cars converted and growing
  - Replacing industrial/commercial LPG

- **Praxair participating actively**
  - CNG cylinders & conversion kits
    - Market growing at 6-7% p.a.
    - JV with Petrobras for LNG distribution
  - Areas not served by pipeline
  - First plant: Q1 2006 start-up

Source: Praxair Estimates

Natural gas business driving growth in South America
Praxair India Set To Grow Strongly

- Economy gaining momentum
- Paradigm shift in gas buying pattern
  - “Sale of plant” to “Sale of gas”
- Gas industry to register double-digit growth from 2005-10
- Praxair #1 position
  - Strong relationships with industry leaders
- Recent business wins
  - Tata Steel
  - Saint Gobain
  - Owens Corning
  - Hospet Steel

Industrial Gas Market Supplied By Global Players ($260 MM)

- Praxair 42%
- Competitor 1
- Competitor 2 (JV)

~$50 MM Sales

Sales of $110 MM expected to grow ~20% p.a. through 2010

Source: Praxair Estimates
Praxair China Strategy

- Leading position in steel with strongest producers
  - Leading position in semi-conductors
    - Shanghai - SMIC & Tailong
    - Beijing - SMIC 300mm wafer fab
  - Shell Nanhai Complex
    - Shell & CNOOC $4.3B
    - O₂, N₂ & Ar supply
  - Caojing petrochemical park
    - 50/50 JV with Air Liquide
    - BP, BAYER, BASF & SINOPEC $8B
    - O₂, N₂ & H₂ supply

- Six major projects to come on-stream in 2005-2007

2004 After tax return on capital above 12%
Capital Investment

2005F: About $750-800MM
Growth 65% - Maint. 25% - Cost Reduction 10%

Growth CAPEX By Segment

- North America: 46%
- Europe: 13%
- South America: 17%
- Asia: 22%
- PST/Other: 2%

Growth CAPEX By Market

- Manufacturing: 20%
- Food & Bev./Healthcare: 4%
- Other: 11%
- Chemicals: 9%
- Energy: 31%
- Metals: 9%
- Electronics: 16%

29 major projects in the pipeline
Process Engineering Lowers Capital Costs

Cryogenic High Purity Oxygen

Flawless execution assures that expected returns will be achieved

2004 Plant Projects Variance From Budget

<table>
<thead>
<tr>
<th>Cost</th>
<th>-3%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule</td>
<td>+1%</td>
</tr>
<tr>
<td>Power Efficiency</td>
<td>+1%</td>
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Why Gases Are Not Commodities!

On-Site/Pipeline Supply
- Price recovers capital and fixed costs
- 15 year Take or Pay contracts
- Escalation formulas
  - Electricity/gas
  - Inflation
  - Currency exposure

Merchant Liquid Delivery Supply
- Sourced as by-product from on-site
- Requirements contracts
- Open/escalation

Packaged and Medical Gases
- Sourced as by-product from bulk
- Service provider
- Cylinder rental

Distribution Method
- On-Site 25%
- Merchant 29%
- Other 13%
- Packaged Gases 33%

Our business model delivers a higher return on capital and greater stability
Why Praxair?

- Strong, sustainable, organic growth
- Diverse end markets and applications technology
- High return on capital
- Long term customer retention
- Substantial free cash flow generation
- Capital and operating discipline
- Strong corporate governance
Principles of Sustainability

**Governance and Integrity**
Foster a culture of integrity and accountability throughout the company through rigorous compliance with all laws, and by establishing and following effective corporate governance practices.

**Customer Commitment**
Continuously develop new products and applications that help our customers improve their productivity, energy efficiency and environmental performance. Provide the highest levels of service, reliability and quality to our customers.

**Environmental Responsibility**
Continue to improve the efficiency of energy consumption. Reduce the intensity\(^1\) of air emissions, including greenhouse gases.

**Employee Safety and Development**
Maintain a safe work environment with a goal of zero accidents. Provide training and career opportunities that allow employees to develop to their fullest potential. Increase the diversity of our workforce so that it is more representative of the communities in which we operate.

**Community Support**
Help to improve the welfare and future of the communities in which we operate by sharing our knowledge, expertise and resources related to environmental protection, and community health, safety and security.

**Financial Performance**
Continuously improve our financial performance and provide attractive returns to our shareholders. Generate operating cash flow to reinvest in business growth and pay dividends.

\(^1\)Intensity is per-unit-of-production measure