

THE BAKER INSTITUTE  
**ENERGY FORUM**



*To Lend a Meaningful Voice*

# NOC Perspectives

## Comparative Performance Metrics

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# Objective

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## **IDENTIFY ANY OPERATING & FINANCIAL DIFFERENCES BETWEEN IOCS AND NOCS**

- 1. The characteristics that distinguish the two types of entity**
- 2. Focus on any areas of distinct advantage or disadvantage**



## KEY COMPARATIVE METRICS

### ▪ Absolute Size

- Reserves
- Oil and Gas Production
- Refining Capacity
- Employees
- Total Assets
- Revenues
- EBITDA
- Net Income

### ▪ Operating Characteristics

- Liquids Reserves
- Gas Reserves
- Percent Liquids Reserves
- Percent Liquids Production
- Liquids Reserve Life
- Gas Reserve Life
- Refinery Integration

### ▪ Operating Performance

- Total EBITDA per barrel
- **Segment EBITDA per barrel**
- **Segment ROA**
- R&M EBITDA/TOTAL EBITDA
- **Lifting Costs per bbl**
- **Reserve Replacement Costs per bbl**
- **Reserve Replacement Rate**
- **Employee Profitability**

### ▪ Financial Performance

- Turnover
- Gross Margin
- **EBITDA ROCE**
- EBIT ROCE
- **Return on Equity**
- Cash Flow Reinvestment
- **Leverage Ratio**

### ▪ Stock Market Performance

- Market Capitalization
- Firm Value
- **Reserve Market Valuation**
- **Dividend Yield**
- **P/E RATIO**
  - Price to 2004 Estimated Earnings
  - Price to 2005 Estimated Earnings
- One Year Shareholder Return

**Note:** **Bold blue** indicates key measure of efficiency/competitiveness



- **Operating Performance**

- Standard set of financial measures of operating efficiency
- Heuristics that are widely used by energy analysts
- Certain measures with revenue or assets in the equations are subject to distortions
- Most important measures are those that avoid some of the comparability pitfalls: EBITDA per barrel, reserve replacement costs, lifting costs, etc.
















- **Financial Performance**

- Standard measures familiar to and utilized by CFOs and financial executives
- Again, particularly in relation to national oil companies, certain measures with revenue or assets in the equations are subject to distortions or comparability issues
- Best measures focus on return

# Universe of Companies



- **Companies were categorized among three groups**
  - Super Major: Global oil companies distinguished by their size
  - Integrated Major: International integrated oil companies
  - Privatizing: Integrated oils with continued state participation
- **Some privatizing national oil companies were not include in the analysis**
  - Smaller European companies with significant downstream operations - examples MOL, OMV
- **For reference purposes, Aegis calculated the metrics for two state-owned oil companies: PDVSA and PEMEX**
  - Due to reporting, accounting standard, engineering analysis, regulatory and other differences with the super major, integrated major and privatizing companies, the utility and comparability of the state-owned oil companies may be limited.

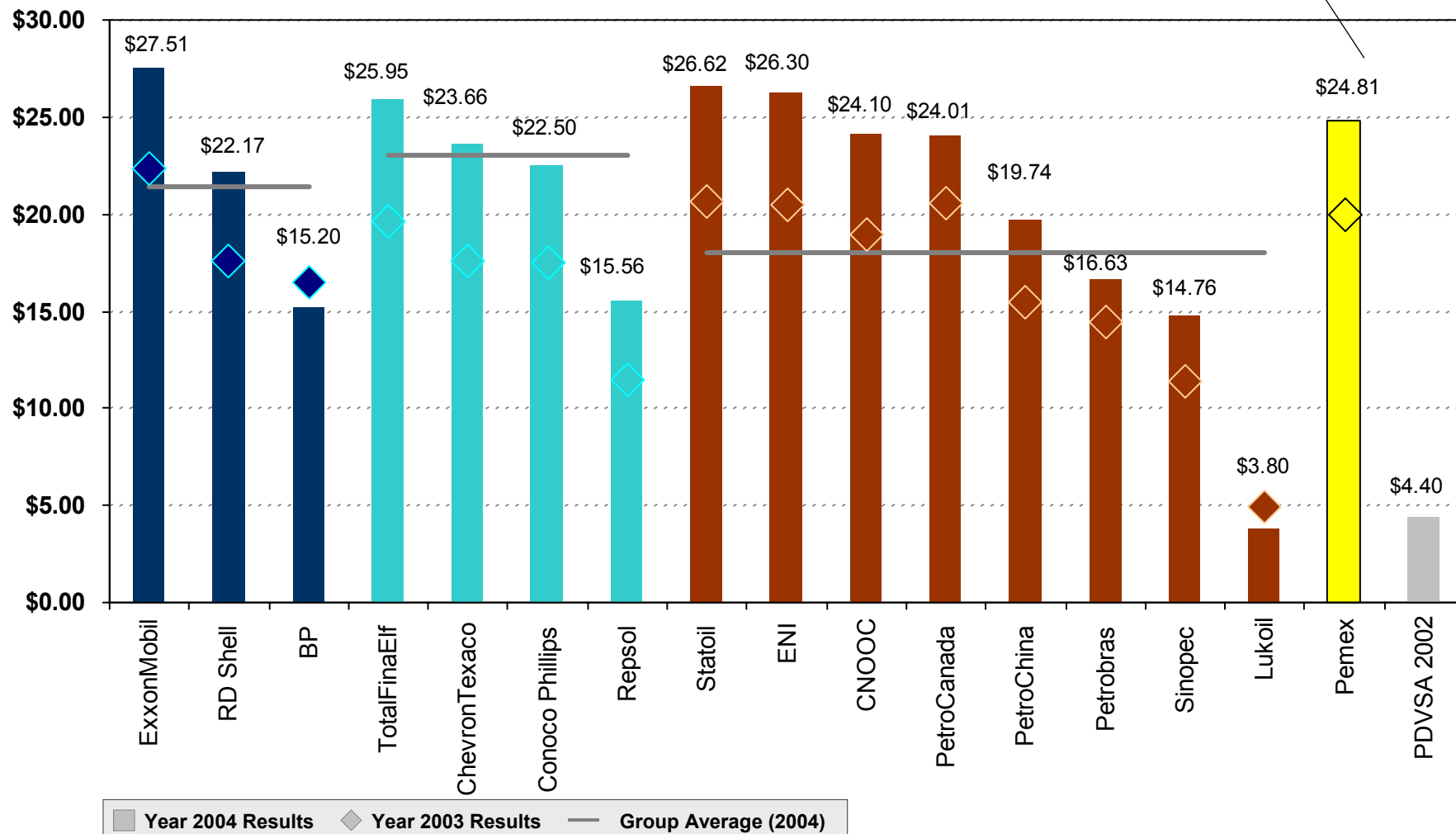
Super Major	Integrated Major	Privatizing
 BP	 ChevronTexaco	 Eni
 ExxonMobil	 ConocoPhillips	 Petrobras
 Royal Dutch Shell	 Repsol-YPF	 PetroCanada
	 TotalFinaElf	 PetroChina
		 Sinopec
		 Statoil
		 CNOOC
		 Lukoil

# E&P SEGMENT PERFORMANCE



▪ E&P Segment EBITDA / Total Production (BOE) (\$/bbl)

PEMEX at the top of the range; PDVSA at the bottom

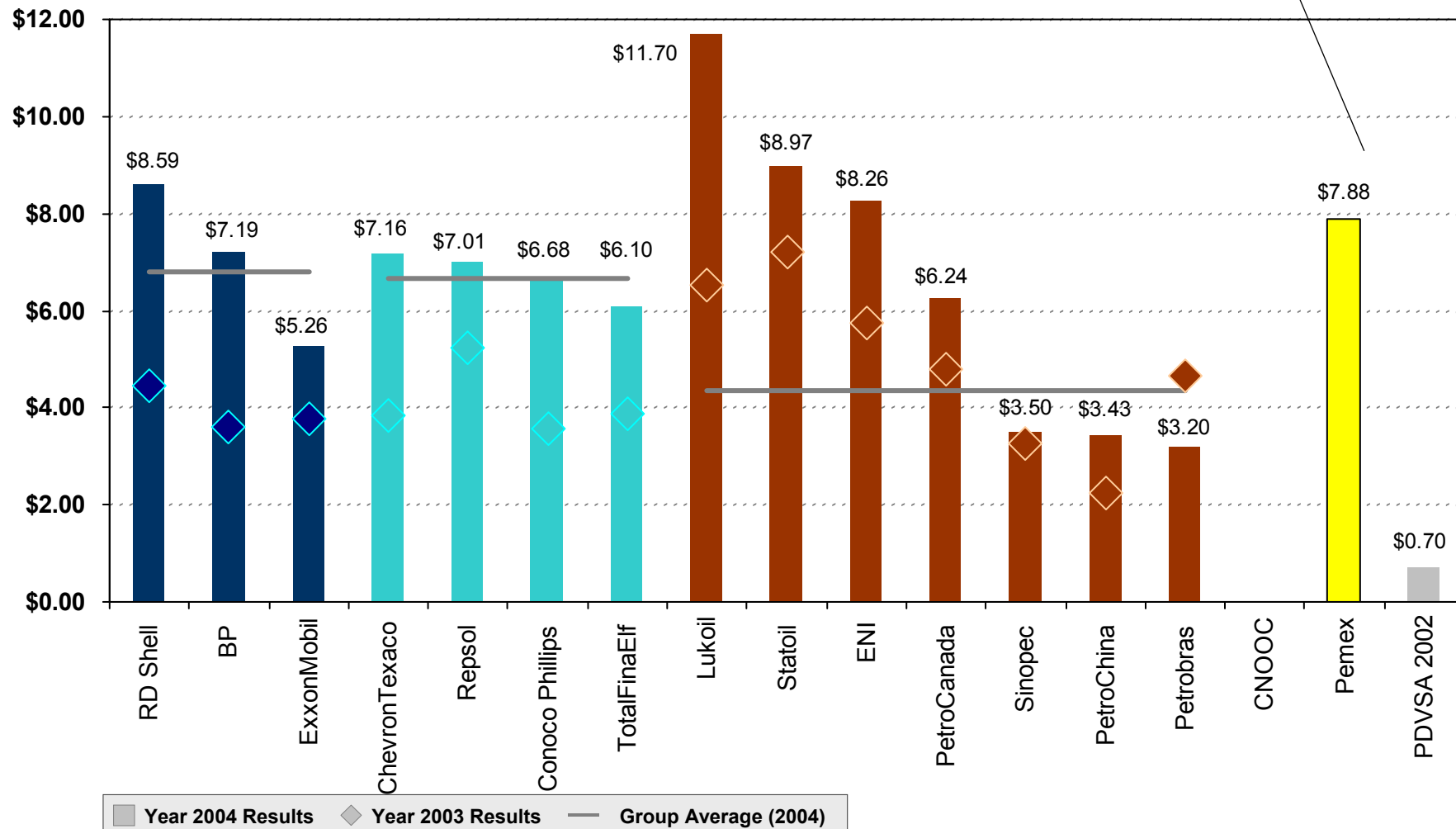


# R&M SEGMENT PERFORMANCE



▪ R&M Segment EBITDA / 95% of Refining Capacity (annualized) (\$/bbl)

PEMEX toward the top of the range; PDVSA at the bottom

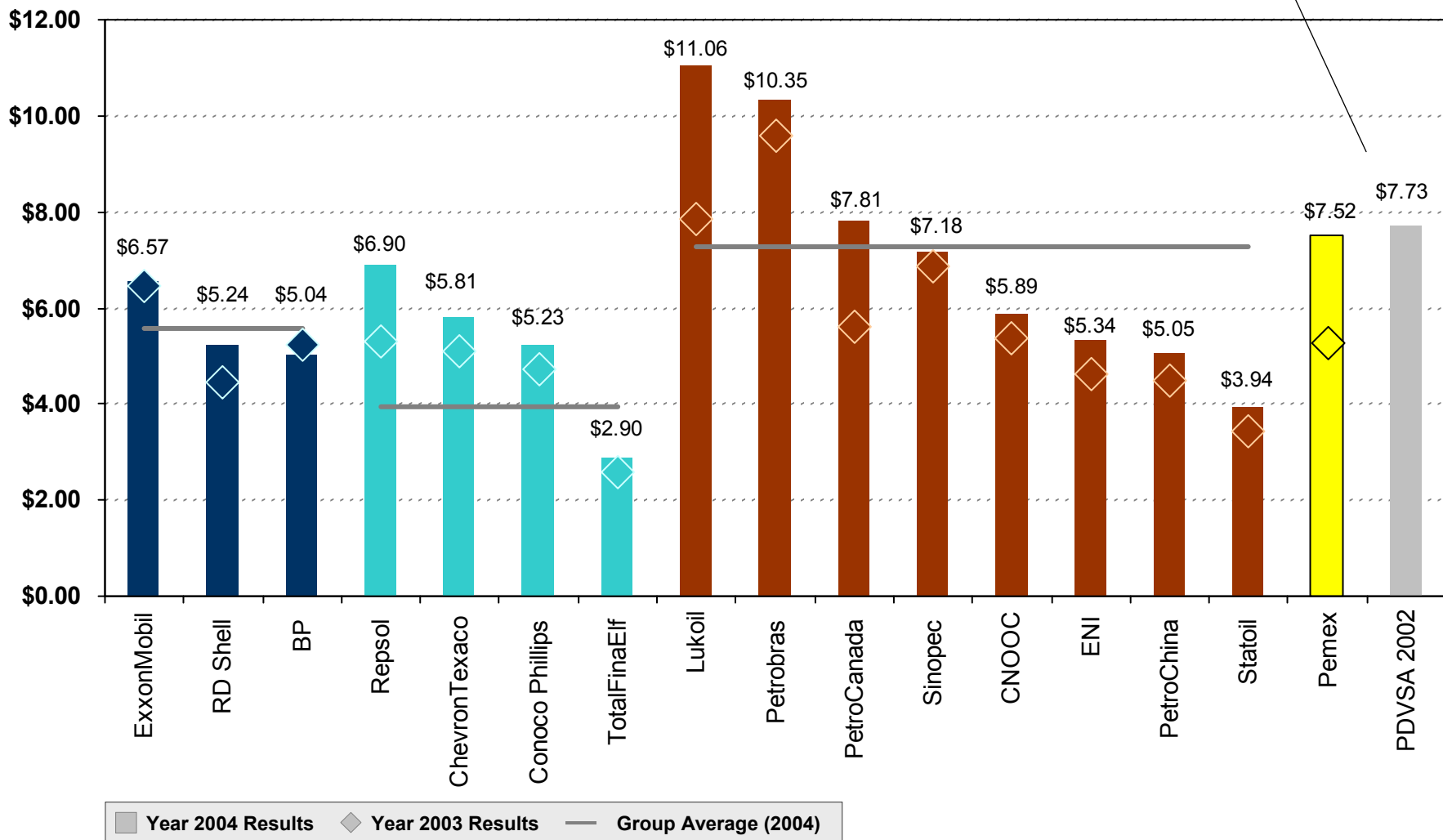


# LIFTING COSTS



Production Costs (including royalties) / BOE (Barrel of Oil Equivalent) Annual Production (\$/bbl)

PEMEX and PDVSA both at the top of the range



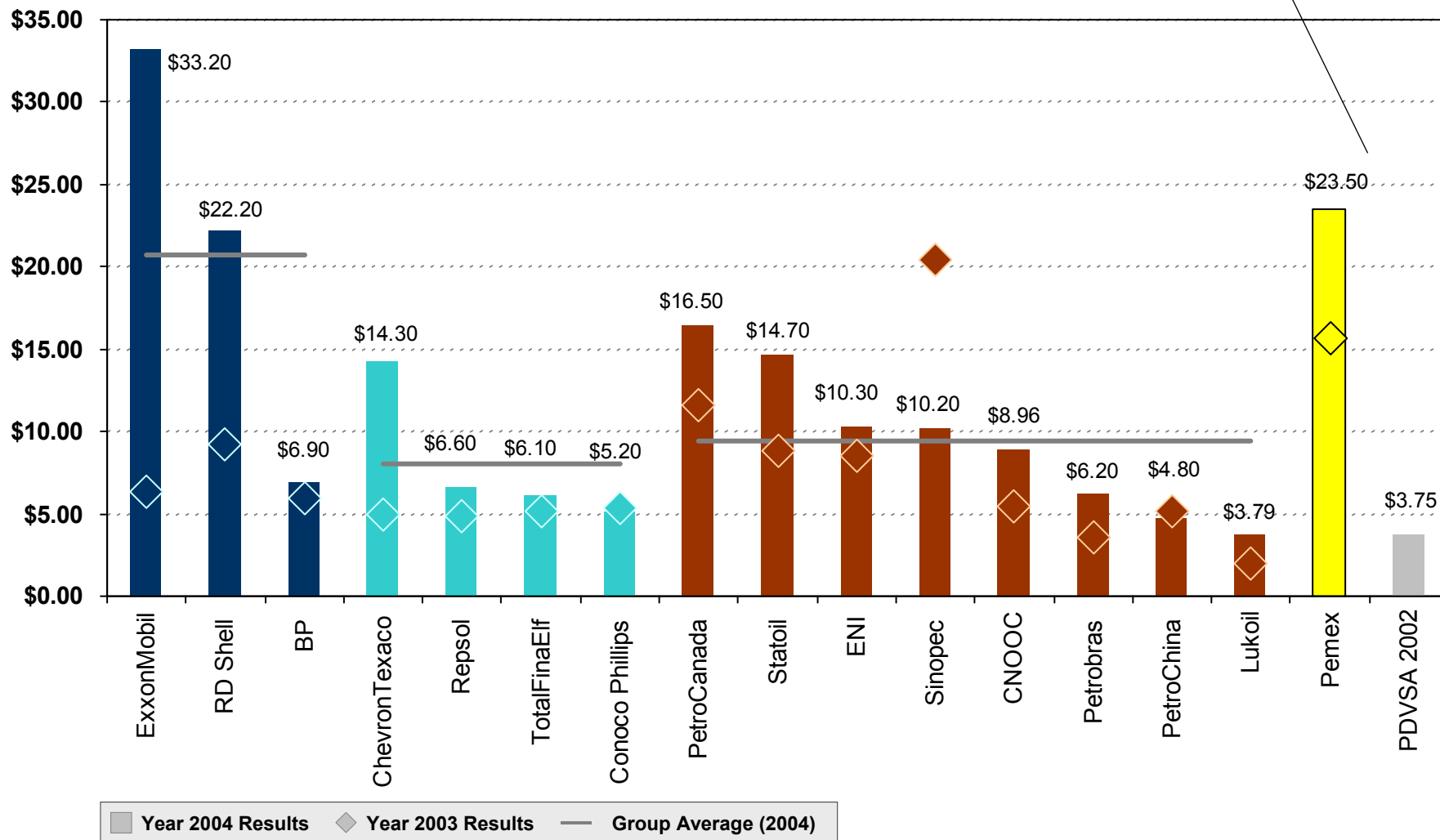


# RESERVE REPLACEMENT COSTS



- Total E&P Costs (including acquisitions) / (Revisions + Purchases + Extensions & Discoveries + Improved Recovery) (\$/bbl)

PEMEX at the top of the range; PDVSA at the bottom

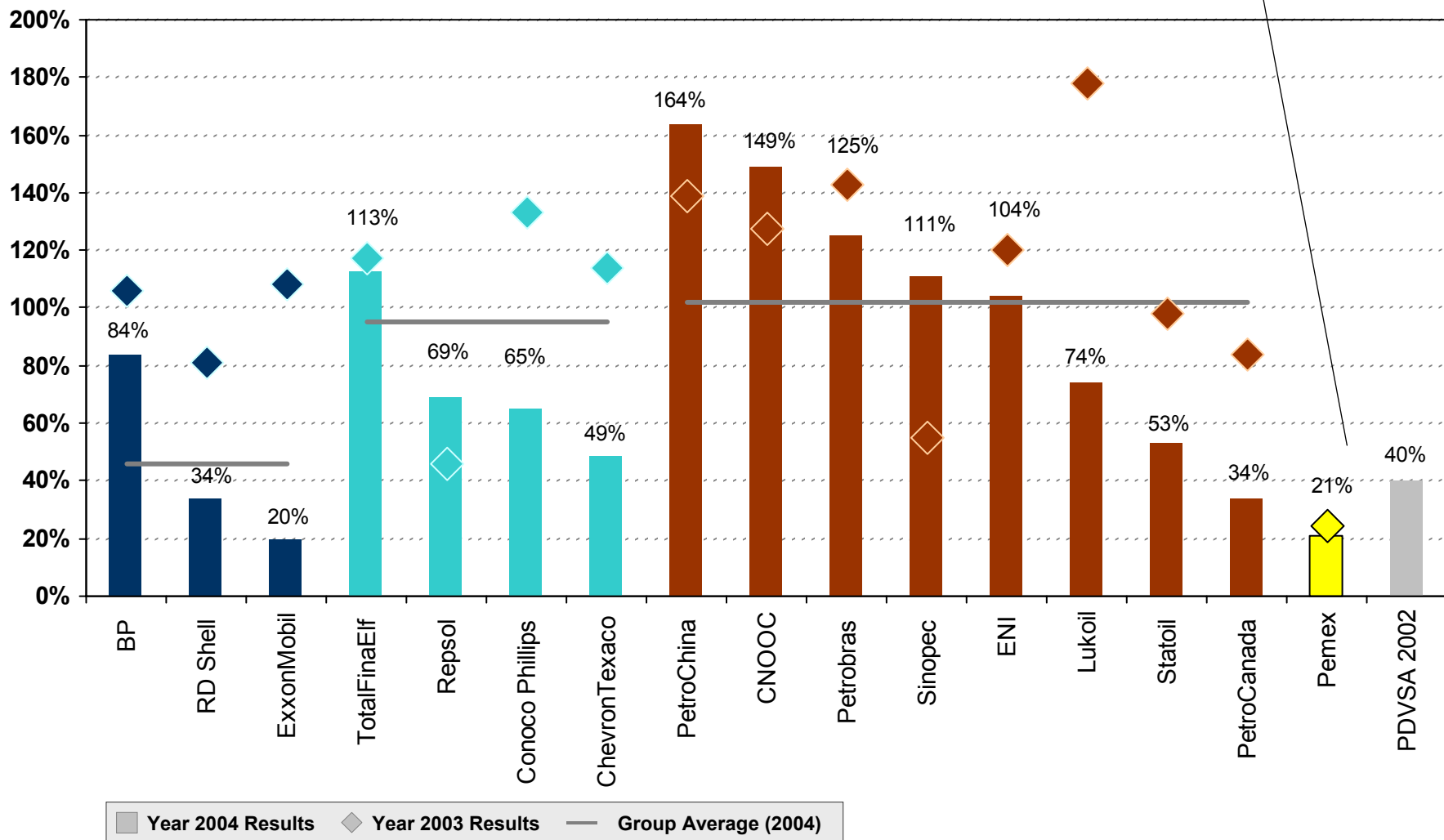


# RESERVE REPLACEMENT RATE



▪ (Revisions + Extensions & Discoveries + Improved Recovery) / Oil & Gas Production

PEMEX and PDVSA both at the bottom of the range

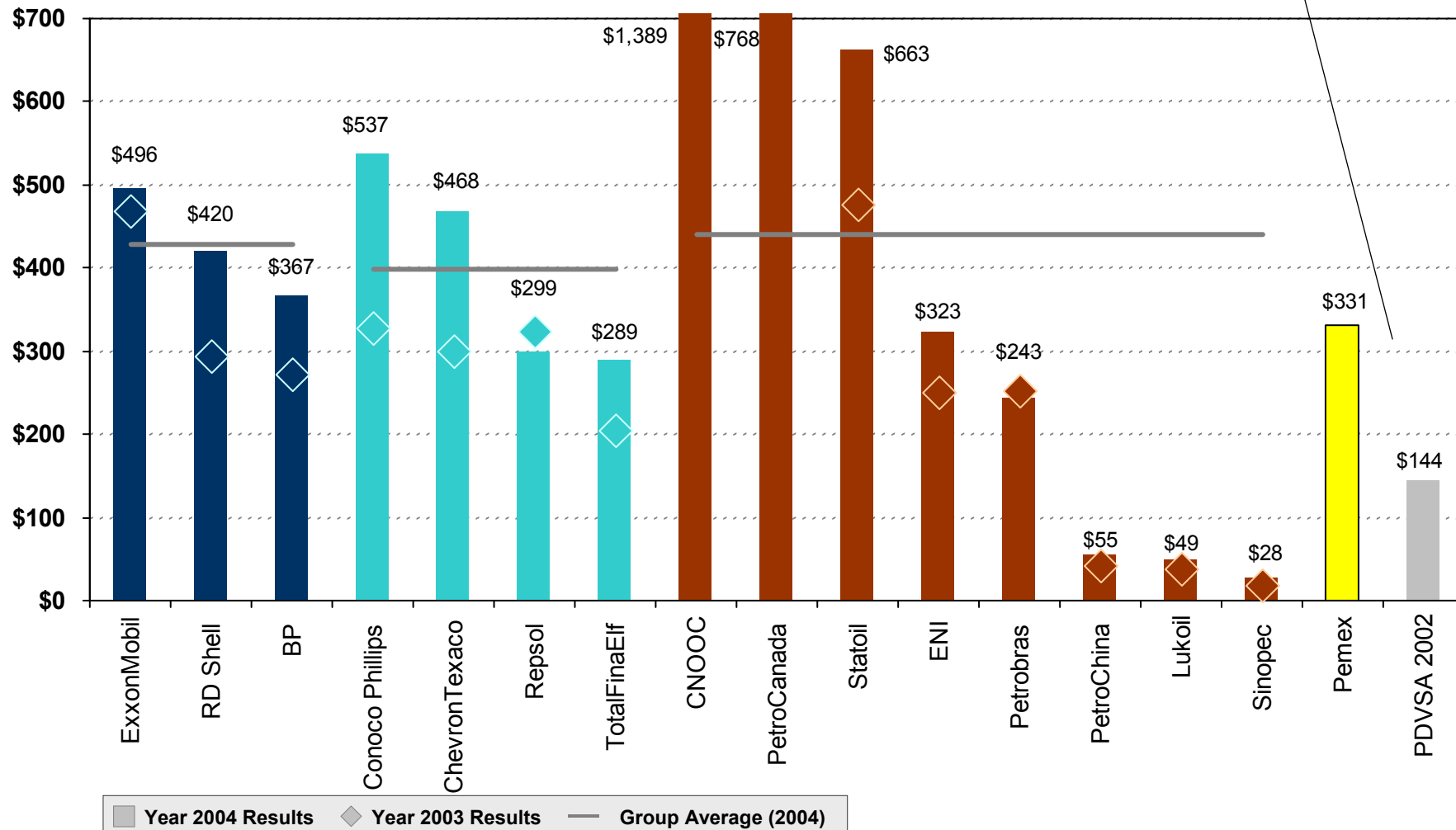


# EMPLOYEE PROFITABILITY



▪ EBITDA (Earnings Before Interest, Taxes & Depreciation) / Company Employee (\$ thousands)

PEMEX in the middle of the range; PDVSA at the bottom

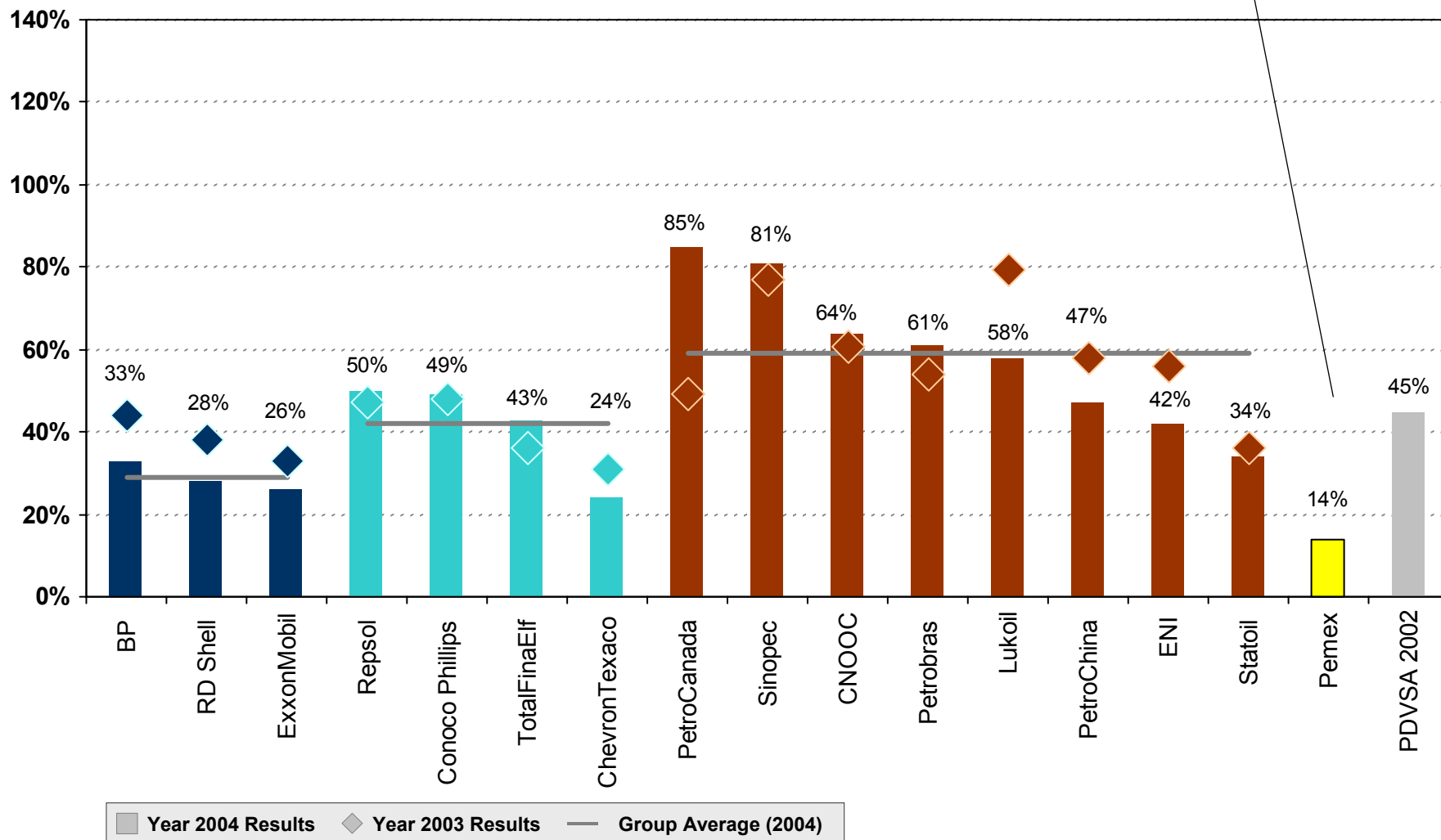


# CASH FLOW REINVESTMENT



▪ Capital Expenditures / EBITDA (*Earnings Before Interest, Taxes & Depreciation*)

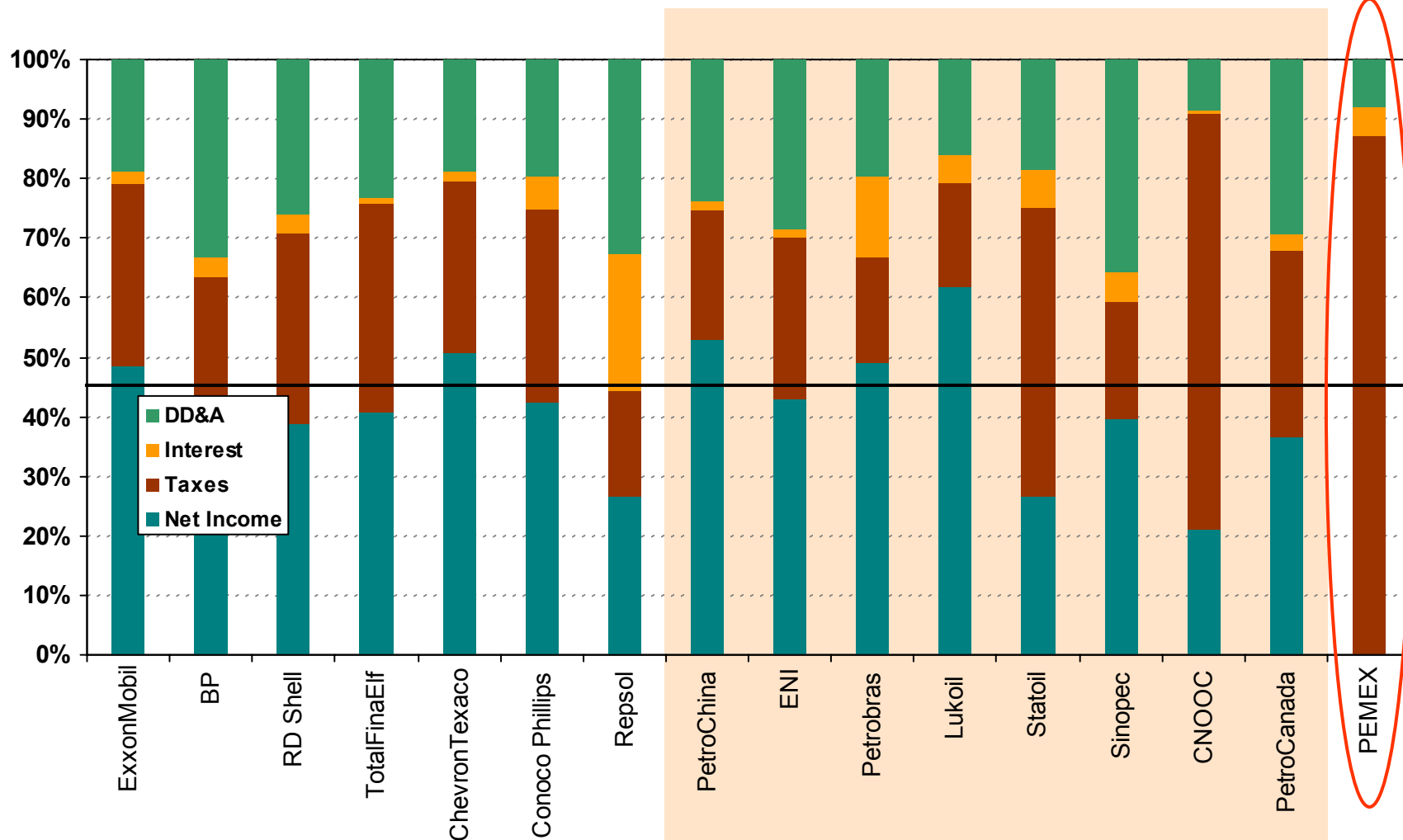
PEMEX at the bottom of the range; PDVSA in the middle



# EBITDA COMPONENTS



- Privatizing Companies' net incomes relative to EBITDA generally in-line with the comparable companies
  - Notable exceptions: Lukoil (high), Statoil and CNOOC (low)



# Conclusions

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- **NOCs perform differently from IOCs in many respects**
- **Comparisons not always favorable**
- **Many aspects of NOC ownership and operation of energy related businesses may be inefficient or suboptimal when compared with IOCs**
- **Presents both challenges and opportunities to NOC/IOC cooperation**