Petrochemicals industry in Egypt

A look for the future

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Egypt Basic Information

- **Location**: North East Africa
- **Total area**: 1,001,450 km²
- **Population**: 89 million (estimated in 2014)
  (Urban: 60% - Rural: 40%)
- **Real GDP growth rate**: 2% (2012) – 3.5% (2015 est.)
- **GDP @OER(Official Exchange Rate)**: 286 Billion USD (2013)

* A nation’s GDP at official exchange rates (OER) is the home-currency-denominated annual GDP figure divided by the bilateral average US exchange rate with that country in that year. 

Source: The Central Intelligence Agency
Petrochemicals industry represents:

3% of the GDP
12% of total Egyptian industries.

Plastics and rubber consumption in Egypt:

25 kg for each citizen annually

Demand for plastics and rubber:

2.22 million tons in 2014.

Source: The Central Intelligence Agency
Egypt is ranked No. 16 Globally in:

Natural gas – production:

61.26 billion m³ (Estimated in 2015)

Gas reserves:

1.8 trillion m³ (1 January 2014)

Source: The Central Intelligence Agency
Petrochemicals Production in 2002

<table>
<thead>
<tr>
<th>Material</th>
<th>Production (KT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDPE</td>
<td>225</td>
</tr>
<tr>
<td>PP</td>
<td>165</td>
</tr>
<tr>
<td>PVC</td>
<td>80</td>
</tr>
<tr>
<td>LAB</td>
<td>50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>520</strong></td>
</tr>
</tbody>
</table>
Petrochemicals Production in 2009

Total Production (KT)

- **Urea**: 600
- **HDPE**: 225
- **PP**: 165
- **LAB**: 150
- **PVC**: 80
- **Acrylic Fiber**: 54

**Total Production**: 1274 KT
Petrochemicals Production in 2015

<table>
<thead>
<tr>
<th>Material</th>
<th>Production (KT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methanol</td>
<td>1150</td>
</tr>
<tr>
<td>Urea</td>
<td>600</td>
</tr>
<tr>
<td>PET</td>
<td>420</td>
</tr>
<tr>
<td>PP</td>
<td>400</td>
</tr>
<tr>
<td>PVC</td>
<td>280</td>
</tr>
<tr>
<td>HDPE</td>
<td>225</td>
</tr>
<tr>
<td>PS</td>
<td>200</td>
</tr>
<tr>
<td>LAB</td>
<td>150</td>
</tr>
</tbody>
</table>

Total Production (KT): 3425
Expected Petrochemicals Production in 2016

- **Total Production (KT)**: 5340
- **Urea**: 1900
- **Methanol**: 1150
- **PP**: 565
- **HDPE**: 525
- **PET**: 420
- **PVC**: 280
- **PS**: 150
- **LLDPE**: 150
- **LAB**: 150
Egypt Market Size

Supply and Demand:

• Egypt produces 28% of plastic materials which are locally consumed.

• In 2006, Egypt consumed 1.64 million tons of plastics.

• In 2012, Egypt consumed 2.07 million tons of plastics.

• In 2015, Egypt consumes 2.22 million tons of plastics.

• Average growth rate for the market demand is 6% annually (Approx.)
## Egyptian Polymers Consumption In 2015

<table>
<thead>
<tr>
<th>Polymer</th>
<th>Consumption KTA</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyethylene (PE)</td>
<td>555</td>
<td>65% imported</td>
</tr>
<tr>
<td>Polypropylene (PP)</td>
<td>460</td>
<td>60% imported</td>
</tr>
<tr>
<td>Polyvinyl Chloride (PVC)</td>
<td>390</td>
<td>70% imported</td>
</tr>
<tr>
<td>Polyethylene Terephthalate (PET)</td>
<td>300</td>
<td>60% imported</td>
</tr>
<tr>
<td>Polystyrene (PS)</td>
<td>120</td>
<td>Totally imported</td>
</tr>
<tr>
<td>Others</td>
<td>400</td>
<td>Totally imported</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2225</strong></td>
<td></td>
</tr>
</tbody>
</table>
Supply and Demand : (Others)

- Egypt imports 100% of Engineering and other plastics material.
- Engineering Plastics represent 12% of the Egyptian Plastics demand.

<table>
<thead>
<tr>
<th>Polymer</th>
<th>Consumption KTA</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrylic polymers and PMMA</td>
<td>120</td>
<td>400</td>
</tr>
<tr>
<td>Synthetic Rubber</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Acrylonitrile and Styrene polymers ( ABS and SAN)</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>Polyurethanes</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Polyvinyl acetate/Alcohol</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Polyesters</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Ethylene Vinyl Acetate ( EVA )</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Others ( Polycarbonates, epoxies, polyamide .... etc.)</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

Total Others:
Polymers consumption of Egypt comparing to North African countries (Algeria, Morocco, Tunisia and Libya)

- Total Egypt: 48%
- Rest of North African countries: 52%
Egyptian Plastics and thereof external trade balance

- Exports value growth rate was increasing over the period greater than Imports.
- The trade balance shows a considerable deficit over the period.
Sector Drivers

Natural Resources

Egypt has the needed gas reserves for the petrochemicals industry.

Feeder and Support Industries

Egypt has numerous feeder industries to support the petrochemicals sector.

Proximity to Customers

Egypt is close to major petrochemical converters in Europe, Africa and the Middle East.
Infrastructure

Egypt has 15 commercial and 44 specialized ports, including 11 for petroleum.

Egypt also has international ports, airports and highways, as well as an in-country rail system.

Built-in Market

With a population over 89 million, and GDP growth rate improvement Egypt’s domestic consumption of petrochemical products is expected to increase in the coming years.

In addition, Egypt supplies petrochemical products to about 50 countries worldwide.
New builds

The Egyptian Ethylene and Derivatives Company
ETHYDCO

* PLANT CAPACITY:
  • 460,000 Tons/year ETHYLENE.
  • 400,000 Tons/year POLYETHYLENE (HDPE & LLDPE).

* TOTAL INVESTMENT COST:
  • 1900 Million USD.

* LOCATION:
  • EL - Amreya, ALEXANDRIA.
Egyptian Styrenics Company - ESTYRENICS

* PLANT CAPACITY:
  • 300,000 Tons/year STYRENE monomer.

* TOTAL INVESTMENT COST:
  • 460 Million USD.

* LOCATION:
  • Dekhila port - ALEXANDRIA.
Gas to Olefin Complex - GTO

* PLANT CAPACITY:
  - 1,000,000 Tons/year ETHYLENE & PROPYLENE monomer.
  - 1,000,000 Tons/year POLYETHYLENE & POLYPROPYLENE.

* TOTAL INVESTMENT COST:
  - Under evaluation.

* LOCATION:
  - Ain Sokhna, or Port Saeid.

Pre-feasibility Study is under preparation
Integrated refinery and petrochemicals complex

* Purpose:
Utilizing naphtha produced at either a grassroot or an existing refinery to produce olefins and aromatics.

* Products:
- Ethylene and its derivatives
- Propylene and its derivatives
- Butadiene and its derivatives
- Aromatics (Benzene, Xylene)

* Feedstock:
- Crude Oil - In case of grass root Petro-refinery
- Naphtha- In case of integration with an existing refinery

* Project is currently under study.
Developing world-class industrial downstream clusters based on the basic petrochemicals products produced from existing and future projects:

- Plastic Packaging Cluster.
- Construction Cluster.
- Automotive Cluster.
Thank you for your attention!