CIEP
Clingendael International Energy Programme

TUDelft

The European Refining Sector

From *static* towards *dynamic* efficiency…

EUROPIA General Information Meeting, 6th June 2012,

Session 2: EU Security of Supply – What are the risks for EU security of supply of oil refined products during the transition to a low carbon economy?

Aad Correljé

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Dismal market conditions in the European refining sector

- Mature and declining European product demand
- Overhang of unsophisticated refining capacity
- Mismatch between refining slates and demand profile
- Intense global competition

- Low utilisation rates (82% in 2011)
- Razor thin refining margins (even for complex refineries)

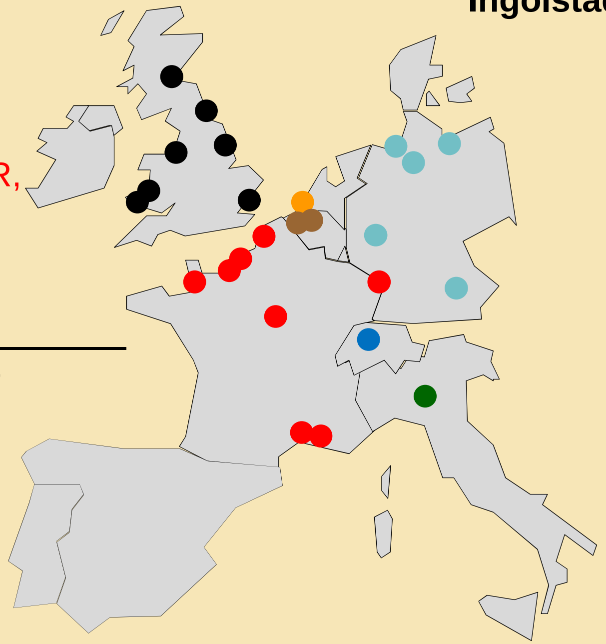
Prolific restructuring of the EU refining sector ('08–'12)

UK

UK	*Status*
Grangemouth	to PetroChina (50%)
Stanlow	to Essar ('11)
Pembroke	to Valero ('11)
Lindsey	for sale
Milford haven	for sale
Teesside	Storage
Coryton	Tolling arrangement Morgan Stanley, KKR, AtlasInvest

Germany

Germany	*Status*
Heide	to Kletch & Co ('10)
Ruhr Oel	to Rosneft (50%) ('10)
Harburg	for sale
Wilhelmshaven	to Hestya Energy ('11)
Ingolstadt	Idle



France

France	*Status*
Fos Lavera	To PetroChina ('11)
Dunkirk	convert
Gonfreville	shut in
Normandy	shut in
Reichstett	Idle
Berre 'd Etang	for sale
Pt. Couronne	Tolling arrangement: Shell

NL

NL	*Status*
TRN	to Lukoil ('09)

Belgium

Belgium	*Status*
Antwerp	to Vitol ('08)
Antwerp	To Gunvor ('12)

Switzerland

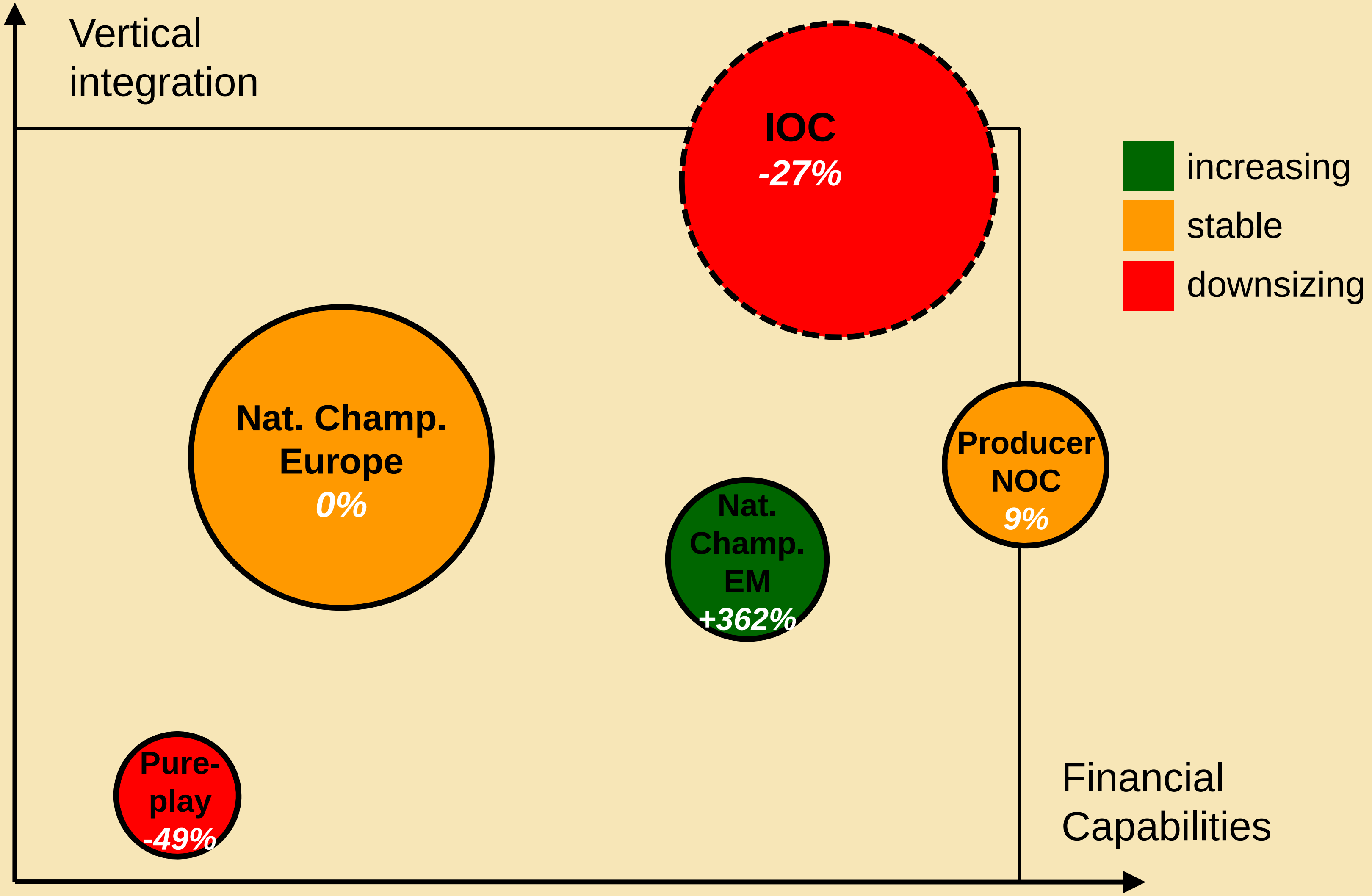
Switzerland	*Status*
Cressier	Idle

Italy

Italy	*Status*
Cremona	storage

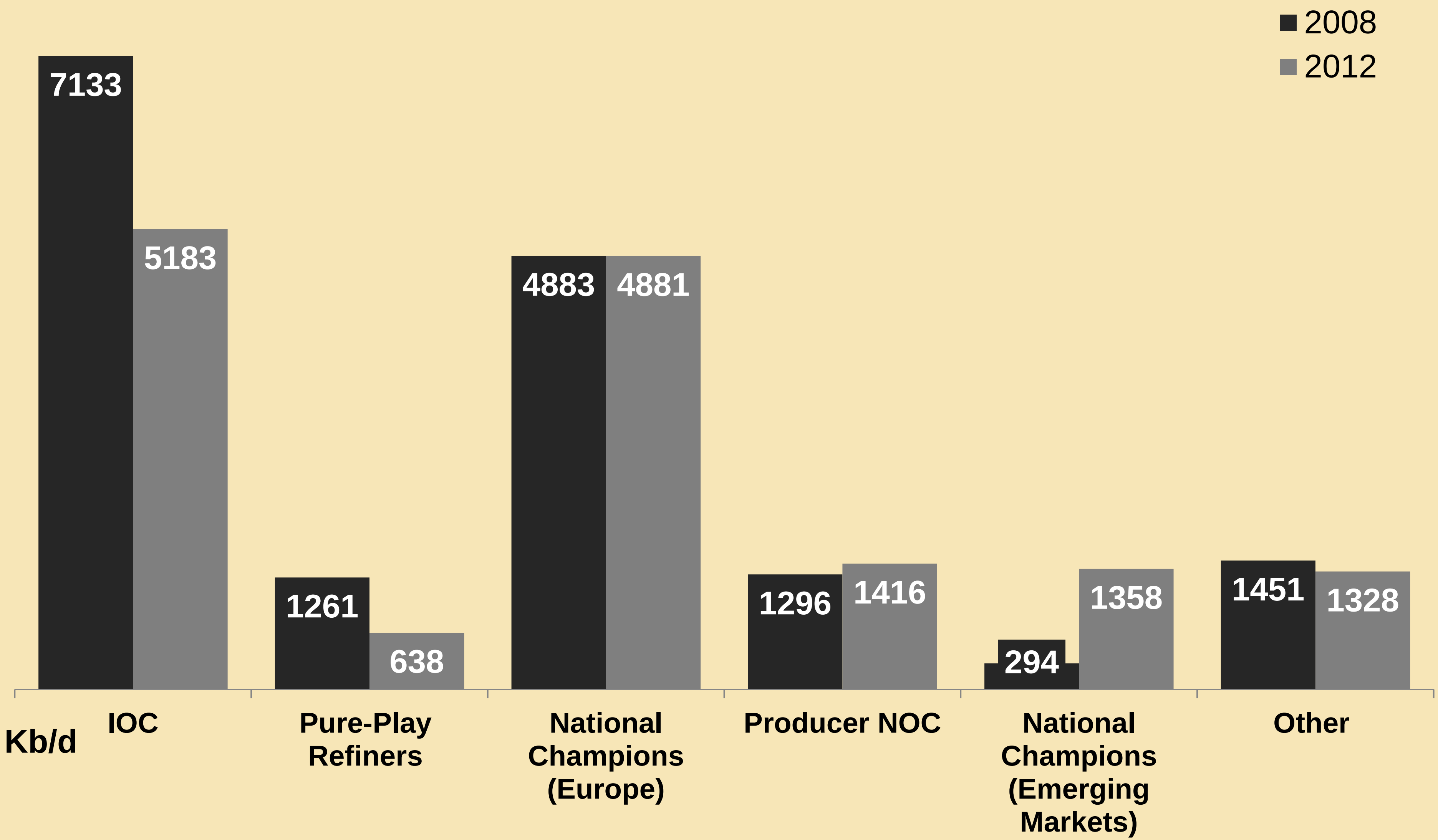
Source: CIEP Analysis, Purvin&Gertz, WGI, OGJ, IHS Global Insight, Bloomberg, Barclays Capital, FT

Future owners of European refining capacity?



Source: CIEP Analysis, conceptual only

Operational European refining capacity (2008 – 2012)



Source: CIEP Analysis, Pervin&Gertz, various newspapers

There is no security of supply problem, if it is accepted that:

- Europe imports growing volumes of fuels from the Middle East, Russia and the US
- International product markets are working effectively, without market failures and abuse of market power
- The European industry will go through lengthy period of rough restructuring
- The EU is moving towards a ‘sustainable’ energy system, with a decline in the use petroleum products

- Then, let the market take care…

But:

- EC, November 2010: “Security of supply depends on the integrity and flexibility of the entire supply chain, from the crude oil supplied to refineries to the final product distributed to consumers”.
- EU Energy Roadmap 2050, December 2011: the “strategic importance of oil infrastructure in the current market conditions, including downstream oil infrastructure”.

- Assumes that import dependency for oil products may constitute a ‘security of supply’ problem…

Will the market take care?
The supply-side…

- Refineries are highly site-specific; local markets, taxation, environmental rules, and access to transport.
- Refineries exhibit a high degree of physical asset specificity: crude mix, multi-product output and complexity
- Investments are huge, long-term, sunk capital: entry and exit are a problem.
- Uncertainty: in market volumes, prices, policy and product standards
- Non-level playing field vis-à-vis non-European competitors

Will the market take care?
The demand-side…

- Demand is fairly price inelastic in the short run
- Demand is strongly related to economic activity, in the EU and abroad
- Price signals are diluted by levies, varying over countries
- Many consumers are economically vulnerable to price spikes
- Long term adjustment is interdependent with developments in automotive, electricity, chemical industry and on distribution infrastructures
- A smaller future market will supply mainly consumers locked-in to petroleum products

How to bridge the gap…

Between:

- short- to-medium term (0-10 years) market dynamics
- long-term investment rationale of refineries, considering the economic and technical lifespan

Given the fact that capacities of the different types of refiners in Europe to invest or divest vary strongly.

- Companies with a capacity to invest are unlikely to invest, given their global strategies.
- Firms that may well be inclined to invest are unable to do so under current conditions.

Observe that security of supply in the oil industry is changing

Two current preconceptions are challenged:

- The market ensures an efficient supply of products
- Supply security of crude oil is the only thing that matters

The issues at stake go beyond the *static* efficiency of ‘the market’. *Dynamic* efficiency is what matters today.

- Entry and exit determinants of companies from the market
- Committing long-term investments in refinery upgrades in an uncertain market situation.

Key issue at stake

- To what extent do the current EU and national governance regimes reflect the characteristics of today's oil products markets and the refining industry?
- It may emerge that the efficient development of markets of a different nature, maturity and risk profile may require different structures of governance and co-ordination
- Instead of just striving for a 'fully competitive' EU market for oil products…

What’s the problem?

- Inadequacy of short-term drivers of the European market to provide the refinery owners with effective signals and incentives to adjust: ownership structure, imperfectly operating product market, longer-term perspective of a reduction in petroleum-based fuels.
- Which market governance regimes would reflect the characteristics of today’s oil products market and the EU refining industry?

Four ‘families’ of policy interventions…

1. Review of impact of levies on diesel- and gasoline-fuelled cars and on fuels, and of emission standards and other (energy efficiency) measures, combined with clear and consistent longer-term goals.
2. Review of the competitive position of the EU industry versus external refiners and correction of lack of a level playing field.
3. Support refiners unable to adapt, stimulating (dis) investments to adjust conversion capacity, crude intake flexibility, and environmental impact.
4. Develop strong perspectives on innovation in a petro- or bio-based industry and energy use.

The future?

- The most likely providers of innovative future solutions are the current oil and petrochemical companies…
- But only if and when they are in the position to invest and innovate in such new technologies.
- Only a financially healthy sector and economically viable market supported by the right institutional framework will place the companies in positions to do this.

"A Cinderella story?"
Restructuring of the European refining sector

CIEP Energy Paper
April, 2012

http://www.clingendael.nl/ciep/publications/energy-papers/

Six types of European refiners

Type	*Examples*
IOC	*ExxonMobil, Shell, Total*
Pure-Play Refiners	*Petroplus, Ineos, Valero*
National Champions (Europe)	*ENI, Statoil, PKN Orlen*
Producer NOC	*KPC, PDVSA, Rosneft,*
National Champions (Emerging Markets)	*Lukoil, Essar, PetroChina*
Other	*Lyondell Basell, Koch, Hestya Energy*