Port of Rotterdam

Vegetable Oils and Fats

April 2014
Port of Rotterdam Authority

- Non-listed public ltd company
- Municipality (70%), State (30%)
- Approx. € 670 million revenues
- Approx. € 250 million investments
- 1,200 staff
- Main responsibilities:
  - Development, construction and management of port/industrial area
  - Efficient & safe vessel traffic management

Manager, operator and developer
Port of Rotterdam area

- Existing area:
  10,500 ha

- New area, Maasvlakte 2:
  2,000 ha

- Industrial area:
  5,250 ha

- Industrial area Maasvlakte 2:
  1,000 ha

45 km of port length
Position port of Rotterdam

- ± 32,000 sea going vessels a year
- 441 million tons throughput
- 5th port in the world
- Largest bulk port in the world

Total throughput 2012 in million metric tons

1) Including domestic trade
2) Ports combined in 2006
3) Including river trade
4) Converted from freight ton to metric ton
5) Converted from shortton to metric ton
Top 20 European ports, 2012

- Number one in Europe
- Market share in the Hamburg-Le Havre Range: 38%
- Market-leader for most commodities
- Largest bunker port

1) Including Caspian pipeline Consortium Terminal
2) Provisional figures (source: UK Ministry of Transport)
Throughput 2013: 441 million tons

- Importance liquid bulk products: 206 mln tons (47% of total)
- Crude oil: almost all incoming
- Oil products and other liquid bulk: quite balanced
- LNG: new commodity
Liquid bulk 2013: 206 mln tons

- Crude oil: 91%
- Mineral oil products: 82%
- Other liquid bulk: 33.5%
Other liquid bulk 2013: 33.5 mln tons

- Chemicals: 20.5
- Biofuels: 5
- Vegoils: 8
Rotterdams’ position a few years back

• Superior accessibility
• Extensive tankterminal capacity for liquids
• Extensive agribulk sector including terminals, trading, service providers
• Food processing sector nearby
• Existing refining capacity (Rotterdam, Zwijndrecht)

And a Port Authority willing to invest!
Developments

• Increase demand from food sector for vegetable oils
• Relocation of crushing to oilseed producing countries
• Relocation of refining capacity to Europe
• European biodiesel production

• Investments in storage and refining capacity
• Increase in demand for edible oil logistics
• Increase in vesselsize
Key Success Factors

- Extensive storage capacity (75% in HLH-range)
- Large number of jetties (seagoing vessels and barges)
- State-of-the-art refining capacity (‘captive volumes’)
- Superior accessibility

- Favourite port for traders, produces and end-users
- Liquid spot market
- Hub position (as for many other products)
1. Neste Oil NExBTL Plant  0.8 mln
2. IOI-Loders Croklaan 1.2 mln
3. ADM soybean/rapeseed crusher  2.4 mln
### Refineries

<table>
<thead>
<tr>
<th>Company</th>
<th>Capacity in MT/YR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cargill</td>
<td>1,000,000</td>
</tr>
<tr>
<td>MaasRefinery</td>
<td>40,000</td>
</tr>
<tr>
<td>Wilmar Edible Oils</td>
<td>750,000</td>
</tr>
<tr>
<td>(Unimills) Sime Darby</td>
<td>500,000</td>
</tr>
</tbody>
</table>

### Tankstorage vegoils

<table>
<thead>
<tr>
<th>Company</th>
<th>Tanks</th>
<th>Capacity in m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botlek Tank Terminal</td>
<td>21</td>
<td>70,000</td>
</tr>
<tr>
<td>Maastank</td>
<td>64</td>
<td>48,000</td>
</tr>
<tr>
<td>Koole Tank Storage</td>
<td>270</td>
<td>± 600,000</td>
</tr>
<tr>
<td>Vopak Vlaardingen</td>
<td>350</td>
<td>± 510,000</td>
</tr>
</tbody>
</table>

### Biodiesel plants

<table>
<thead>
<tr>
<th>Company</th>
<th>Refinery Capacity in MT/YR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biopetrol</td>
<td>400,000</td>
</tr>
<tr>
<td>Dutch Biodiesel</td>
<td>250,000</td>
</tr>
<tr>
<td>CleanerG</td>
<td>200,000</td>
</tr>
</tbody>
</table>
Koole

- Terminal operator with interest in shipping
- Majority shareholder: EQT
- Large investments during last decade
- Capacity some 520,000 m³; further expansions may resulted in additional 100,000 m³
- 11 berths, including 3 for seagoing vessels
Maastank

- Joint-venture between Fluvia Holding and Dekker Group, both active in vegoil business
- Smaller tankterminal dedicated to specialised vegoils and oleochemicals
- Tankstorage increasing from 48,000 m³ (64 tanks) to 90,000 m³ in the future
- Seajetty has been upgraded to accommodate 45,000 dwt vessels; draft > 10 meters
- New piece of land for further expansion
Vopak

• Part of Royal Vopak, the largest independent operator
• In operation for more than 80 years
• 350 tanks with a capacity of some 510,000 m³
• 11 berths, including 5 for coasters & other seagoing vessels
Botlek Tank Terminal

- Formerly Maas Silo, located in Botlek
- Fully owned by HES Beheer
- Recently extension (50,000 m² by land reclamation) allows storage capacity to be expanded from 200,000 m³ to 750,000 m³
- 420 meters jetty (13.85 m draft); 8 berths
IOI – Loders Croklaan

- State-of-the-art palm oil refinery (800,000 t/yr) opened in 2005
- Mid 2010: additional capacity (350,000 t/yr) and enzymic interesterification capacity (100,000 t/yr)
- Tank capacity doubled to 200,000 m³
Cargill

- Refinery with 1 mln t / year capacity
- Feedstock: palm oil, palm kernel, rapeseed, cocos oil
- 2 recent projects:
  - berth upgraded to receive Panamax vessels
    
    *(11.65 m → 15 m draft)*
  - additional land (30,000 m²)
Wilmar Edible Oils

- State-of-the art refinery (300,000 t/yr) started 2005
- 2nd refinery (additional capacity 450,000 t/yr) started Q4 2009
- Inbound/outbound logistics via Koole Tankstorage Pernis
- Trading office for refined oils, biodiesel and oleochemicals located in centre Rotterdam
- New investment: fatty-alcohol plant (Huntsman site)
MaasRefinery

- Various shareholders incl. Remia, Fluvia, and Dekker
- Specialties toll refinery; started Q4 2009
- Batches of min. 5 t; annual capacity some 40,000 t/yr
- Integrated with Maastank, logistics outsourced
Sime Darby Unimills

- Supplier of tailor-made natural vegetable oil-based ingredients
- Deodorization capacity around 450,000 t/yr
- All processes on one site: refining, double-fractionation, flaking and enzyme technology. Also lecithin production, based on enzymatic hydrolysis and fractionation
- A few years ago: expansion of tankfarm, 100,000 t/yr enzymatic arrangement plant, innovation center (€ 35 mln project)
Neste Oil: production NExBTL

- Operational since Q4 2011
- Throughput of palm oil grew from 2.6 mln t (2011) to 3.6 mln t in 2012 and 3.7 mln t in 2013
- Investment nearly € 700 mln
- Capacity: 800,000 tons /year
- Feedstock: various vegoils, by-products of vegetable oil refining, waste animal fats
To summarise

- Rotterdam gained a very strong position in the Vegetable Oils sector
- Private companies invested heavily in past 10 years
- All major companies have strong presence in Rotterdam
- Continuous investment by refineries, tankstorage companies and the Port Authority will further improve superior position
Future trends in the Vegetable Oils sector

• Import volumes will increase as result of start up of new production and refining capacity

• Continued growth of biofuels component in transportation fuels

• Biobased economy: development of biorefining and production of biobased chemicals
How does Port of Rotterdam respond?

- Focus on long term sustainable production
- Promote development biochemical and biorefining cluster
- Continued investment in new infrastructure & debottlenecking of current infrastructure
- Expansion of port area (Maasvlakte 2)
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