



# Credit Suisse First Boston 16th Annual Chemical Conference

September 17, 2003



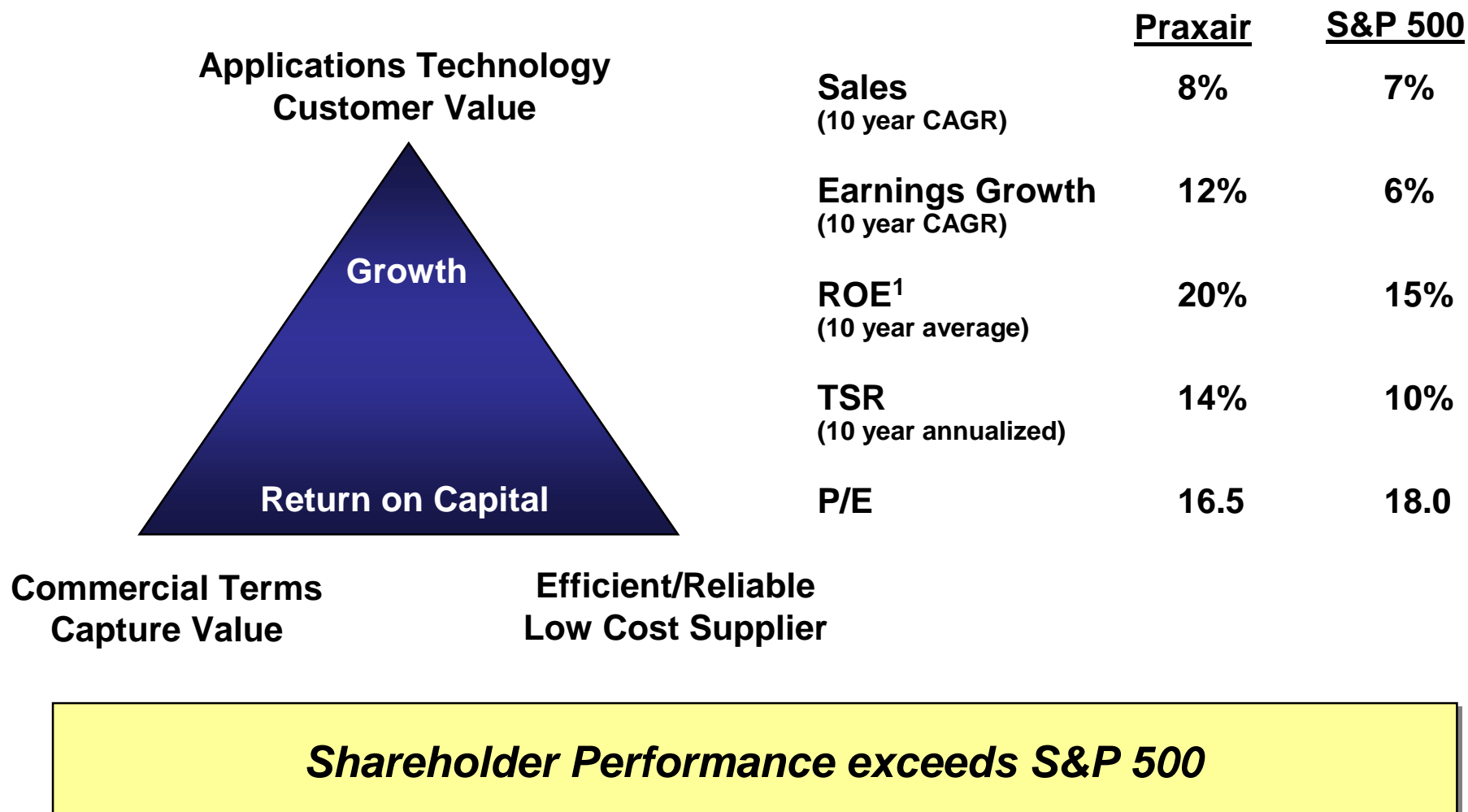
Stephen F. Angel, Executive Vice President

[www.praxair.com](http://www.praxair.com)

## Forward Looking Statements

**The forward-looking statements contained in this announcement concerning demand for products and services, the expected macroeconomic environment, sales and earnings growth, 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, and the impact of tax and other legislation and regulation in the jurisdictions in which the company operates.**

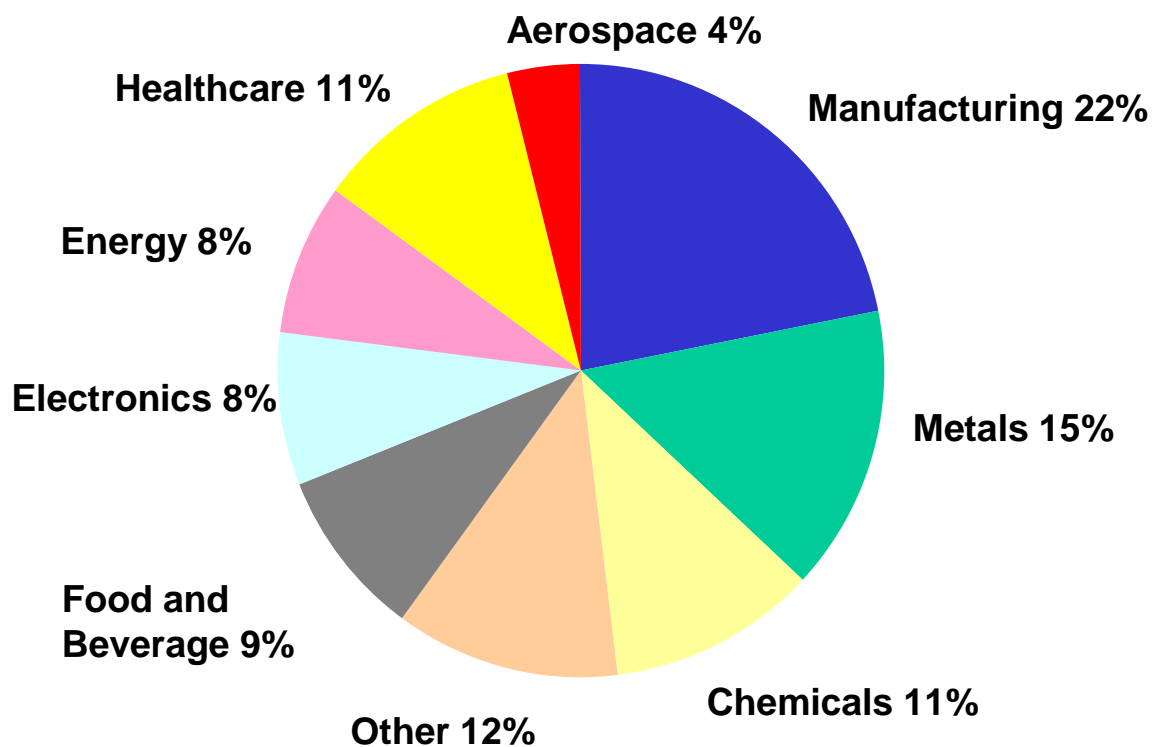
# Operating Model Drives Growth and ROC



1. ROE = Net income before accounting changes/Shareholders Equity

# Applications Technology Drives Growth

## Praxair End Markets 2002



### Productivity

Quality  
Cycle Time  
Yield

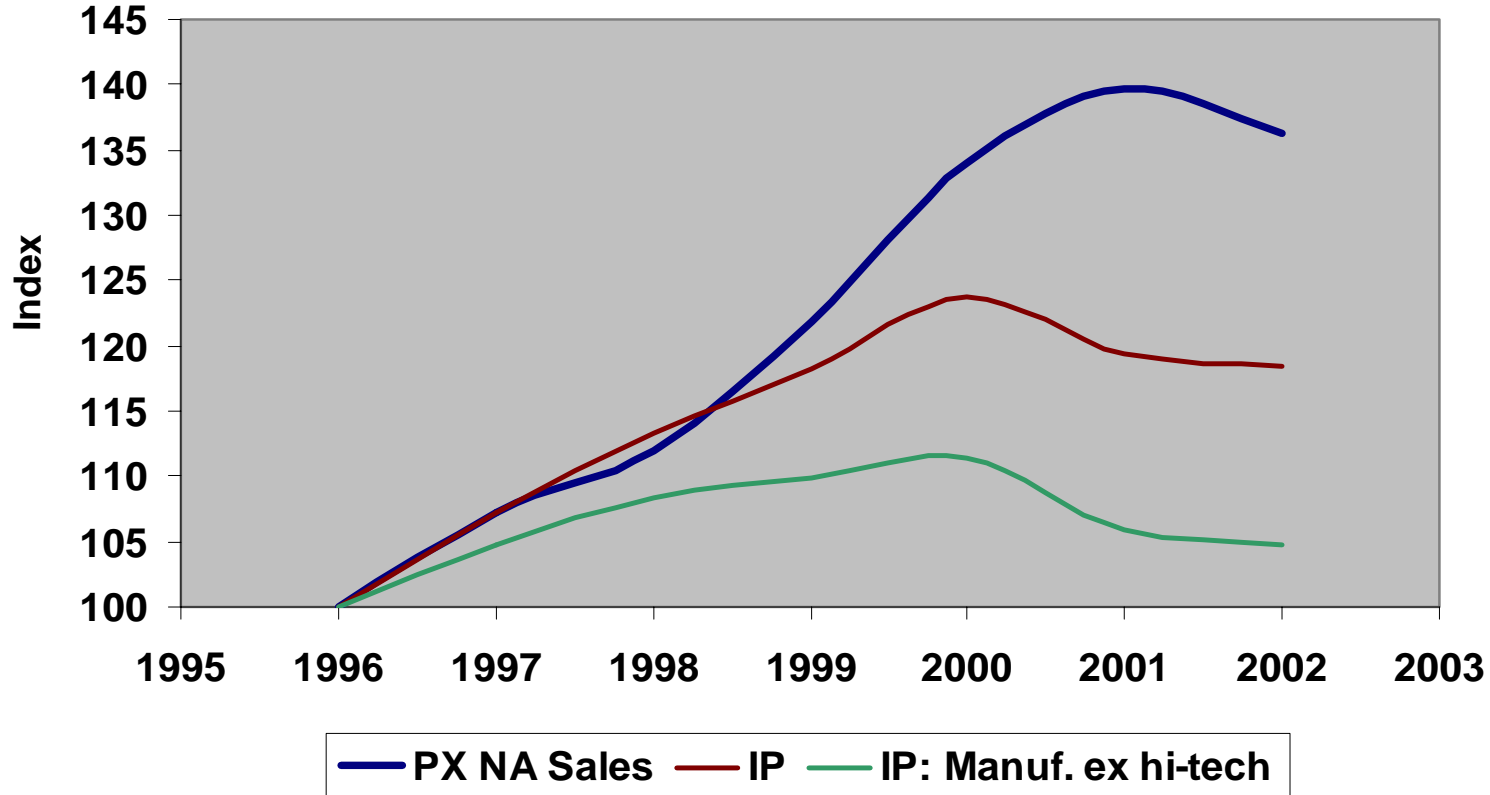
### Energy

Oxyfuel Combustion  
Hydrogen

### Environmental

Air Quality  
Water Treatment

# North American Sales Versus Industrial Production



***Praxair grows at a multiple of industrial production from new applications technology.***

# Commercial Terms Drive ROC

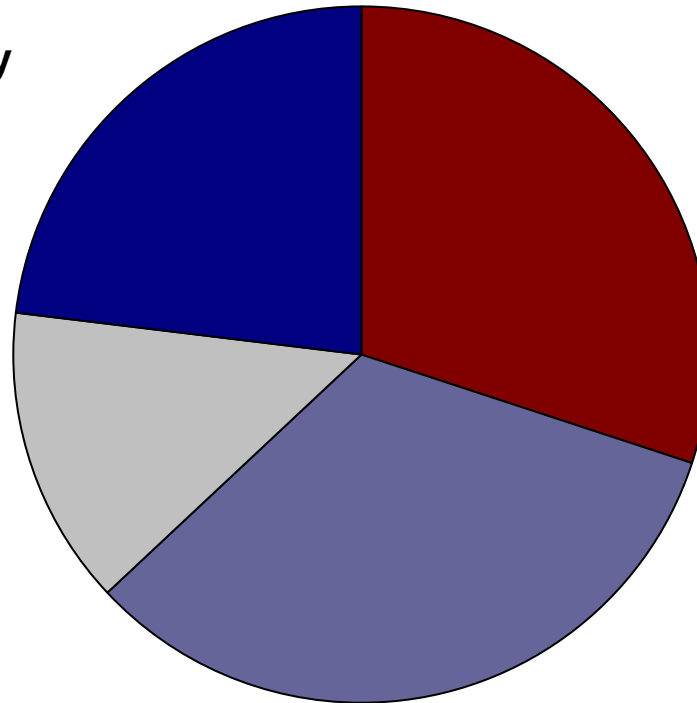
## 2002 Sales by Distribution Method

### On-Site 23%

- ◆ 10-15 year take or pay contracts
- ◆ Automatic escalation for: energy, inflation and currency

### Merchant 30%

- ◆ 3- 5 year requirements contracts
- ◆ Escalation for energy and inflation via contract terms and price increases



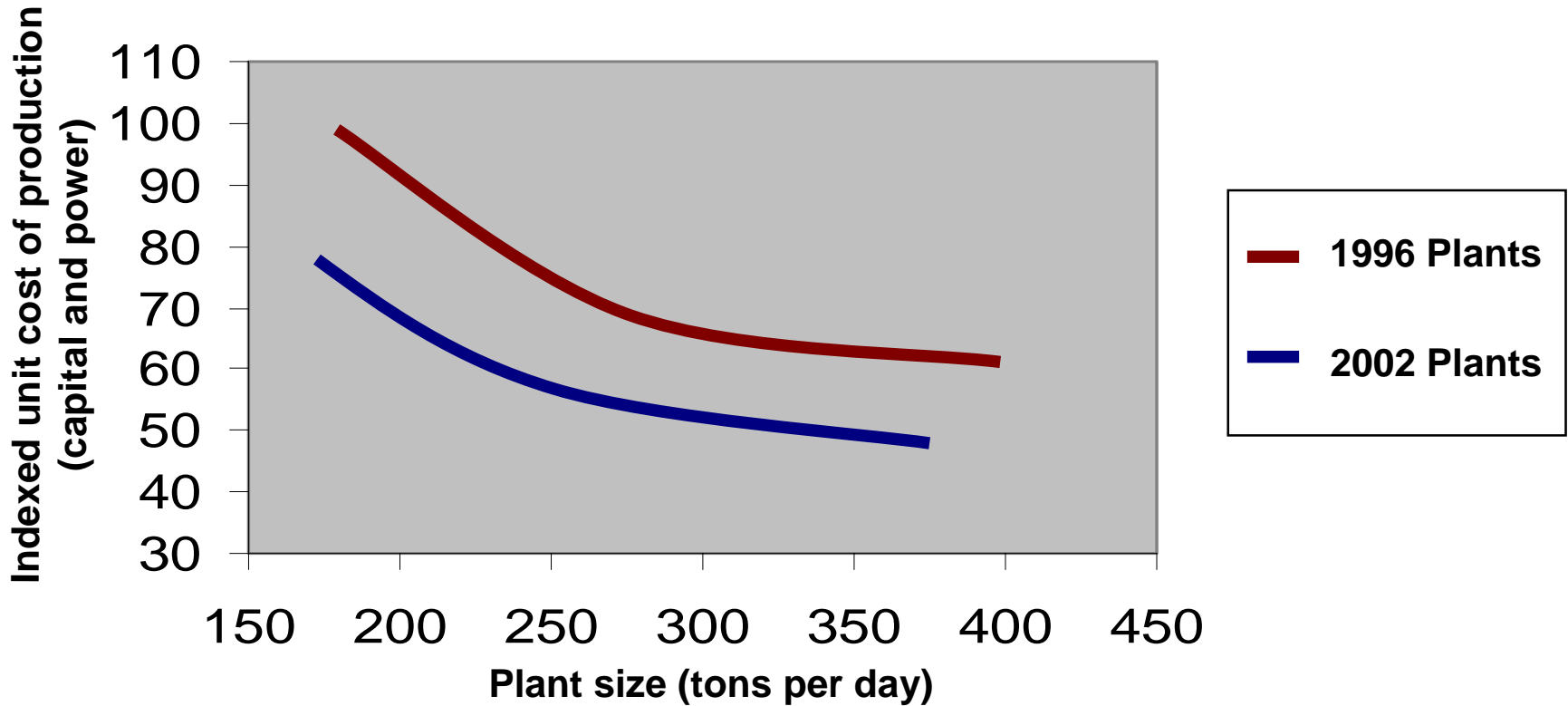
### Other 14%

### Packaged Gases 33%

- ◆ Annual Contracts
- ◆ Cylinder Rentals
- ◆ Pricing Leverage

- ◆ *Price is a fraction of customer value*
- ◆ *Terms capture above average ROC*

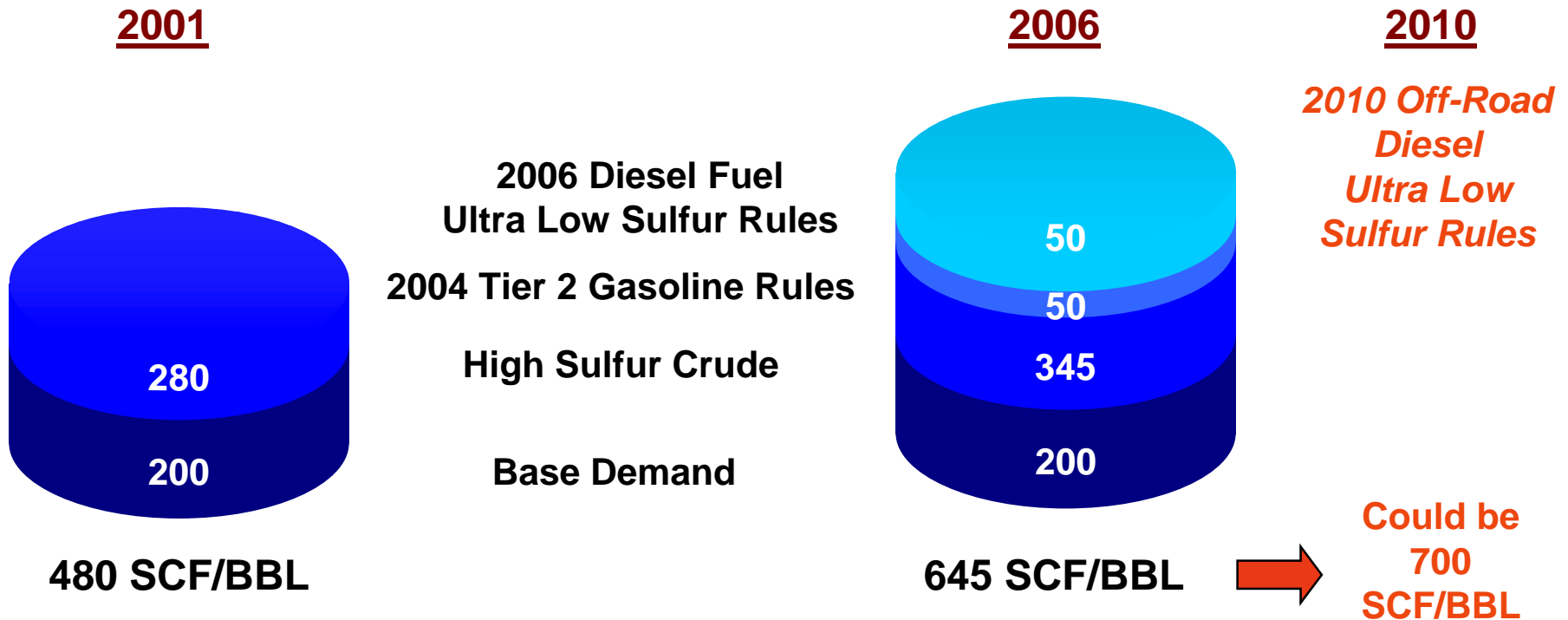
# Standardizing Plant Design and Driving Energy Efficiency



***Unit cost of production has fallen 15-20%***

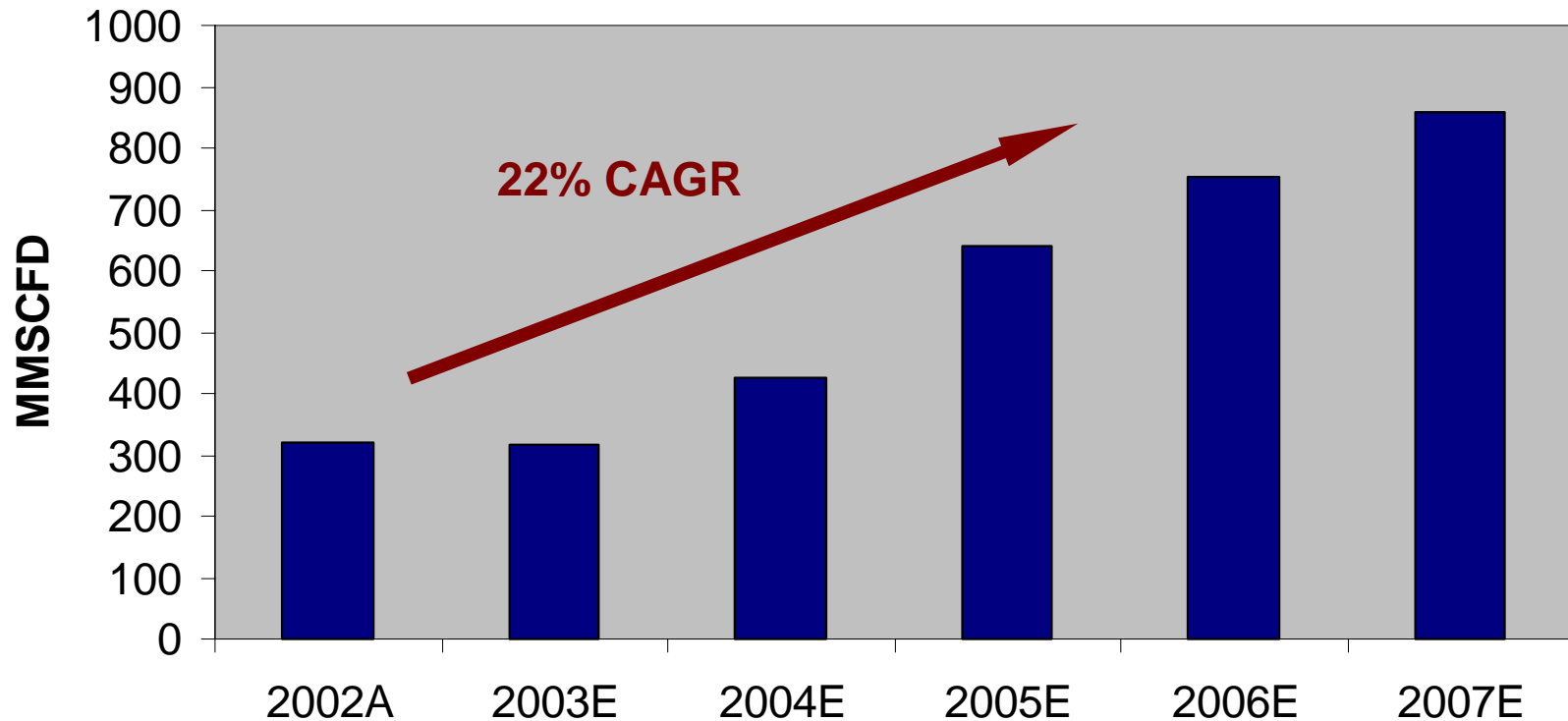
# Praxair Gulf Coast: Growing Hydrogen Use in Gasoline and Diesel Production

## Hydrogen Used Per Barrel of Oil (Standard Cubic Feet)





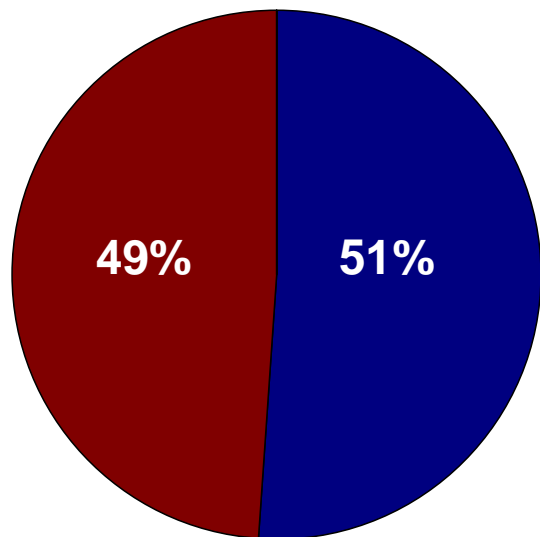
# Praxair Gulf Coast Hydrogen Growth



***Hydrogen volumes are expected to grow by 500mmscfd - 300mmscfd has been signed to date***

# Praxair 2002 Healthcare Sales

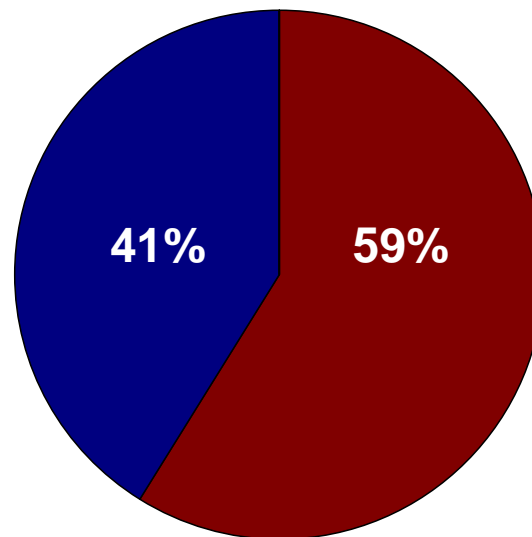
## Global \$550MM



### Regions

64% North America  
21% South America  
15% Europe/Asia

## North America \$330MM



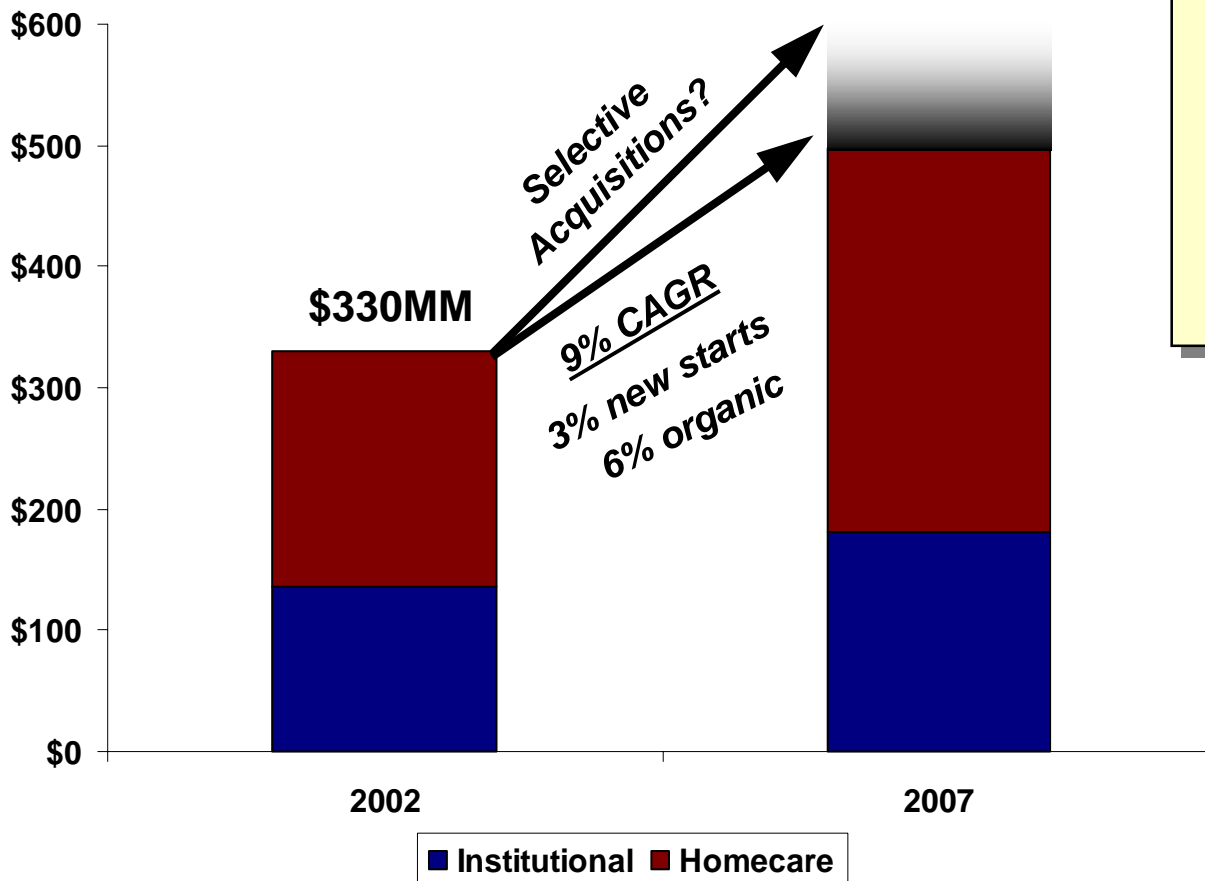
### Homecare

106 Branches  
13 Acquisitions since 2000

### Institutional

2,000 Hospital Customers  
20% Estimated Market Share

# North American Healthcare Growth



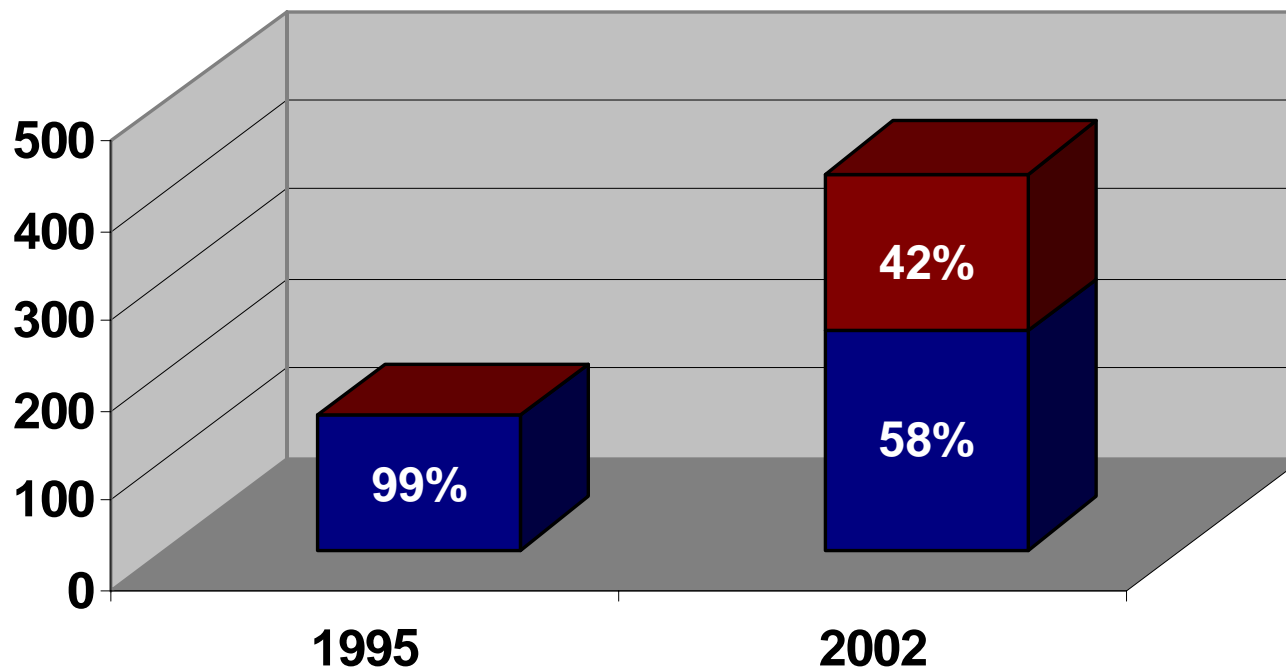
<u>Expected Growth Rates:</u>	
<u>Organic Growth</u>	
• Institutional	6%
• Homecare	7%
<u>New Starts</u>	<u>3%</u>
<b>Total</b>	<b>9%</b>

- Acquisition Discipline
- ◆ High % respiratory oxygen business
  - ◆ Geographic overlap
  - ◆ Strong compliance orientation

**Hospital to Home strategy and selective acquisitions will achieve overall sales growth in excess of 10% per year**

# Praxair Global Electronics

## Worldwide Electronics Sales



■ Semiconductor Gases ■ Materials Science & Services

*Focus on technology differentiation and service to drive growth*

# Electronics - Materials Science and Services

## Advanced Deposition Materials

- ◆ Leading position in targets for thin film metal deposition
- ◆ Product development with key OEM's

## Advanced Components

- ◆ Technically differentiated components for chamber applications (e-chucks, electrodes, baffles)
- ◆ Partnering with major OEMS
- ◆ Increasing customer productivity

## Products Under Development

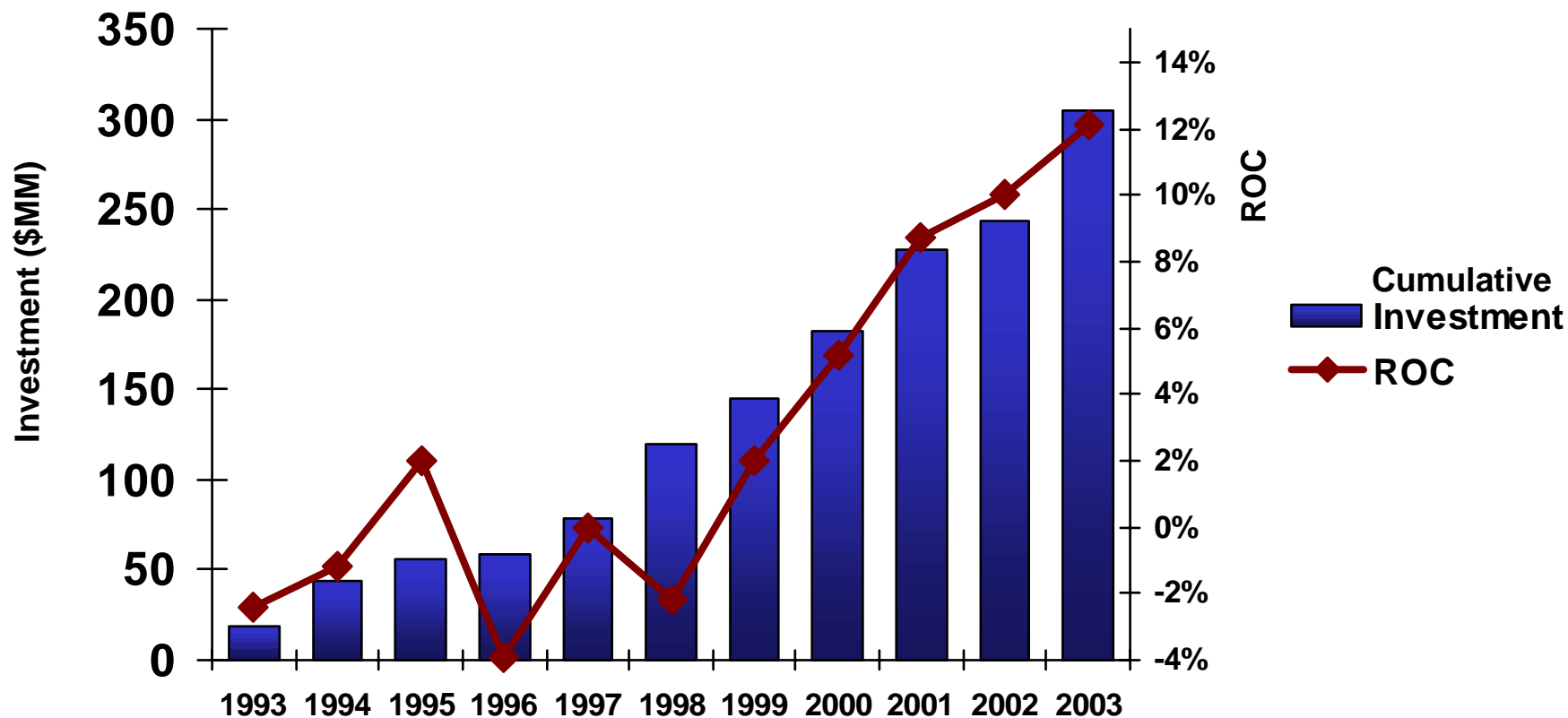
- ◆ CMP - H.C. Starck/Bayer alliance enhances customer solutions
- ◆ Supercritical CO<sub>2</sub> - 5 systems in operation



*Increasing customer productivity by lowering cost of ownership*

# China - Profitable Growth

## Investment and Return on Major Projects



*Improving return on capital*

# New Business Wins in China

## Chemicals

### SCIPIG

- ◆ Praxair/Air Liquide 50/50 Joint Venture
- ◆ Signed contracts with BASF and BP/Shanghai Petrochemical for H<sub>2</sub> and N<sub>2</sub>

## Food and Beverage

### Han Jung Seafood Company

- ◆ Tunnel Freezer
- ◆ Liquid CO<sub>2</sub>

## Semiconductors

### Z-J Wafer Park

- ◆ 15 year contract to SMIC
- ◆ 15 year contract to ACE

## Steel

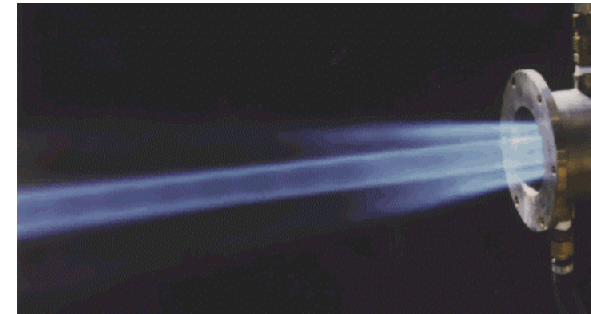
- ◆ Shaoguan Iron and Steel
- ◆ Meishan Iron and Steel
- ◆ Baoshan Iron and Steel

# Capturing Value from Technology Licensing

## ◆ Productivity Applications

### Industry credibility licensing metals technologies

- Success with penetrating AOD Stainless Steel and EAF *CoJet*<sup>®</sup> markets
- BOF *CoJet*<sup>®</sup> market opportunity 500 MM tons
- 1 installation in the US, 2 installations in SA



## ◆ Environmental Solutions

### Reduced NOx emissions from coal fired utilities

- Controlled oxygen injection is low cost solution
- EPA mandate in 19 states
- Full compliance by 2005; additional reductions by 2008
- Target market is boilers below 500 MW
- First commercial installation

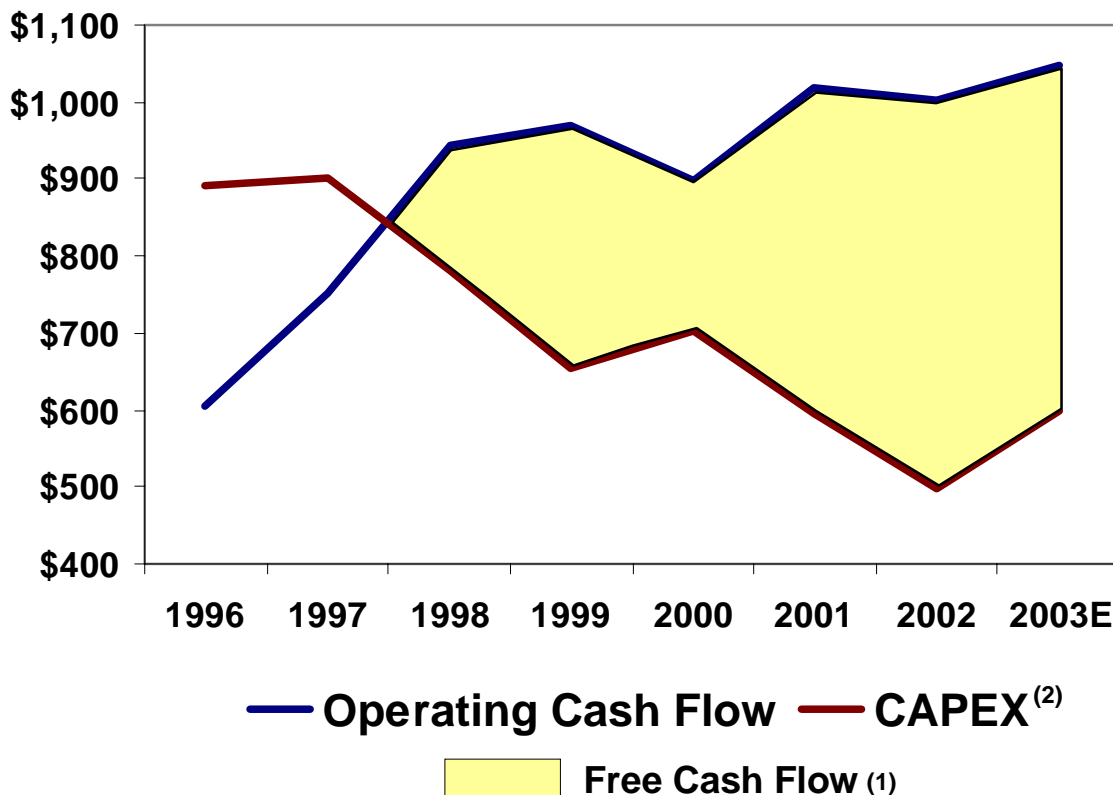




# Robust Cash Flow Generation

- ◆ Significant reduction in capital spending
- ◆ Commitment to less capital intensive growth platform
- ◆ Uses of free cash flow
  - Dividends
  - Debt reduction
  - Selective acquisitions
  - Share repurchases

## Free Cash Flow 1996-2003E (\$MM)



(1) Non-GAAP measure. Free cash flow equals operating cash flow minus capital expenditures.

(2) Excludes Leased Asset Purchase

# Leverage To Improving U.S. Economy

<u>2000 to 2002</u> (\$MM)		<u>North American Industrial Gases</u>	<u>Surface Technologies</u>	<u>Total</u>
Lost Sales Volume	≈	(285)	(42)	(327)
Lost Operating Profit	≈	(100)	(20)	(120)
Lost EPS	≈	(\$0.50)	(\$0.10)	(\$0.60)
Lost NOPAT ROC	≈			(1.5%)

***Praxair's U.S. merchant capacity utilization declined from 85% to 75% from 2000 to 2002. When this recovers, Praxair has substantial upside earnings potential.***

# Leader in Corporate Governance

- ◆ *9/4/03 - Praxair was selected as an index component of the Dow Jones Sustainability World Index*
- ◆ *7/28/03 - Praxair received the highest rating from GovernanceMetrics International. Only 17 companies out of 1,600 received this rating*
- ◆ **Praxair ranked in the 94<sup>th</sup> percentile of S&P 500 by Institutional Shareholder Services**
- ◆ **9 of 10 independent directors. All members of audit, compensation, governance and nominating committees are independent**
- ◆ **Quarterly meetings of non-management directors**
- ◆ **Rotation of board committee members and chairpersons every 3 - 5 years**
- ◆ **Stock ownership guidelines for directors**

***Exceeding the requirements of Sarbanes-Oxley and NYSE***



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