Trends in the oil market & tank storage in ports

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1. Oil products Market
   - Overview of the oil products markets
   - Trends in the market
   - Expected developments
2. Ports and Tank storage
   - Current capacity
   - Expansion
   - Trends and expectations
3. Evaluation
   - Attractiveness of tank storage market
   - Possible risks
   - Price, capacity and competition
TRENDS IN THE OIL PRODUCTS MARKET
Worldwide trade flows - Exports

Globalization of fuels production:
strong growth in trade of oil products

Exports 1995-2011 (index, price corrected)

Source: calculations EUR, based on Unctad, Worldbank and Eurostat.
Price corrections: oils by average crude, all products by EU inflation
Future demand for oil shifts across the globe:

![Chart showing oil demand growth by region in the New Policies Scenario]

- China
- India
- Middle East
- Other Asia
- Africa
- Latin America
- E. Europe/Eurasia
- OECD Asia Oceania
- OECD Europe
- OECD Americas
Trends in refining
Margins in refining under pressure; Refining on US Gulf Coast loss making activity since 2009.

Refinery margins in developed countries continue to fall

$ refinery margin per barrel

Sources: International Energy Agency; A.T. Kearney analysis
Trends in refining II

- Low utilization rates around the world
- Significant reduction in capacity in OECD countries since start of global recession.
Possible future flows of oil products

- Gasoline flows from Europe to North America and Africa
- Russia will continue to export diesel/gasoil to Europe
- Growing surplus of gasoline in Russia as refiners invest in improving octane levels. Lower quality material to Africa
- Naphtha flows from Europe to Asia could increase
- Middle East LPG/Naphtha exports to Asia likely to increase
- US exports of diesel to Europe fall as utilisation drops and capacity idled
- European imports of diesel/gasoil from Middle East could increase
- Middle East diesel/gasoil exports to Asia will increase later in the forecast period
- Indian Ocean rim refiners will try to push gasoline into North America

Source: Wood Mackenzie Product Markets Service
TANK STORAGE MARKET
Trade and storage

- Reasons for storage
  - As a buffer point in a supply chain
  - As a physical necessity
  - Trade stock for speculation

- Optimal storage place
  - Good connections by sea, land and pipeline
  - Stable political environment
  - Knowledge level (Tech and HSE)
Trade and storage II

• Storage is essential in the fuel supply chain.

• Most storage in seaports.

• Ever present demand for storage because of trading and speculation on oil price.

• Cargo transfers before final consumption have increased from 3 times up to 10 times.
Europe: 20% throughput growth in 10 years

Throughput total European ports
Trade oriented ports show most growth

Throughput oil products per quarter (x1000 tonnes)

- Rotterdam
- Amsterdam
- Antwerpen
- Tallinn
- Bergen
- Milford Haven
- Augusta
- Cartagena
- Grimsby & Immingham
- Le Havre
- Porto Foxi
- London
Oil products are a large market for all ports in the ARA range.

Liquid Bulk and Mineral Oil Products as percentage of total port throughput (calculations EUR, data for 2011)
Rotterdam locates 60% of tank capacity in ARA-range

Tank capacity in ARA range (CBM)

- Antwerp: 26,969,000
- Rotterdam: 9,600,337
- Amsterdam: 5,899,010
- Ghent: 1,006,729
- Terneuzen: 155,500
- Flushing: 498,400

Source: Calculations EUR, based on port authorities, tankfinder.com and company websites
But only 20% of tank capacity in Rotterdam is independent storage for oil products.

Source: EUR calculations based on Port Authorities of ARA ports and individual company information

Capacity in Rotterdam (CBM, 2012)

- Crude oil at refineries
- Crude oil, independent
- Oil products at refinery
- Oil products independent
- Chemicals, independent
- Veg oil at refineries
- Veg oil independent

Source: EUR calculations based on Port Authorities of ARA ports and individual company information
Tank terminal operators in Antwerp

Tank Terminals Antwerp (CBM, 2012)

Source: based on Port Authorities of ARA ports and individual company information
Tank storage operators in Amsterdam

Tank Terminals Amsterdam (CBM, 2012)

Source: based on Port Authorities of ARA ports and individual company information
PoR estimates growth in oil products throughput

- Growth in volumes up to 2040, only in most negative scenario decline in volumes after 2030

Expected throughput mineral oil products

Source: Port Compass 2030
Capacity independent tank storage, future development

Capacity development at independent tank storage operators, 2004-2016
(source: Port of Rotterdam)
EVALUATION
Developments in market for oil products

- Slight increase in worldwide oil consumption is expected for the next 25 years
- Global shift in supply/demand
- Change in refining industry around Atlantic basin
  - More worldwide flows of oil products
    - Closing refineries in Europe and US
    - Growing import of oil products in growing economies
    - Supply/demand imbalances will grow with upcoming economies and create more trade
- Logistics becomes more important
Tank storage investments

- Oil-producers do not invest in storage: independent tank storage and trader-owned grows
- Investments by major oil trading companies in tank storage
- Investments in tank storage can best be made in logistically optimal locations
- Conversion of refinery tanks can increase capacity (too) quickly
Outlook

- From 2025 more uncertainty depending on:
  - Usage of fuels for cars and trucks
  - Developments in the refinery industry
- From 2050 when phasing out of fossil fuel for transport takes place, tank storage business might decline
- Resulting outlook for tank storage in Europe:
  - Very positive for ARA range until 2035
  - Positive for some MED locations
  - Less attractive from 2050 onwards
Price effects

- Europe has (small) risk of overcapacity because capacity will grow in coming years.
- But there is a physical limit to the capacity that can be build
- Demand is expected to grow
- Demand will be more volatile
- Price development will be moderately positive as a result
- But occupancy rates will be lower