Session III
Perspectives on the Petrochemicals Sector

Moderator - A. Borruso

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Petrochemicals Markets Dynamics

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Market Dynamics

Supply

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  - Coal
  - LPG
  - Shale

- Technology
  - GTL
  - CTO/MTO
  - Metathesis
  - .......

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- Converting Industry
  - Low cost areas
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  - Recycling
  - CO2 Effect

Demand

- Refinery – PC integration
  - Ethane
  - Bio Based
  - Oil Sands
  - .......

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Impact and Changes

Feedstocks
- Type
- Slate
- Location

Technology Developments

Production Economics

Relative Prices
- Demand

Absolute Prices
- Landed Costs

Regional Relevance Of Supply and Demand

Trade
Feedstocks Issues

In the USA the Natural gas vs Crude Price Gap has been increasing:

- Since 2009 Nat Gas / Brent price ratio declined to 20-30 %
- the price ratio of Naphtha/Brent is higher than Propane/Brent and Butane/Brent
- Cracker Feed favours lighter slates: US ethane share in steam crackers feed expected to increase from 55 % in 2013 to 65 % by 2018

Coal in China

- Between 2013 – 18, approx. 50 % of propylene and 80 % of ethylene new capacities or over 15 new project will be based on CTO/MTO.

CIS and Baltic States

- With 23 % of global gas reserves, Russia has 3 % of global chem production
- Naphtha as cracker feed will decline from 60 to 25 % by 2023
- Feedstocks export tax as incentive for local upgrading
Trade Issues

Ethylene Equivalent Net Trade
- W. Europe increasingly negative (net importer) from 0.5 to 2.5 mill ton by 2018

Propylene Equivalent Net Trade
- W. Europe declining from 1 mill tons to zero by 2017
- N. America Increasing net exports after 2016-17
- Asia and Pacific steady at 3 mill tons net import level
US LPG TRADE

- US East Coast: traditionally an importer
- US Gulf Coast: importer and exporter to Caribbean, Latin America and Europe
- Proposed expansions in exports terminals to increase by over 400,000 BPD
Open Questions

- Corporate Integration Gas->Oil->Refining->Base Chemicals -> Specialties ??

- European Steam crackers economics byproducts driven ??
- US LPG Exports as hope for European coastal crackers??

- Gasoline/naphtha/aromatics balance in Europe, N.Africa and Asia ??
- FCC’s Changing role:
  - C3 production vs/ PDH??
  - Naphtha/gasoline price relation to FCC margins??

- Iran: new role and impact without sanctions??
- GCC gas policy in view of the impact from shale ??
Possible Trends

- PC industry part of a global shift in industrial competitiveness
  - Lower cost in Central and East Europe, in China and SEA
  - Feedstock availability at low cost creates an economic boost in USA, CIS, Africa, China

- Refining – Petrochemical integration

- Shale is not exclusively in the USA

- On going shifts of
  - Production centers towards low feedstock areas
  - Conversion hubs towards low manpower cost regions

- Evolution of Trade flows to adjust to changing landed cost competitiveness
Thank you!

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