

Operating Expenses and Margin Analysis of the European Union (EU) Refineries vs Regional Peers

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Third Meeting of the EU Refining Forum
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M³ — Measure. Manage. Maximize.®



Solomon Benchmarking

Global Standard

We show our **clients** where their operations stand against the spectrum of **global** competition.

Our data are proprietary, not pulled from inconsistent, publicly available sources.

CPA based on **“apples-to-apples”** comparisons, letting you truly identify the areas where your facilities could improve.

We see the trends of change as

95% of companies **repeat** participation study after study.

Solomon Global CPA Studies & Consulting

Fuels Refining

Lubes Refining

Power Generation

Aromatics

Petrochemicals

Terminals

Gas Processing Plants

Liquid Pipelines

Natural Gas Pipelines

Process Control

Automation

Reliability & Maintenance

Integrated Site Complex

Upstream – NEW

Consulting Services

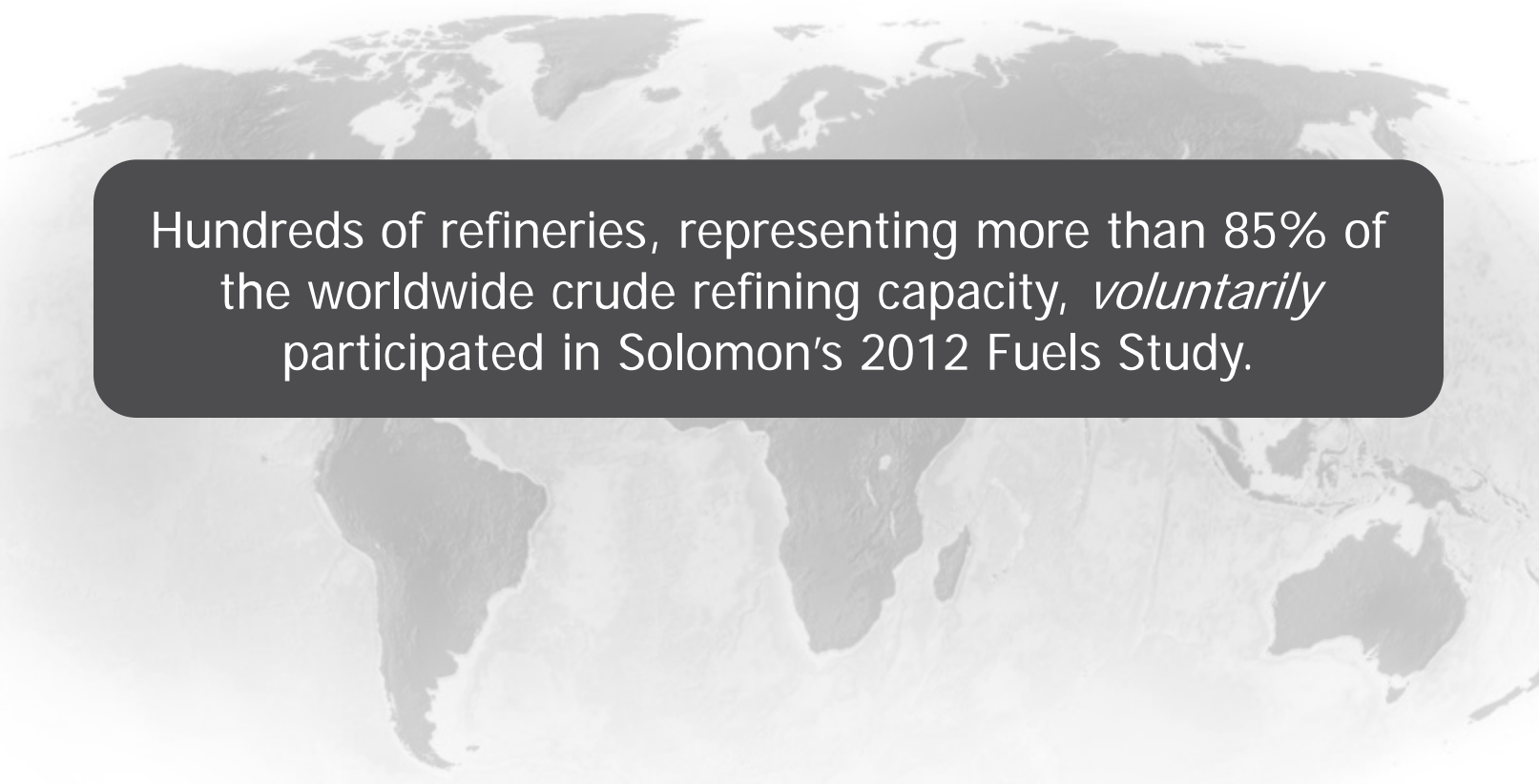
Companies in more than

70 countries rely

on Solomon; our metrics have become the standard for gauging performance around the world.



2012 Fuels Study



Hundreds of refineries, representing more than 85% of the worldwide crude refining capacity, *voluntarily* participated in Solomon's 2012 Fuels Study.

Business Environment



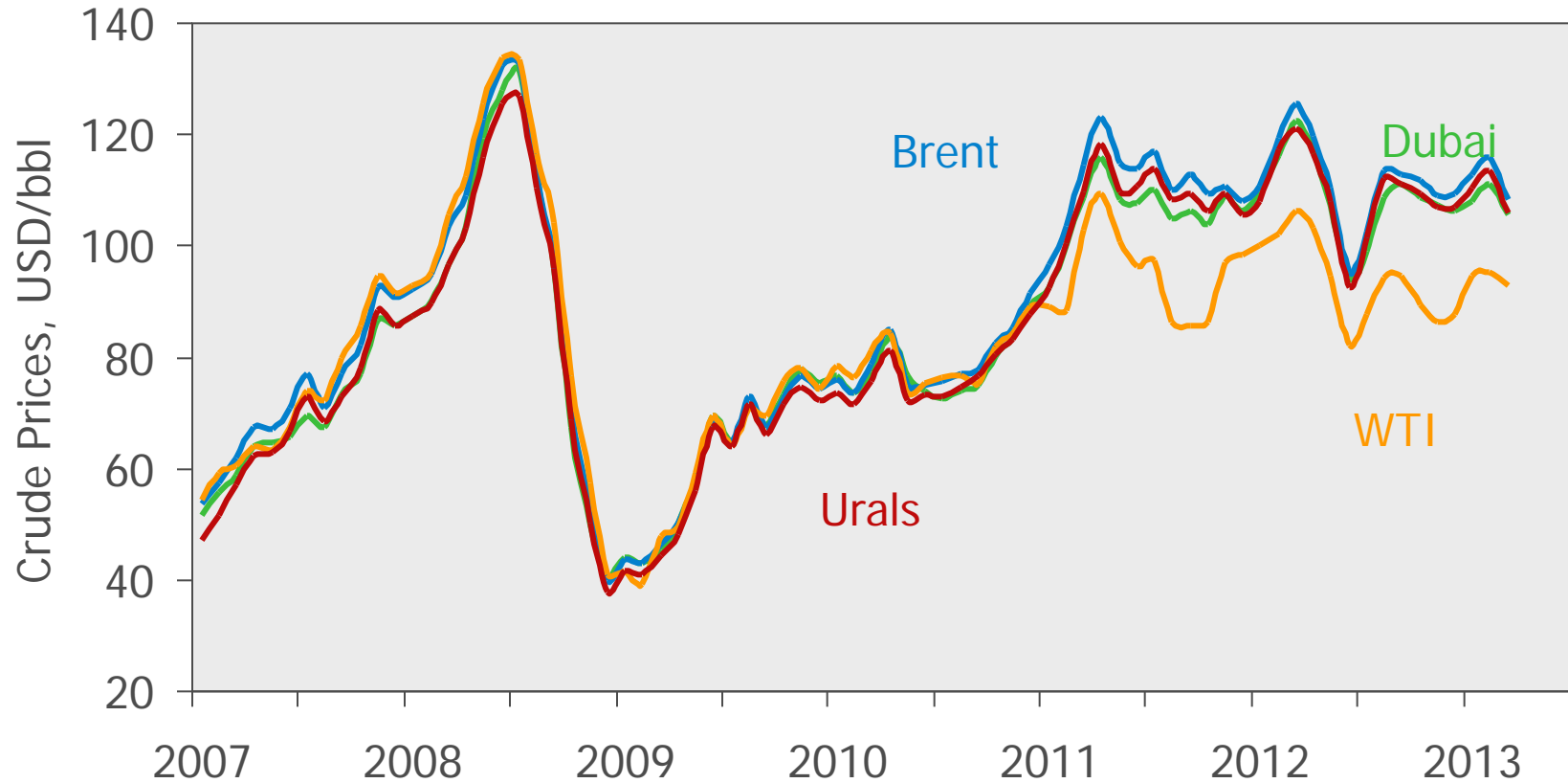
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Crude Price History

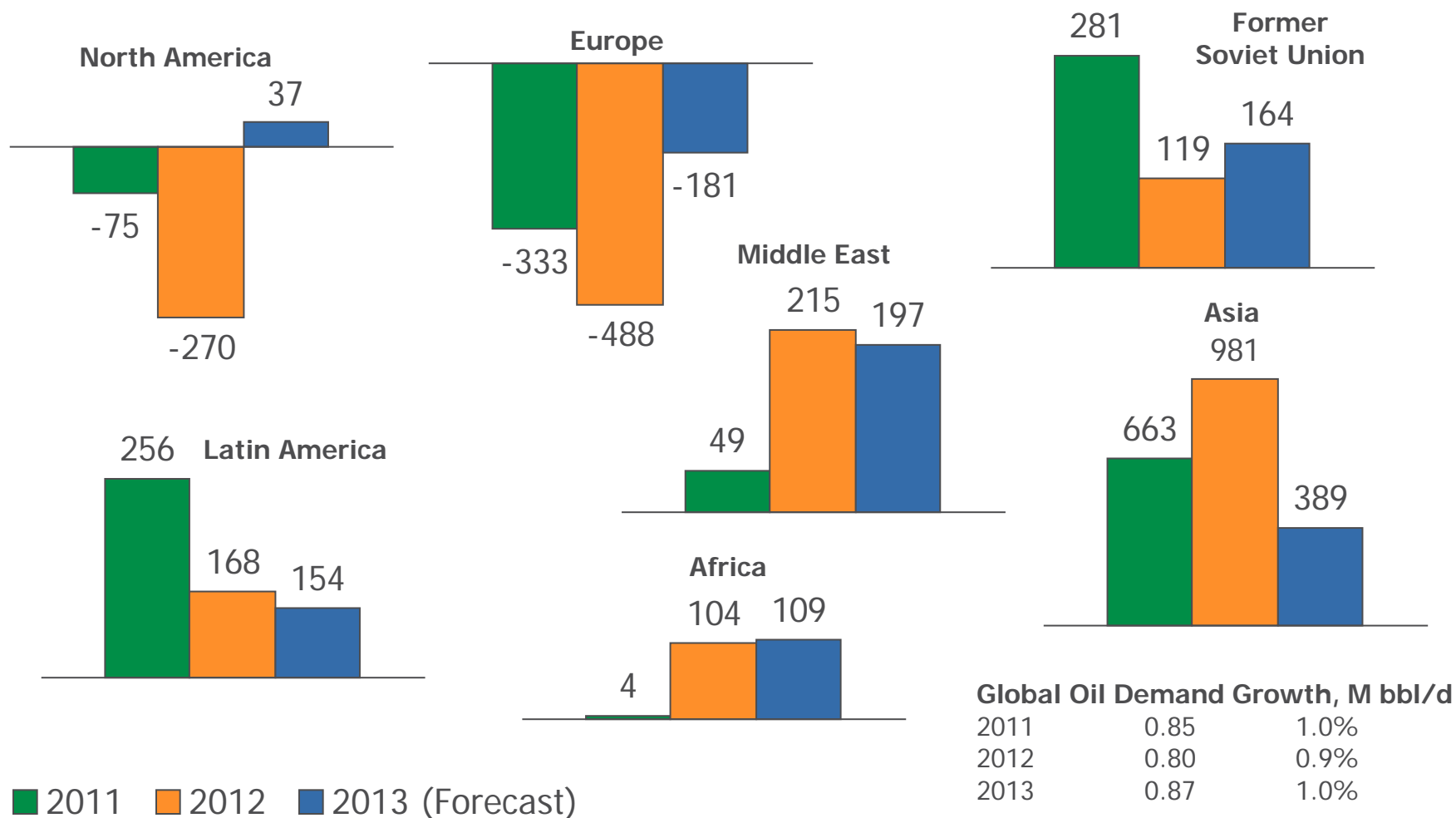
EUR



Sources: EIA and Platts

Global Oil Demand (IEA)

Annual Changes Since 2010 (k bbl/d)

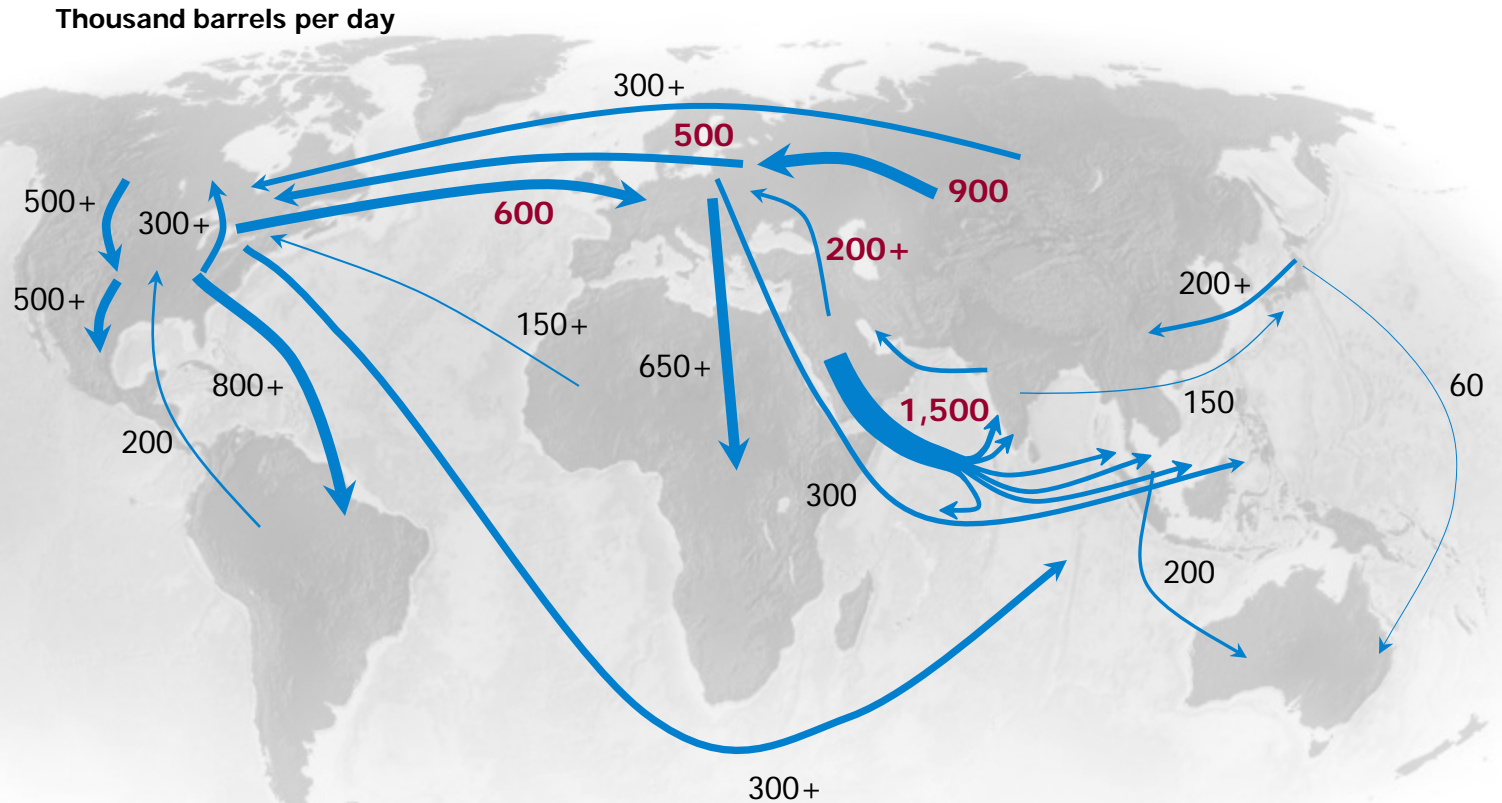


Source: <http://omrpublic.iea.org/omrarchive/12dec12full.pdf>

Worldwide Oil Products Trade Flow

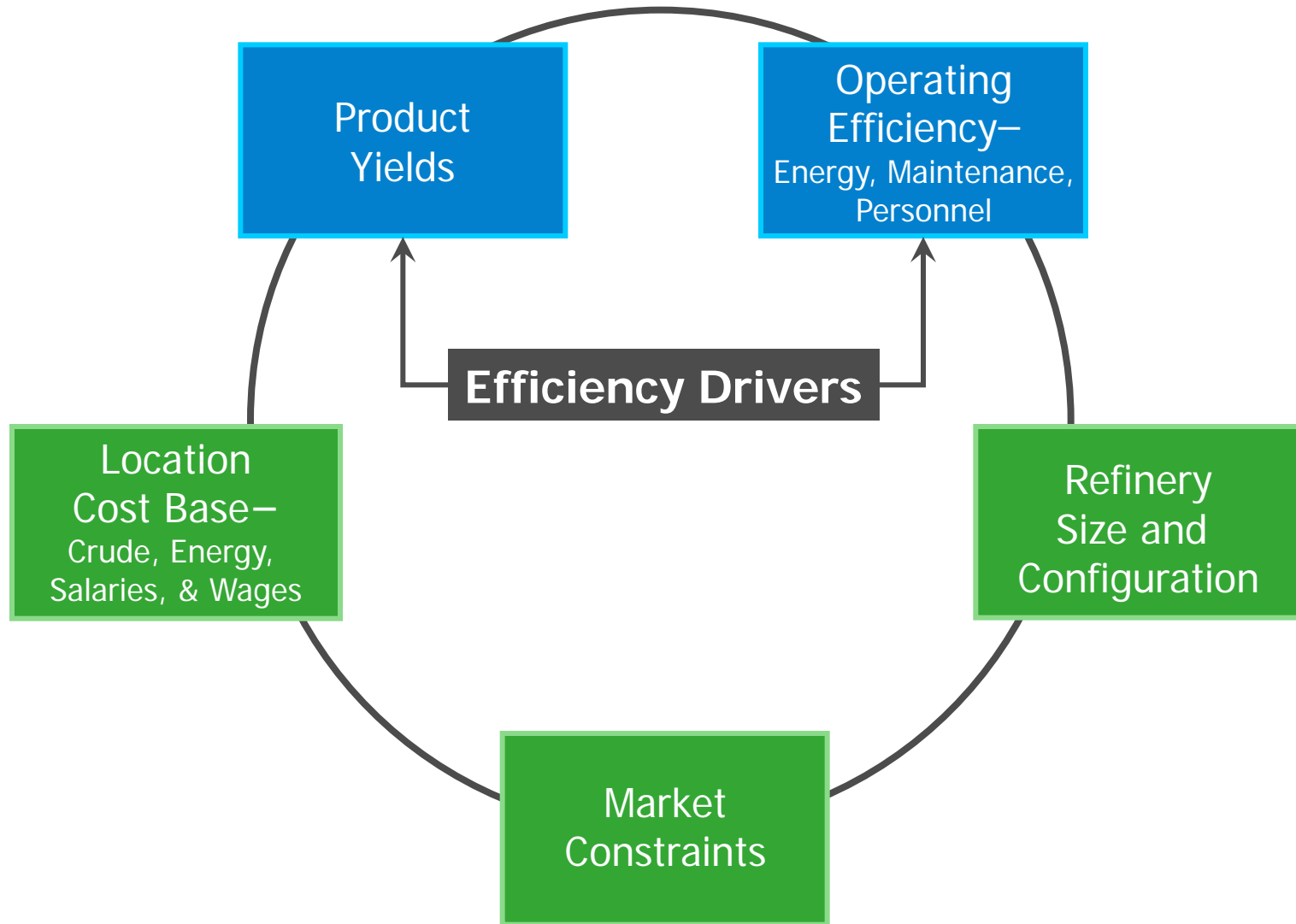
2012

Sources: IEA, EIA, and BP



Refining is becoming a global commodity business with a significant growth in product trades across regions. Global Supply is competing with each other to keep up with Global Demand.

Drivers for Competitiveness



Refining Performance Trends (2000–2012)



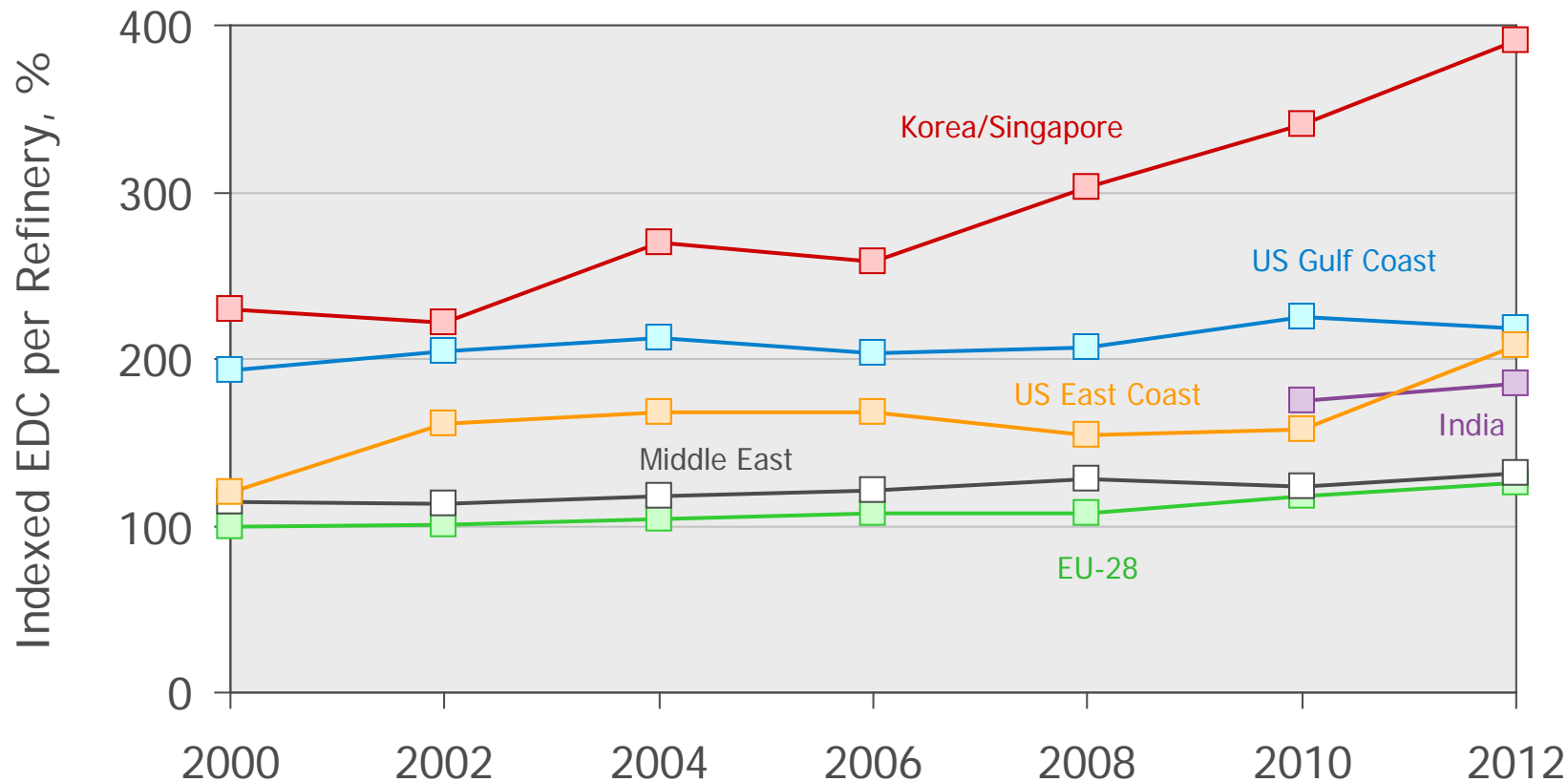
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Average EDC per Refinery

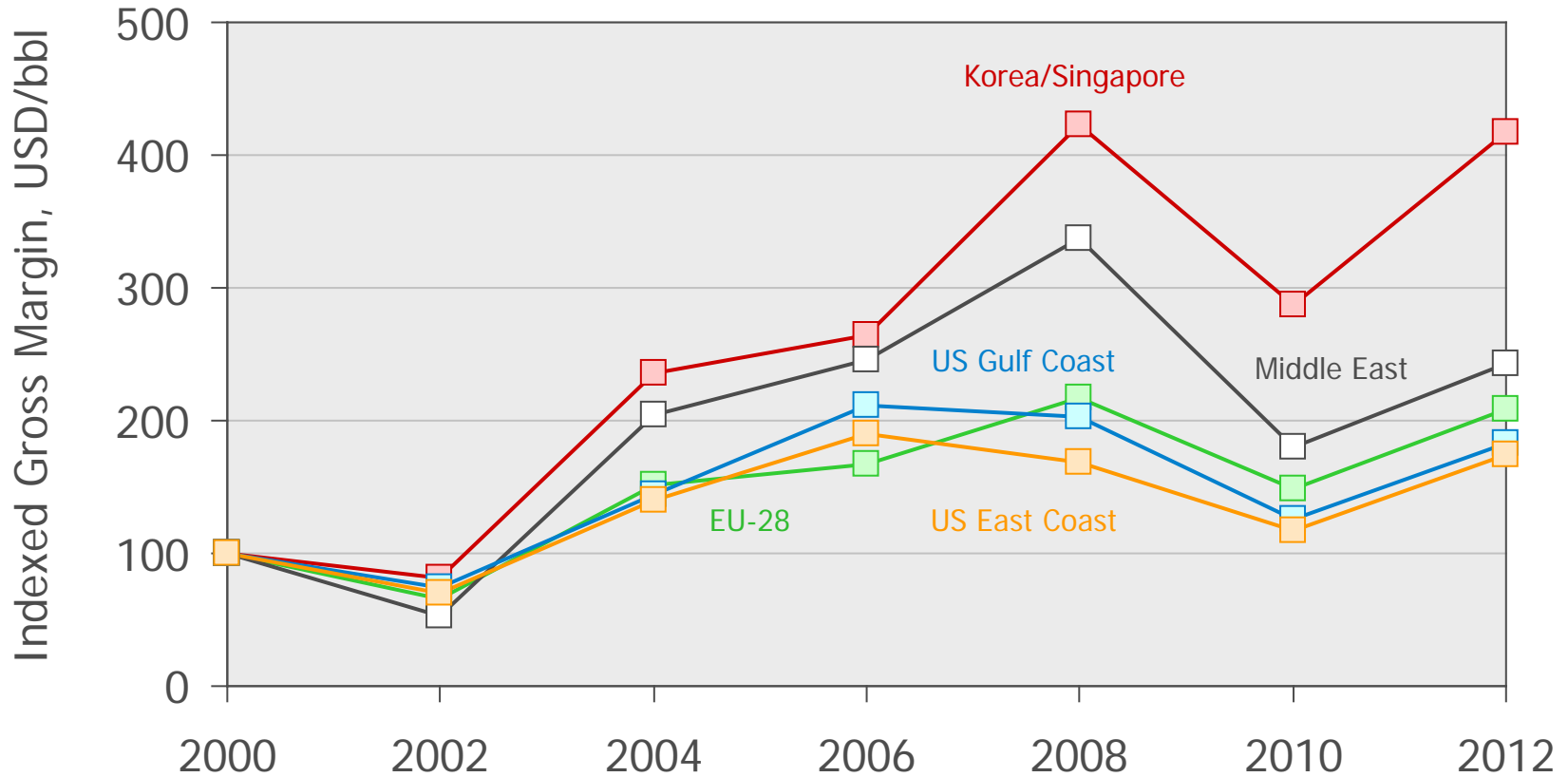
Operating Years 2000–2012



Average EDC per refinery for all regions indexed relative to EU-28 = 100 in Year 2000

Gross Margin

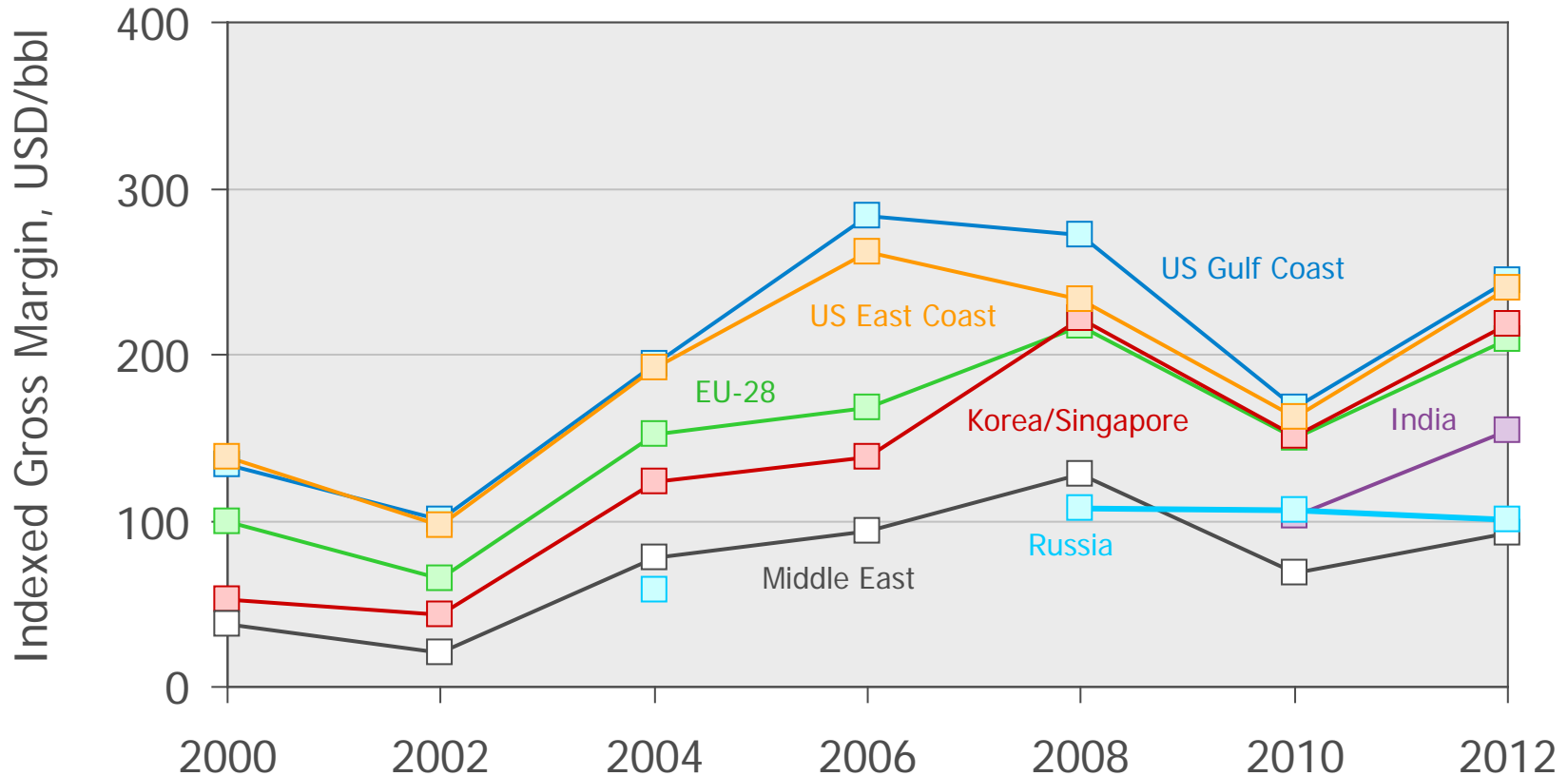
Operating Years 2000–2012



Gross Margin in USD/bbl for all regions indexed relative to 100 in Year 2000

Gross Margin

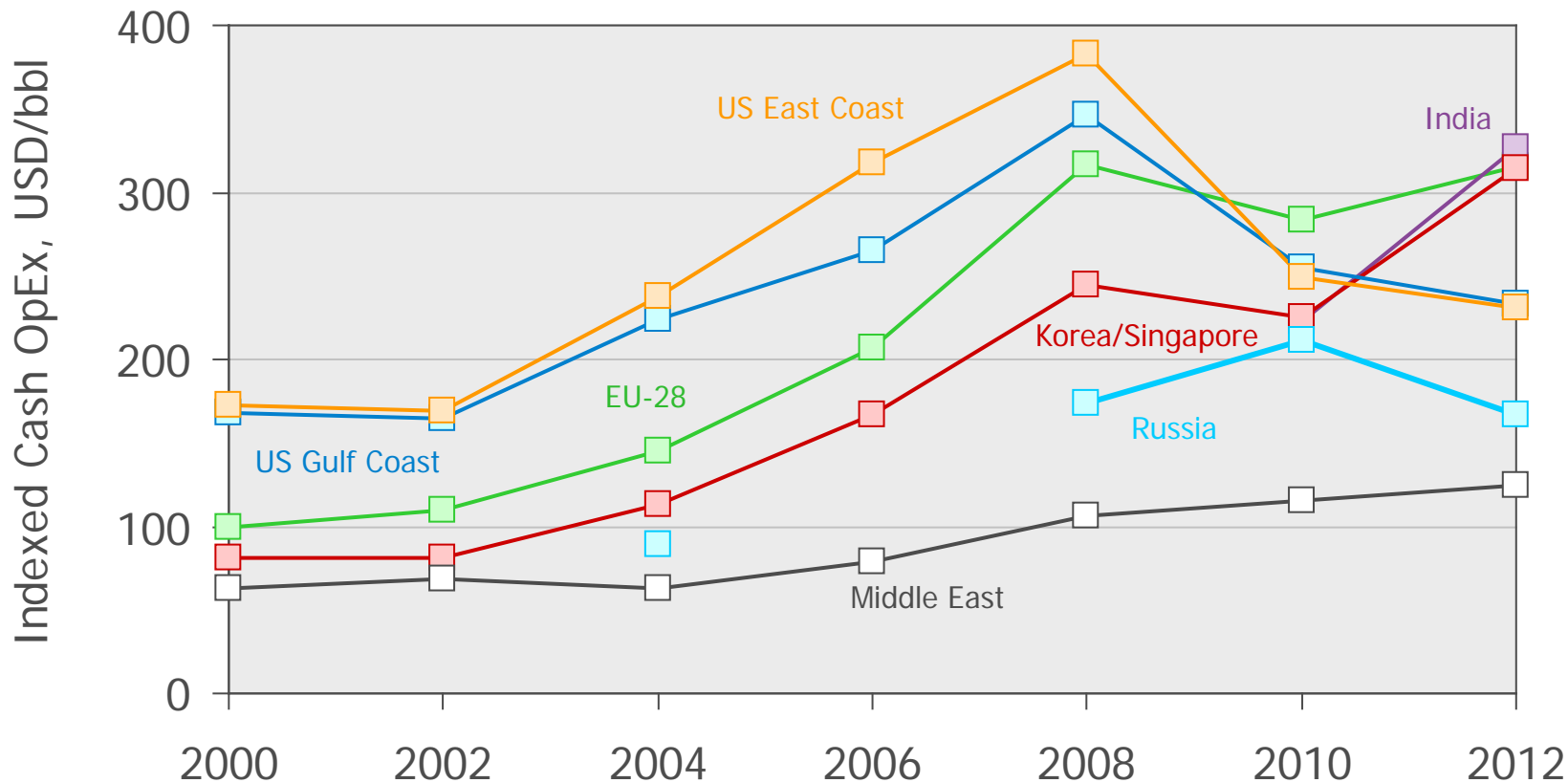
Operating Years 2000–2012



Gross Margin in USD/bbl for all regions indexed relative to EU-28 = 100 in Year 2000

Cash OpEx

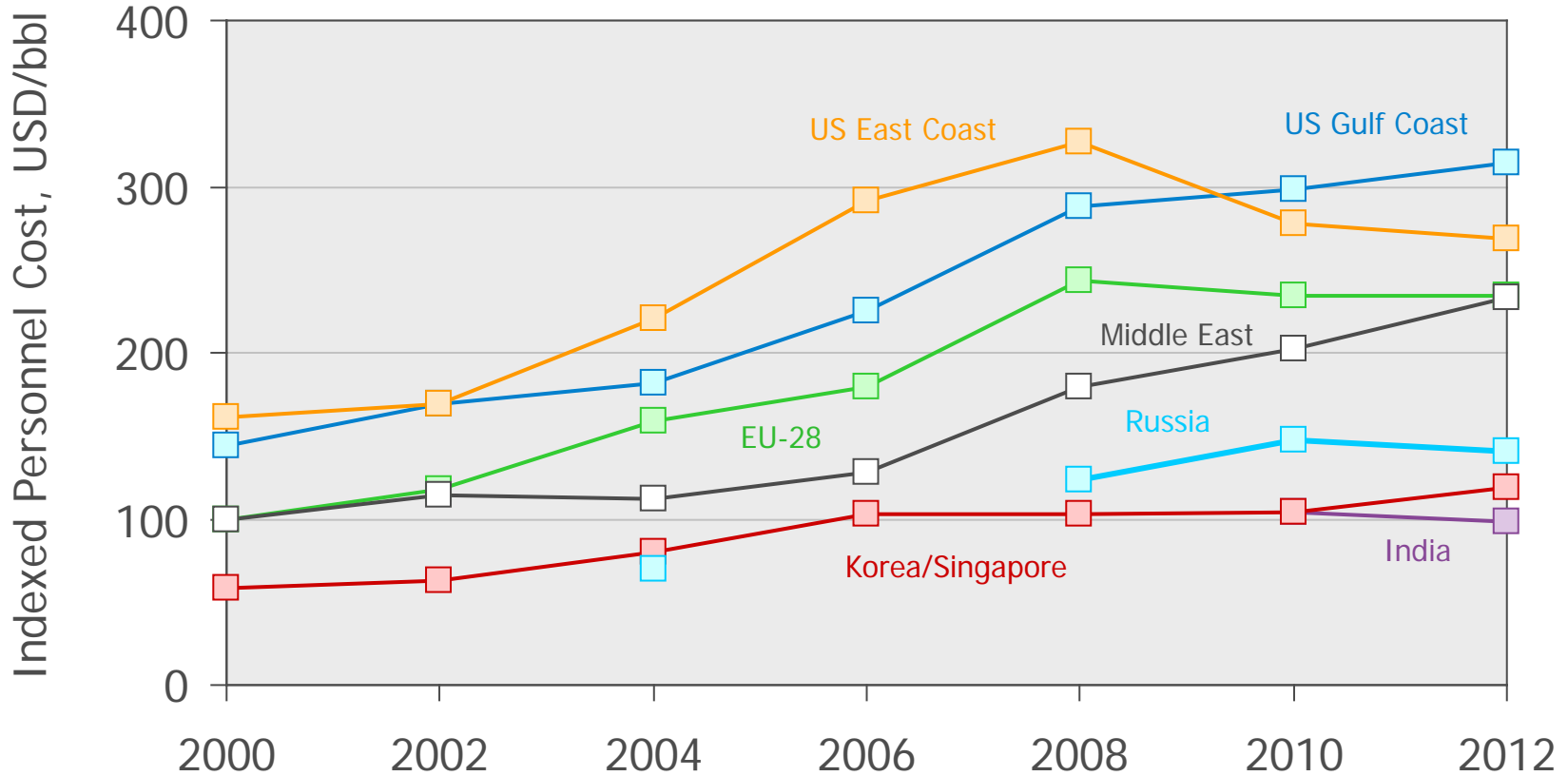
Operating Years 2000–2012



Cash OPEX in USD/bbl for all regions indexed relative to EU-28 = 100 in Year 2000

OpEx – Personnel Cost

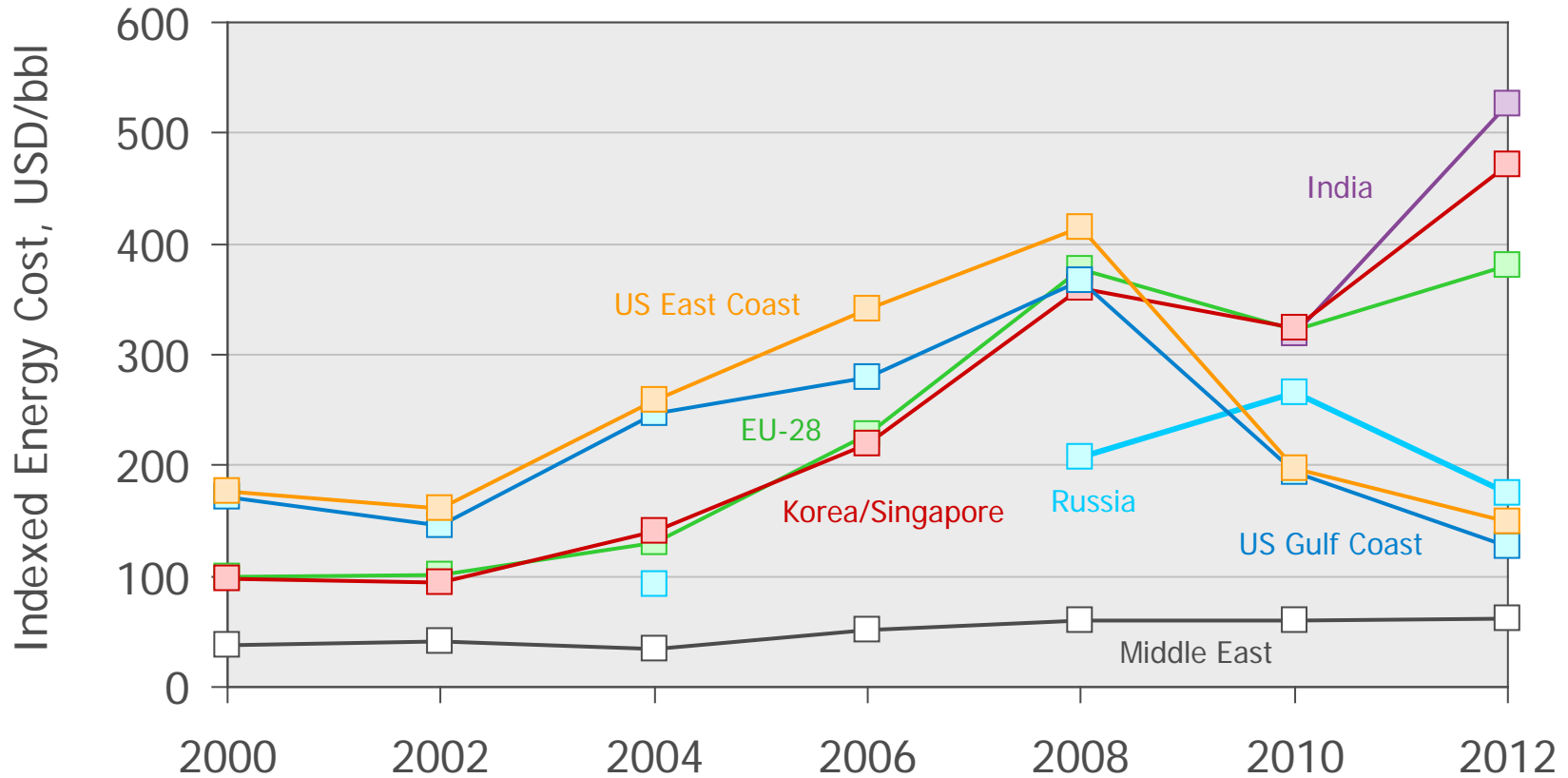
Operating Years 2000–2012



OPEX – Personnel Cost in USD/bbl for all regions indexed relative to EU-28 = 100 in Year 2000

OpEx – Energy Cost

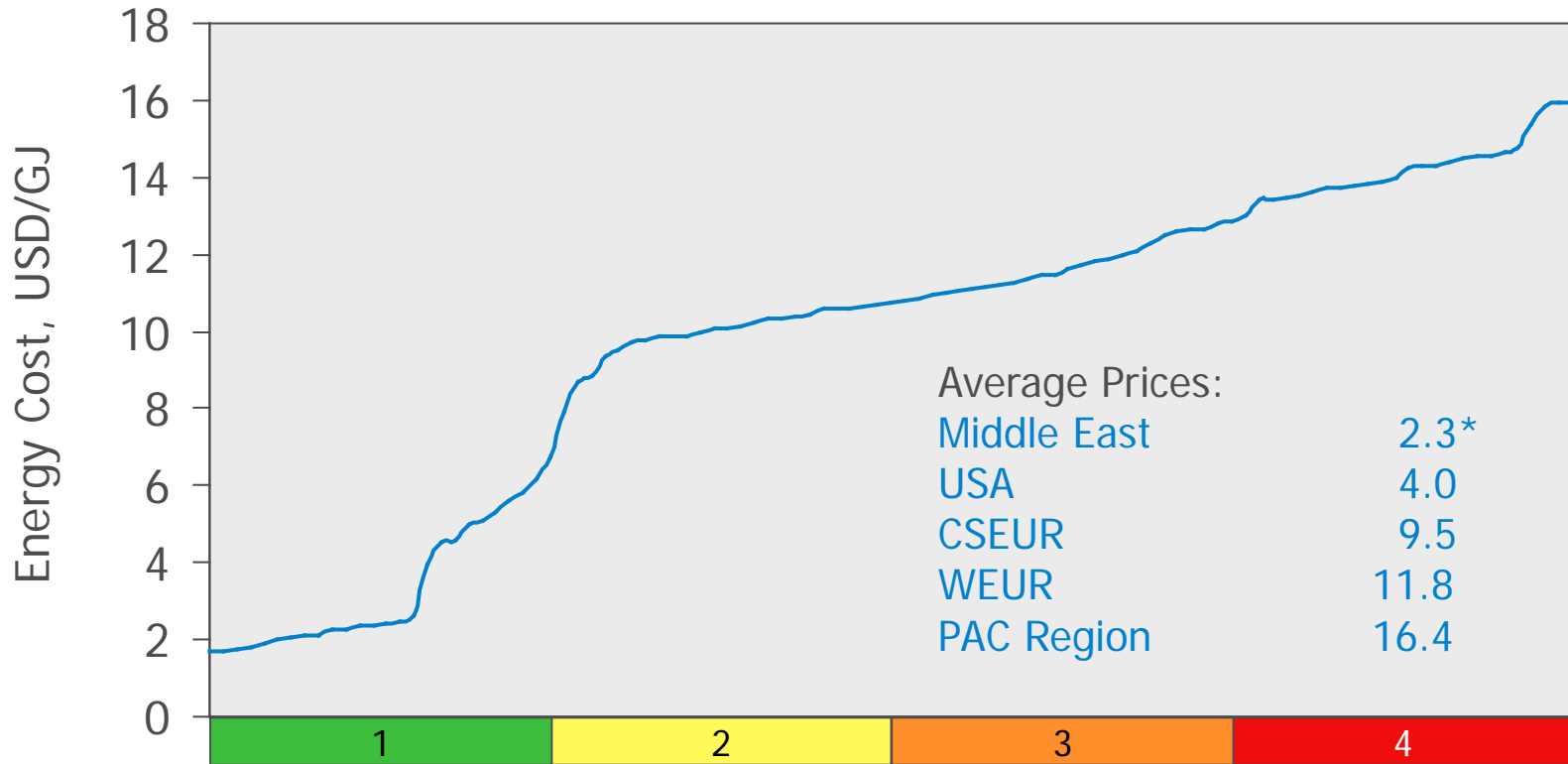
Operating Years 2000–2012



OPEX – Energy Cost in USD/bbl for all regions indexed relative to EU-28 = 100 in Year 2000

Energy Cost

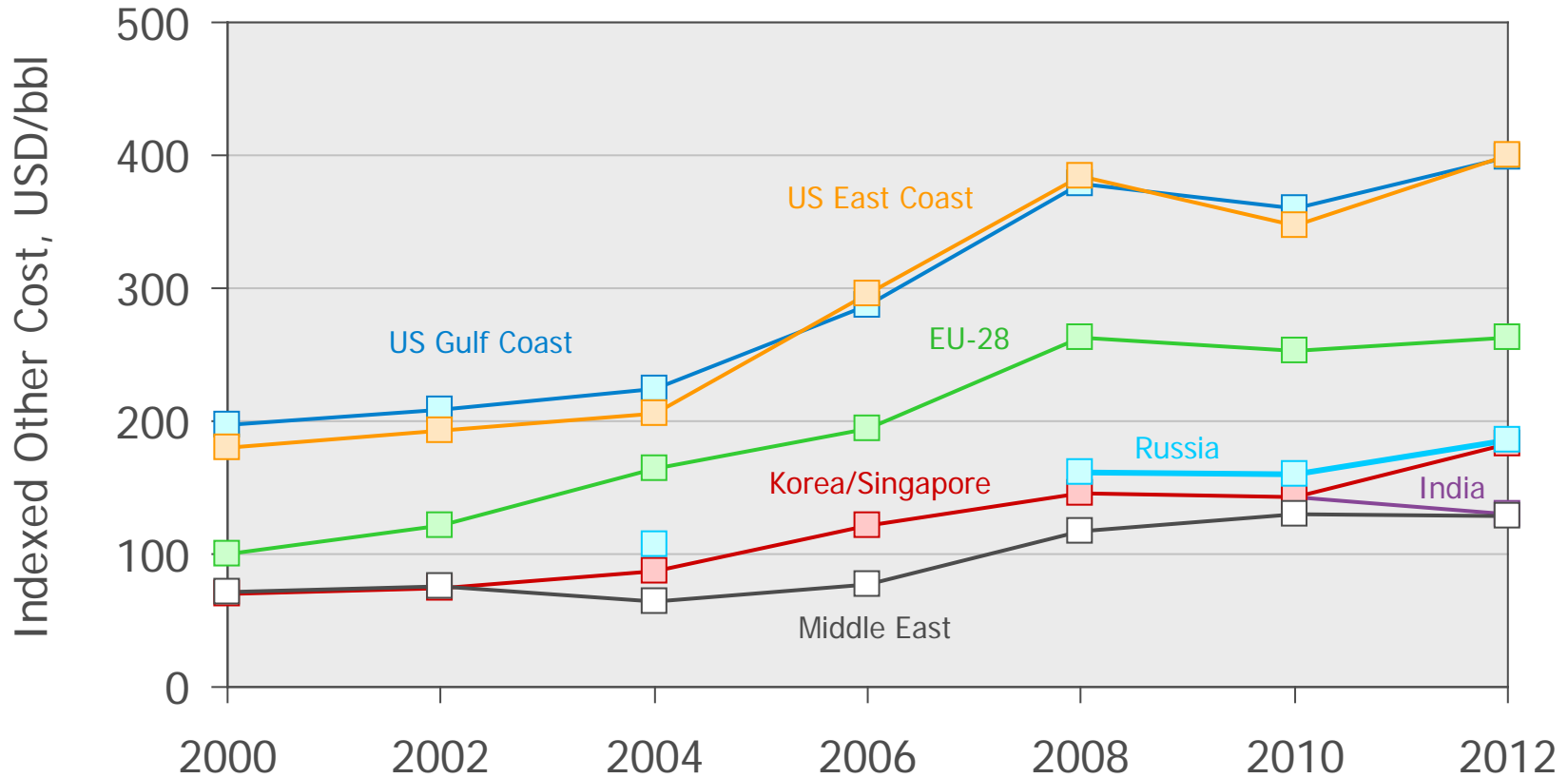
2012 Study – EUR/ME



* Middle East energy price as used in Solomon Study.
Many Middle East refiners actually have much lower energy costs.

OpEx – Other Cost

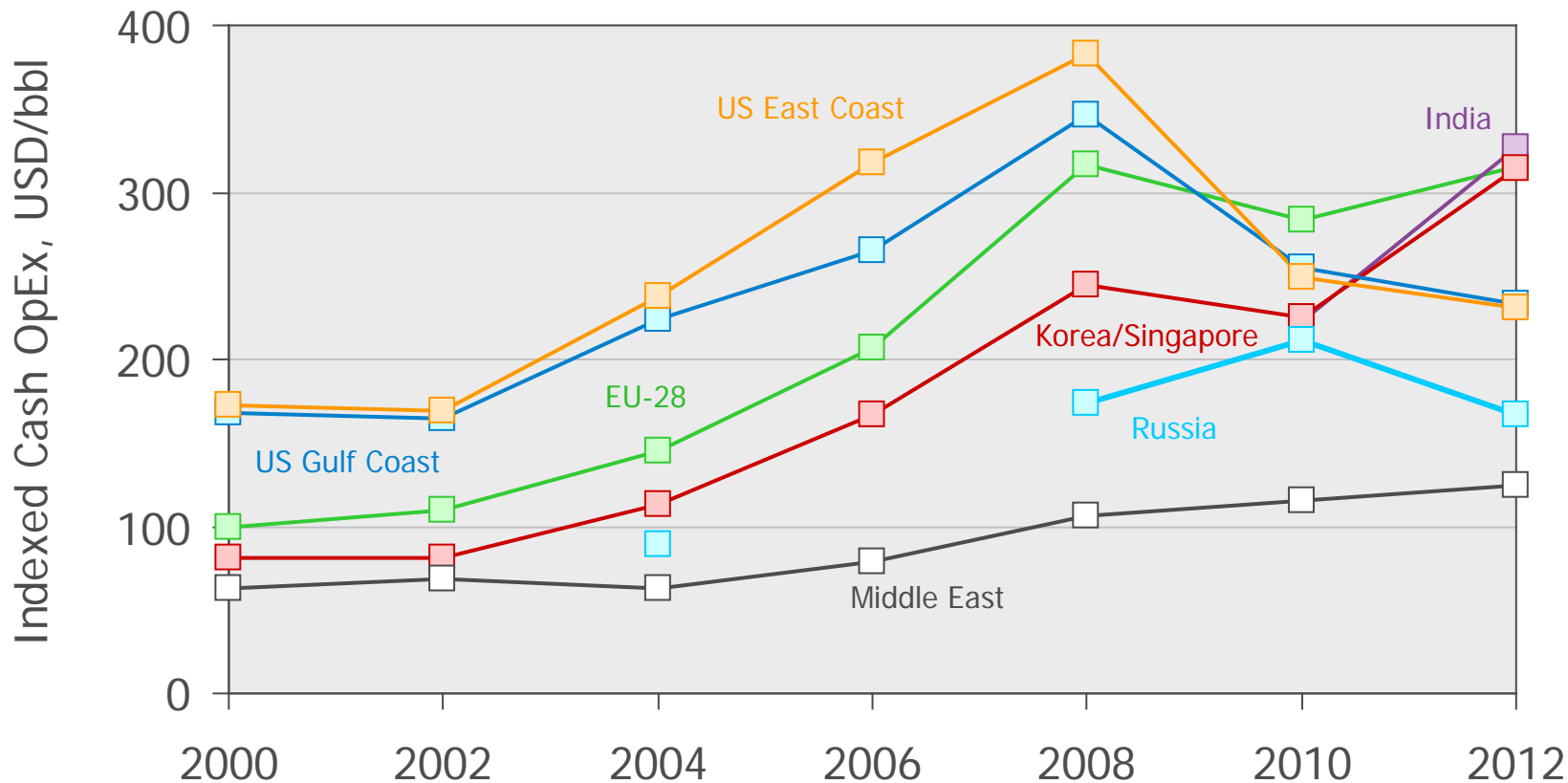
Operating Years 2000–2012



OPEX – Other Cost in USD/bbl for all regions indexed relative to EU-28 = 100 in Year 2000

Cash OpEx

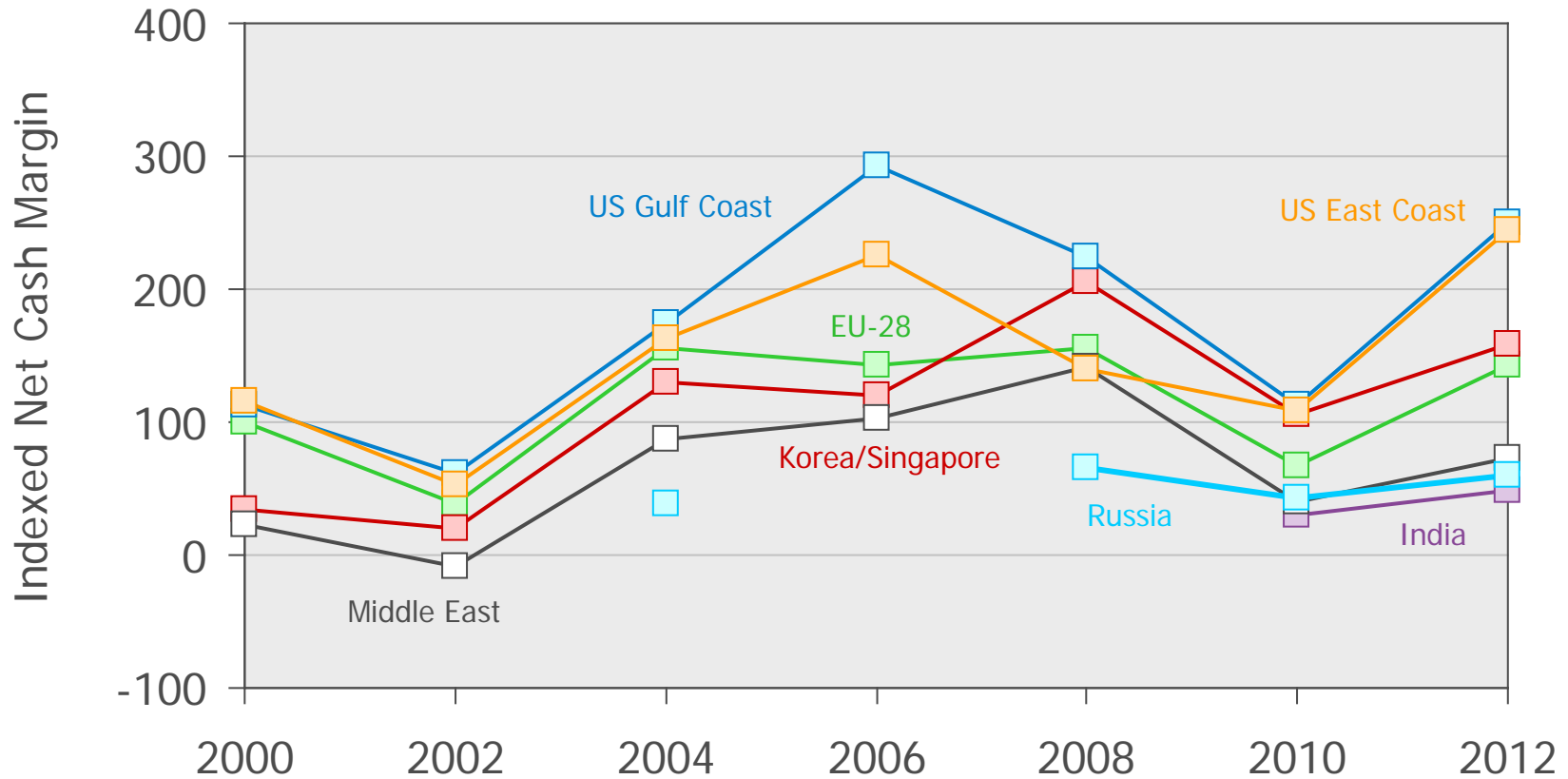
Operating Years 2000–2012



Cash OPEX in USD/bbl for all regions indexed relative to EU-28 = 100 in Year 2000

Net Cash Margin

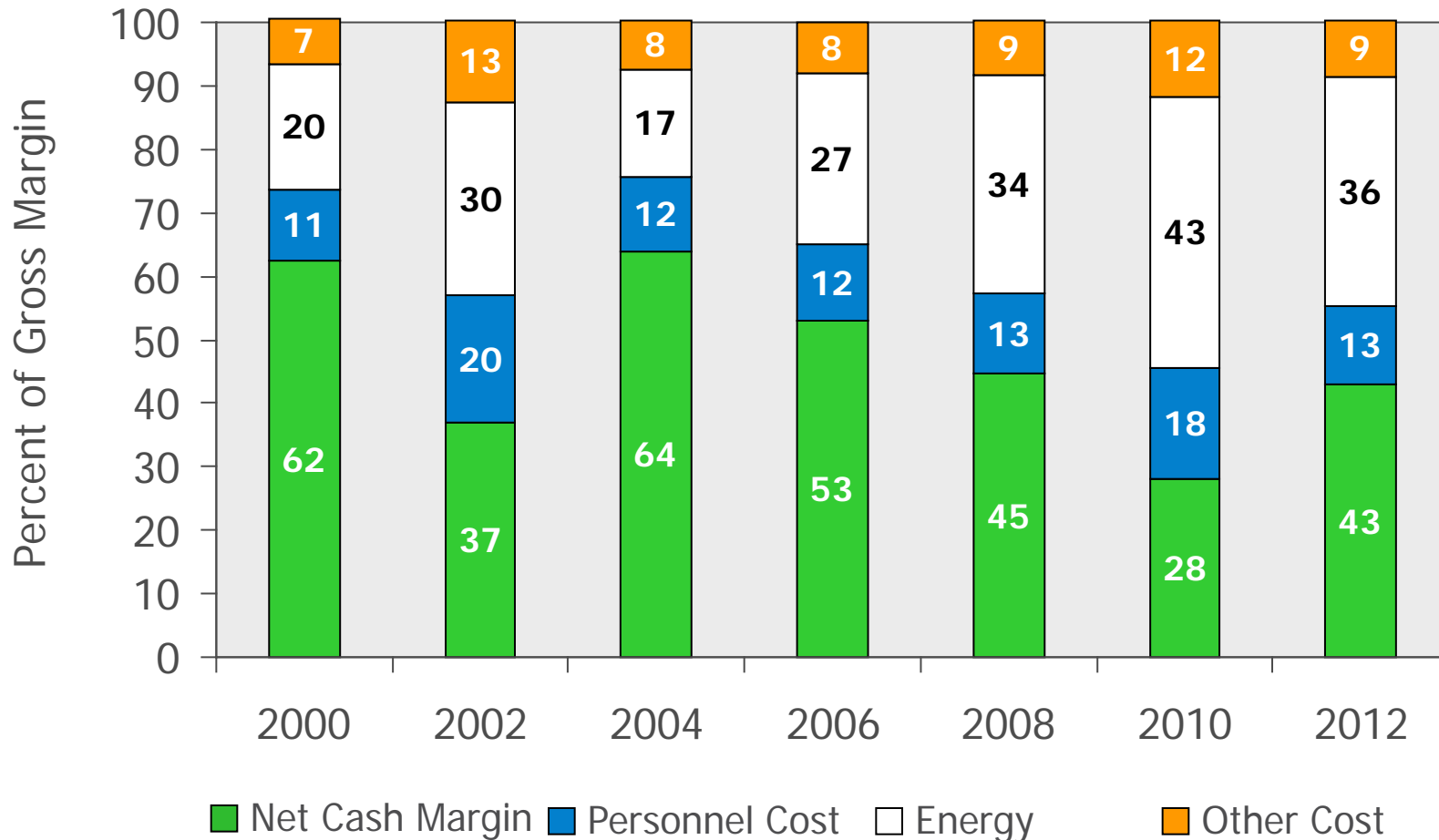
Operating Years 2000–2012



Net Cash Margin in USD/bbl for all regions indexed relative to EU-28 = 100 in Year 2000

EU-28 Refining Margin and Costs

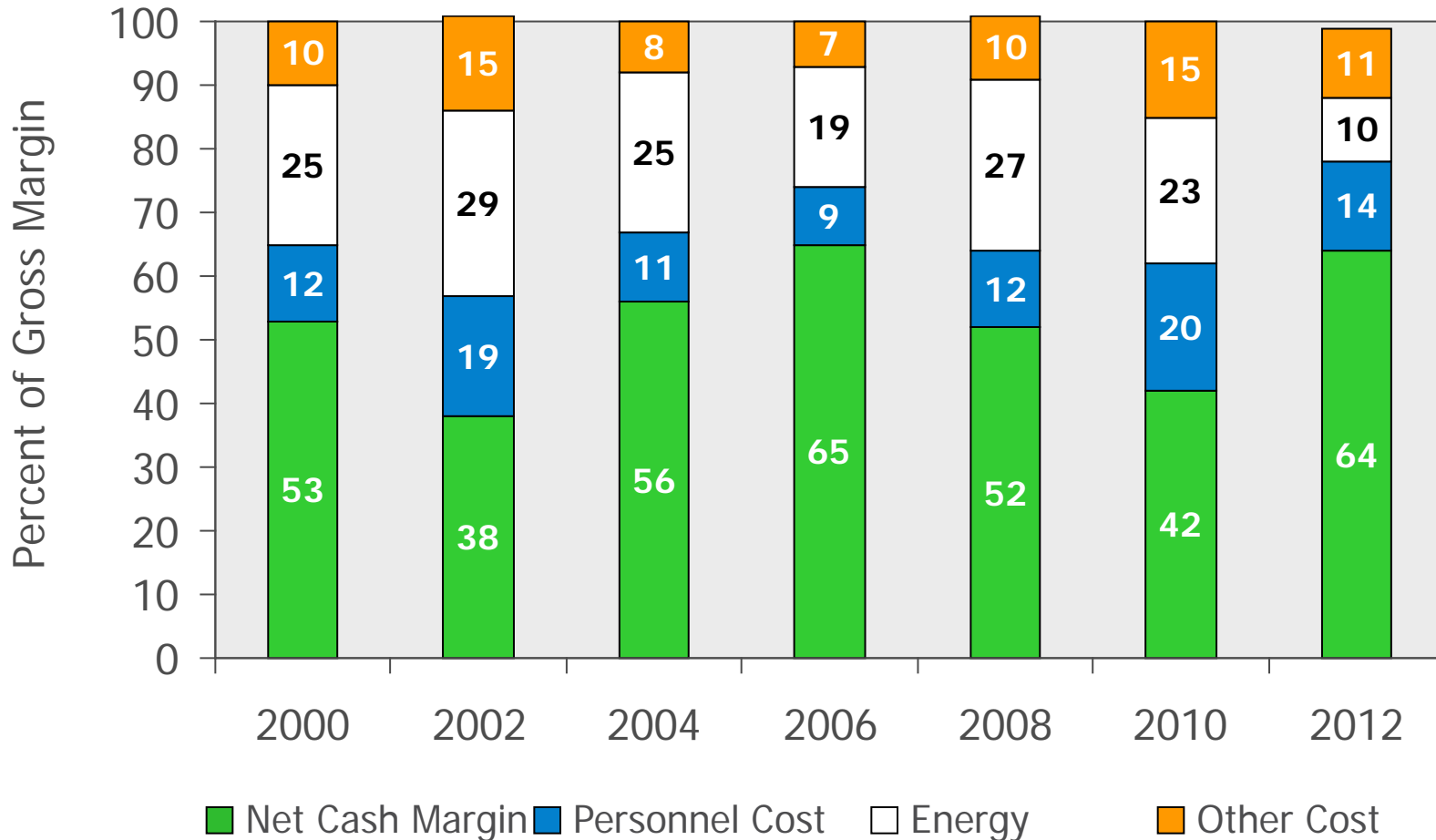
Operating Years 2000–2012



Average EDC per refinery for all regions indexed relative to EU-28 = 100 in Year 2000

US Gulf Coast Refining Margin and Costs

Operating Years 2000–2012



Average EDC per refinery for all regions indexed relative to EU-28 = 100 in Year 2000

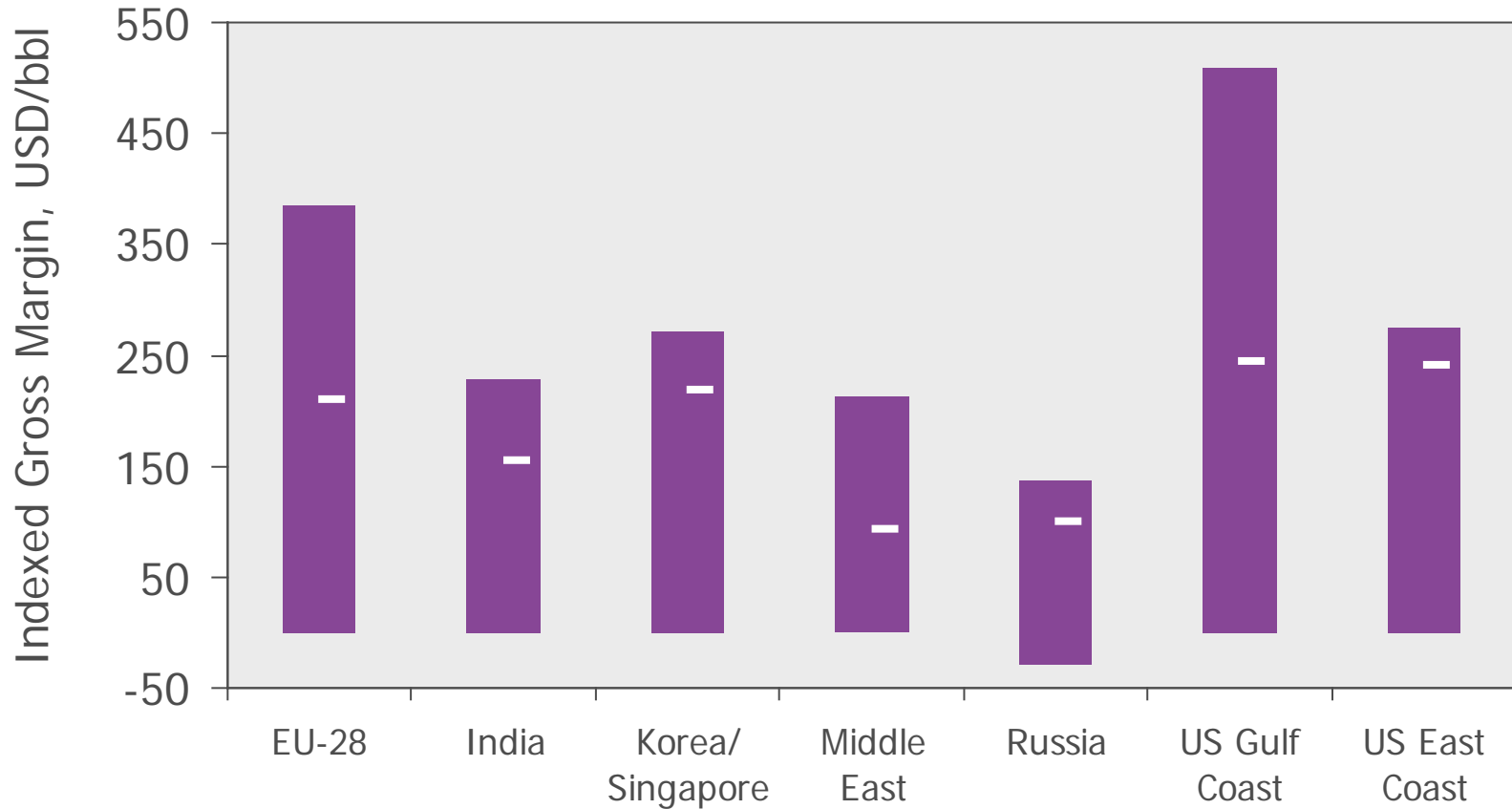
How Do Refineries Compare?



Quotations | News

Gross Margin

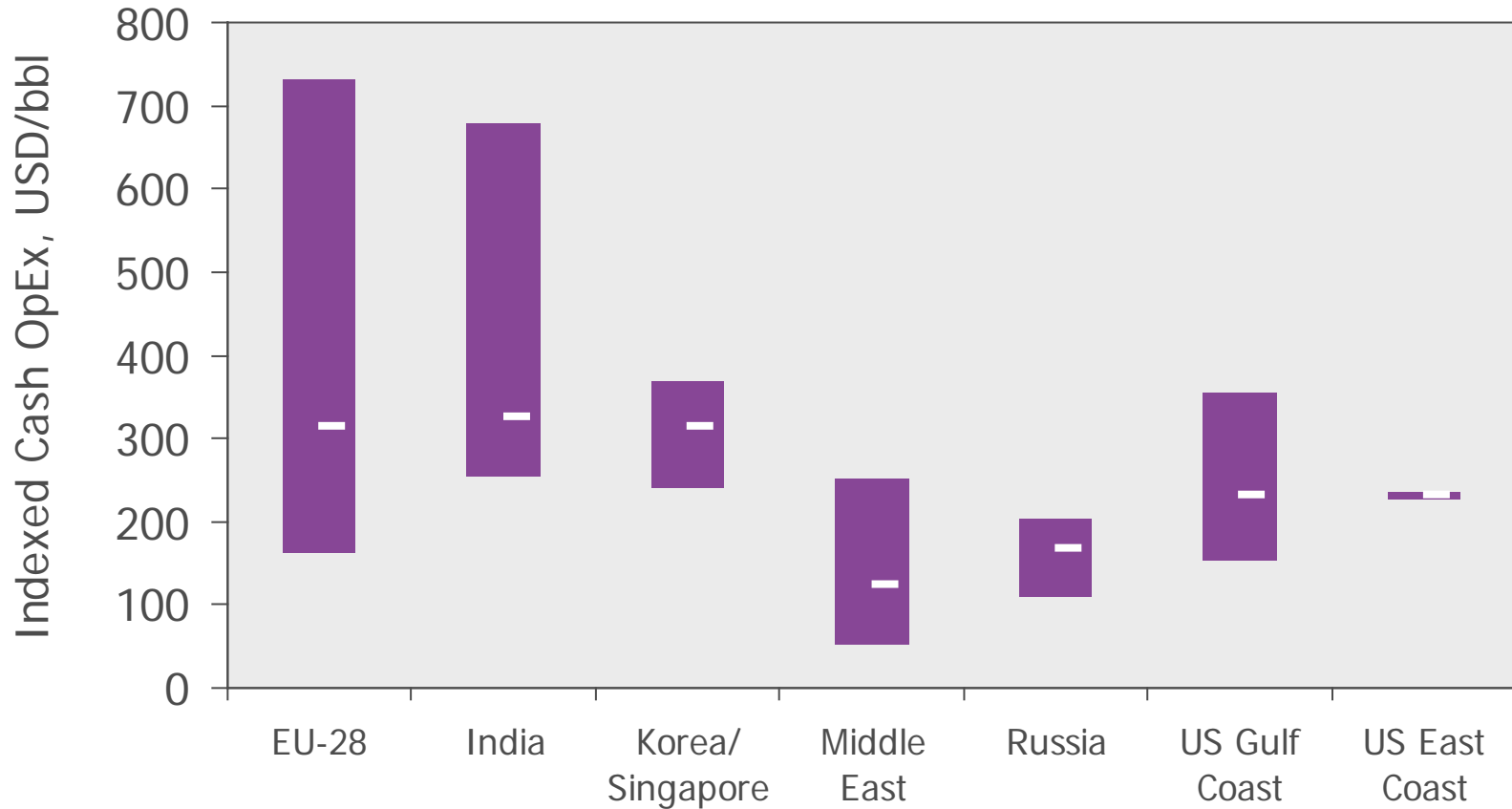
Operating Year 2012



Gross Margin in USD/bbl indexed relative to EU-28 Peer Group Avg = 100 in Year 2000

Cash OpEx

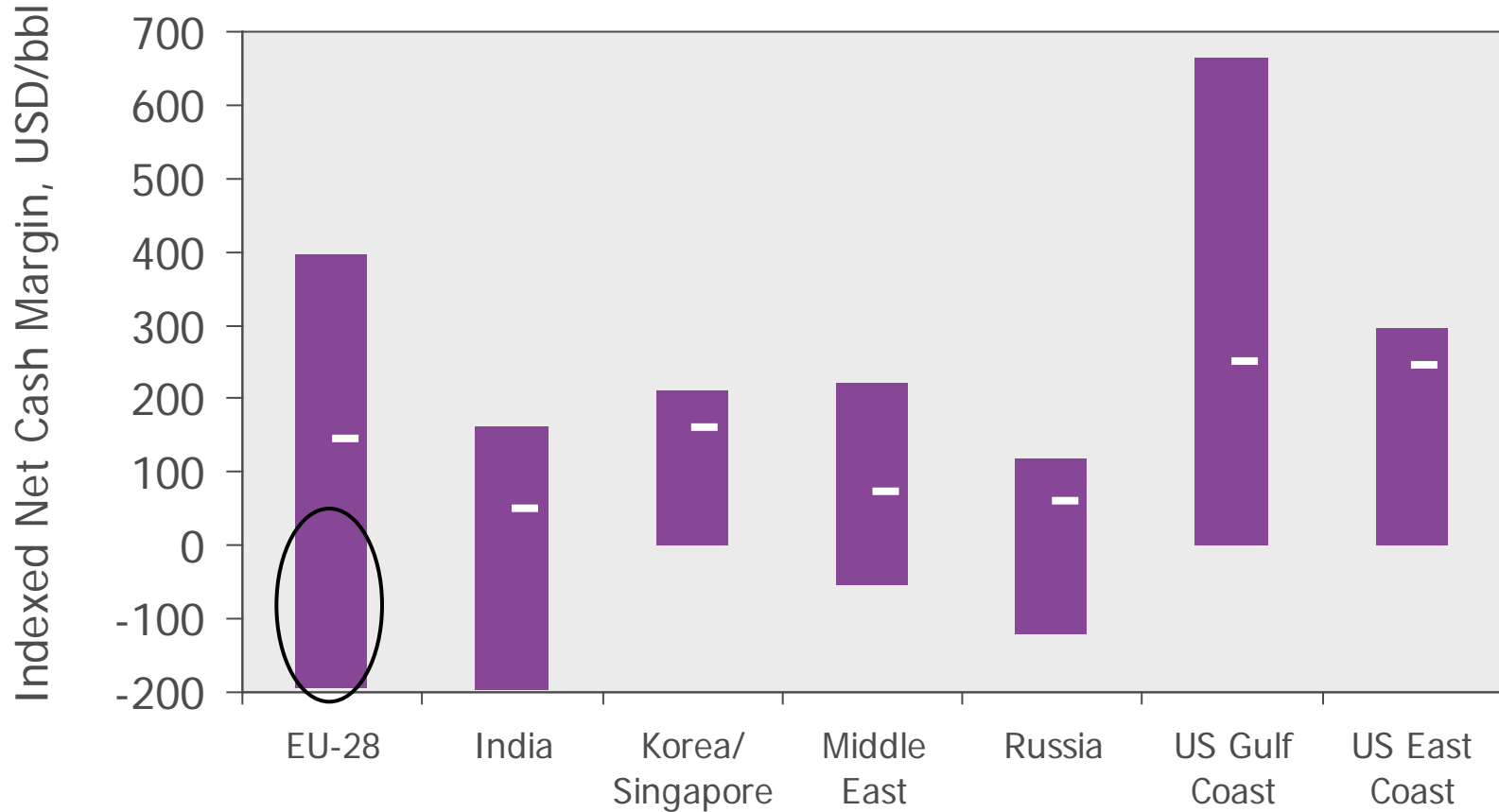
Operating Year 2012



Cash OPEX in USD/bbl indexed relative to EU-28 Peer Group Avg = 100 in Year 2000

Net Cash Margin

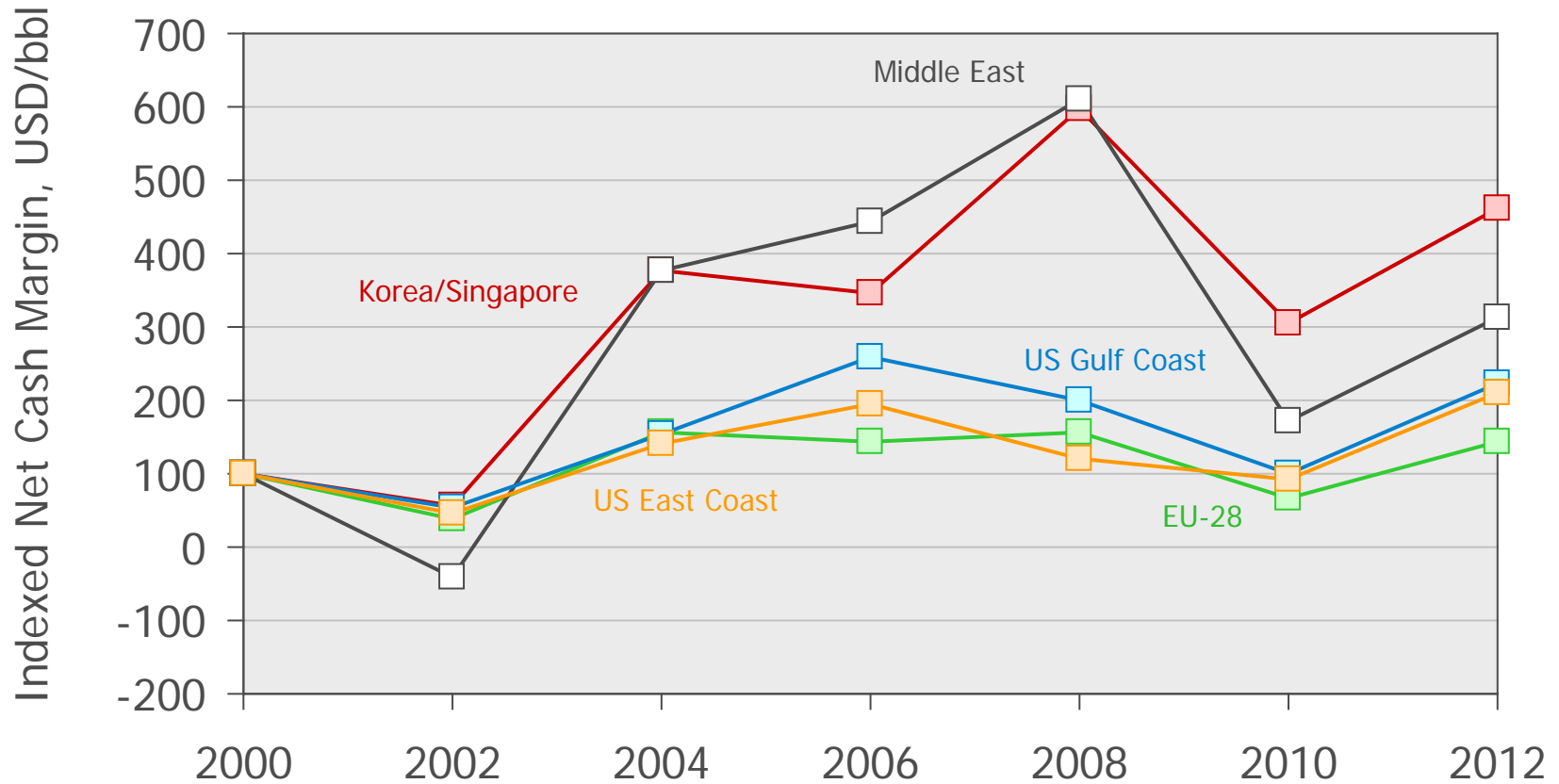
Operating Year 2012



Net Cash Margin in USD/bbl indexed relative to EU-28 Peer Group Avg = 100 in Year 2000

Conclusions

Net Cash Margin, Operating Years 2000–2012



Net Cash Margin in USD/bbl for all regions indexed relative to 100 in Year 2000



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Competitive Performance
around the world.

thank you!