The Southeast Asian Polyolefin Industry
Set to Emerge as a Key Market with Growing Demand and Capacity Additions

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Thailand is the Leading Player in the Southeast Asian Polyolefin Industry

Thailand is the regional powerhouse in the Southeast Asian polyolefin industry, with the largest consumption and production of polyethylene and polypropylene. The growth era of the Thai polyolefin industry started in the 1980s after the discovery of large natural gas reserves in the Gulf of Thailand, which provided abundant feedstock, such as ethane and propane, for olefin production.

Most of the polyolefin plants in Thailand are situated in Rayong in the eastern seaboard. The reason for the concentration of petrochemicals plants in the eastern seaboard is its proximity to sea routes, which facilitates the transportation of raw material and finished goods. The Thai polyolefin industry is in an advantageous position, not only due to the availability of abundant feedstock but also to the strong demand from the domestic and Chinese markets. With a polyolefin production capacity of approximately XX Million Metric ton per annum (MMtpa) in 2011, Thailand is poised to take advantage of the Chinese demand for polyolefins.

Insufficient Production Capacity has Made Indonesia a Polyolefin Importer

Although Indonesia is the second largest consumer of polyolefin resins in Southeast Asia, it has not capitalized on its strong demand. A large Indonesian population drives the demand for plastic products in the country, which in turn creates a healthy demand for polyolefin resins. However, the polyolefin production capacity in Indonesia has not grown with the rapidly growing demand, making Indonesia dependent on imports. The country has a limited polyolefin production capacity, which increased only marginally in the previous decade. The capacity increased from XX MMtpa in 2000 to XX MMtpa in 2011. Due to this, polyolefin imports as a percentage of demand in Indonesia increased sharply in the latter part of the last decade, from XX% in 2007 to XX% in 2011. The following table shows the imports as a percentage of demand in Indonesia from 2000 to 2011.

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Strong Domestic Demand and Exports of Plastic Products Driving the Polyolefin Industry in Malaysia

The polyolefin industry in Malaysia is growing rapidly due to growing production and exports of plastic products. There has also been a surge in investment in the Malaysian plastic products industry in the recent past, which has been highlighted by the presence of increasing foreign players. Growing investment in the plastic products industry will continue to increase demand for raw materials, such as polyolefin resins.

As well as the plastic products trade, Malaysia is highly active in the polyolefin resins trade. Polyolefin exports from Malaysia, which were XX MMtpa in 2011, are expected to exceed one MMtpa by 2016. Imports of polyolefin resins into Malaysia are expected to remain stable until 2016, due to the focus on domestically produced plastic resins. As a result of this, the polyolefin production capacity in Malaysia is likely to increase by XX MMtpa in the next five years.
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2 Introduction

2.1 Overview

Southeast Asia has emerged as a major region for the polyolefin industry due to strong demand growth. The demand for polyolefin in the region has grown at a Compound Annual Growth Rate (CAGR) of more than XX% in the last decade. The major countries in the region which are driving the growth of the polyolefin industry are Thailand, Malaysia and Indonesia. These countries are the largest contributors to polyolefin demand in the region. Singapore, on the contrary, does not have a high consumption but produces and exports huge quantities. It has now emerged as the major supplier of polyolefins in Southeast Asia, with a total export of XX Million Metric ton per annum (MMtpa) in 2011.

Countries such as Vietnam and the Philippines are relatively small markets for polyolefins. Vietnam has witnessed an impressive growth in polyolefin demand, however, the Philippines has witnessed a decline in demand. The Philippines’ polyethylene demand grew marginally in the previous decade, while polypropylene demand declined. From a supply perspective, the Philippines is better placed than Vietnam. The Philippines has polyolefin plants that satisfy its domestic demand for polyolefins easily, while Vietnam is highly dependent on imports, as it does not have any polyethylene plants, nor are any expected to come on-stream there in the next five years.

China is a lucrative market for polyolefin exporters in Thailand, Singapore and Malaysia. As China is expected to remain a net importer for the next five years, Thailand and Singapore can export significant additional quantities to China. Thailand has already ramped up its production capacity in the last three years, while Singapore will increase its capacity in the next five years. Malaysia can also take advantage of growing Chinese imports by increasing its production capability. Indonesia, on the other hand, needs to become self-sufficient in meeting its domestic polyolefin demand.
2.2 GlobalData Report Guidance

- The report starts with an executive summary capturing the key points of the Southeast Asian polymer industry. Products covered under polyolefins are polyethylene and polypropylene and the countries covered are Thailand, Indonesia, Malaysia, Singapore, Vietnam and the Philippines.

- Chapter three highlights the main features of the Southeast Asian polymer industry and provides polyolefin demand and production figures from 2000 to 2016. It also discusses how the region can gain from the growing Chinese polyolefin market.

- Chapter four provides the demand and supply scenario of the polyethylene and polypropylene industry in Thailand from 2000 to 2016. It also provides the installed polyolefin capacity and trade balance of the country from 2000 to 2016.

- Chapter five provides the demand and supply scenario of the polyethylene and polypropylene industry in Indonesia from 2000 to 2016. It also provides the installed polyolefin capacity and trade balance of the country from 2000 to 2016.

- Chapter six provides the demand and supply scenario of the polyethylene and polypropylene industry in Malaysia from 2000 to 2016. It also provides the installed polyolefin capacity and trade balance of the country from 2000 to 2016.

- Chapter seven provides the demand and supply scenario of the polyethylene and polypropylene industry in Singapore from 2000 to 2016. It also provides the installed polyolefin capacity and trade balance of the country from 2000 to 2016.

- Chapter eight provides the demand and supply scenario of the polyethylene and polypropylene industry in Vietnam from 2000 to 2016. It also provides the installed polyolefin capacity and trade balance of the country from 2000 to 2016.

- Chapter nine provides the demand and supply scenario of the polyethylene and polypropylene industry in the Philippines from 2000 to 2016. It also provides the installed polyolefin capacity and trade balance of the country from 2000 to 2016.

- Chapter ten provides profiles of the major companies active in the polyolefin sector in Southeast Asia. It provides the installed polyolefin capacity of the Siam Cement Group (SCG), PTT Global Chemical Public Company Limited (PTTGC) and the Honam Petrochemical Corporation (HPC). The chapter also provides details on these companies’ Southeast Asian polyolefin plants and classifies their polyolefin capacity by country.
3.3.2 Southeast Asia Polypropylene Industry – Plant Expansions Driving Production

The polypropylene industry in Southeast Asia is growing at a much faster pace than the polyethylene industry. The demand for polypropylene in the region has grown at a healthy rate and is expected to continue the good run in the coming years. The main sectors driving the demand for polypropylene are the packaging and automotive sectors. The demand for flexible food packaging has been driving the packaging sector in the region. Automotive production in the region is also growing at a good pace, creating a backward demand for polyolefin resin, which are used to make interior as well as exterior auto parts.

The demand for polypropylene increased from XX MMtpa in 2000 to XX MMtpa in 2011 at a CAGR of XX%. It is expected to increase to XX MMtpa in 2016 at a CAGR of XX%. The historic production growth of polypropylene was not as impressive, growing at a CAGR of XX% from XX MMtpa in 2000 to XX MMtpa in 2011. However, production is expected to improve substantially to XX MMtpa in 2016 because a number of new plants are expected to come on-stream in the next five years.

Figure 2: Southeast Asia Polypropylene Industry, Demand and Production (MMtpa), 2000–2016

Source: GlobalData, Petrochemicals eTrack [Accessed December 26, 2012]
Note: The countries covered are Thailand, Malaysia, Indonesia, Singapore, the Philippines and Vietnam
Table 2: Southeast Asia Polypropylene Industry, Demand and Production (MMtpa), 2000–2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Demand</th>
<th>Production</th>
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<tbody>
<tr>
<td>2000</td>
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<td>2016</td>
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<td>CAGR (2000–2011)</td>
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<tr>
<td>CAGR (2011–2016)</td>
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</tbody>
</table>

Source: GlobalData, Petrochemicals eTrack [Accessed December 26, 2012]
Note: The countries covered are Thailand, Malaysia, Indonesia, Singapore, the Philippines and Vietnam
10.1.4 Siam Cement Group – Polyolefin Capacity by Country

SCG’s polyolefin capacity in Southeast Asia is located in two countries, Thailand and Indonesia. In 2011, XX% of SCG’s total polyolefin capacity in Southeast Asia was installed in Thailand, while the remaining capacity was installed in Indonesia. Its polyolefin capacity will expand to Vietnam after the start up of the planned Long Son integrated petrochemical project. However, the complex is not expected to start before 2016. The following figure shows SCG’s polyolefin plant capacity by country.

![Figure 52: Siam Cement Group, Southeast Asia, Polyolefin Capacity by Country, 2011](source: GlobalData, Petrochemicals eTrack [Accessed December 26, 2012])

<table>
<thead>
<tr>
<th>Country</th>
<th>Share (%)</th>
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<tbody>
<tr>
<td>Thailand</td>
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<td>Indonesia</td>
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Source: GlobalData, Petrochemicals eTrack [Accessed December 26, 2012]
11 Appendix

11.1 Abbreviations

AFTA – ASEAN Free Trade Agreement
ASEAN – Association of Southeast Asian Nations
CAFTA – China-ASEAN Free Trade Agreement
CAGR – Compound Annual Growth Rate
GDP – Gross Domestic Product
HDPE – High Density Polyethylene
ktpa – thousand tons per annum
LDPE – Low Density Polyethylene
LLDPE – Linear Low Density Polyethylene
MIDA – Malaysian Investment Development Authority
MITI – Ministry Of International Trade and Industry
MPMA – Malaysian Plastic Manufacturer Association
MMtpa – Million Metric tons per annum
MYR – Malaysian Ringgit
NPCA – NPC Alliance Corporation
PTTGC – PTT Global Chemical Public Company Limited
RAPID – Refinery and Petrochemical Integrated Development
SCG – Siam Cement Group

11.2 Bibliography

11.3 Definitions

11.3.1 Installed Capacity
The maximum rated output of a plant under specific conditions designated by the manufacturer. The installed capacity is usually indicated in units of tons on a nameplate affixed to the plant.

11.3.2 Process
A process is a combination of unit operations used in the manufacturing of petrochemicals to change the composition of chemicals.

11.3.3 Technology
Technology is referred to as a technical process used in the petrochemical industry, which is developed by a specific business entity.

11.4 GlobalData’s Research Methodology
GlobalData dedicated research and analysis teams consist of experienced professionals with a pedigree in marketing, market research and consulting backgrounds in the petrochemical industry and with advanced statistical expertise.

GlobalData adheres to the Codes of Practice of the Market Research Society (www.mrs.org.uk) and the Strategic and Competitive Intelligence Professionals (www.scip.org).

All GlobalData databases are continuously updated and revised. The following research methodology is followed for all databases and reports.

11.4.1 Coverage
- The objective of updating GlobalData coverage is to ensure that it represents the most up to date vision of the industry possible
- Changes in the industry taxonomy are built on the basis of extensive research of company, association and competitor sources
- Company coverage is based on three key factors: market capitalization, revenues and media attention/innovation/market potential
- An exhaustive search of 56 member exchanges is conducted and companies are prioritized on the basis of their market capitalization
- The estimated revenues of all major companies, including private and governmental, are gathered and used to prioritize coverage
- Companies which are making the news, or which are of particular interest due to their innovative approach are prioritized
- GlobalData aims to cover all major news events and deals in the petrochemical industry, updated on a daily basis
- The coverage is further streamlined and strengthened with additional inputs from GlobalData’s expert panel (see below).
11.4.2 Secondary Research

The research process begins with exhaustive secondary research on internal and external sources being carried out to source qualitative and quantitative information relating to each market.

The secondary research sources that are typically referred to include, but are not limited to:

- Company websites, annual reports, financial reports, broker reports, investor presentations and SEC filings
- Industry trade journals and other literature
- Internal and external proprietary databases
- National government documents, statistical databases and market reports
- News articles, press releases and web-casts specific to the companies operating in the market.

11.4.3 Primary Research

GlobalData conducts hundreds of primary interviews a year with industry participants and commentators in order to validate its data and analysis. A typical research interview fulfills the following functions:

- It provides first-hand information on the market size, market trends, growth trends, competitive landscape, and future outlook
- It helps in validating and strengthening the secondary research findings
- It further develops the analysis team’s expertise and market understanding

Primary research involves e-mail correspondence and telephone interviews as well as face-to-face interviews for each market, category, segment and sub-segment across geographies.

The participants who typically take part in such a process include, but are not limited to:

- Industry participants: CEOs, VPs, business development managers, market intelligence managers and national sales managers
- Outside experts: investment bankers, valuation experts, research analysts and key opinion leaders specializing in the petrochemical industry

11.4.4 Expert Panel Validation

GlobalData uses a panel of experts to cross verify research and forecast methodologies, and drive its analytical content.

The GlobalData expert panel comprises marketing managers, product specialists, international sales managers from petrochemical companies; academics from research universities and consultants from professional services companies.
11.6 Disclaimer

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