



Thailand's position in the South East Asian polyolefins industry

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Emerging demand within the SEA region following robust economic growth combined with a strong converting industry presents significant opportunities for the polyolefin industry.

Over the past 12-15 years, Thailand's petrochemicals industry has made rapid progress. The policy of free competition in the petrochemicals industry has led to an increase in investment as well as production capacity. Established groups such as PTT and SCG, either independently or with various foreign partners, have focused on building a completely integrated industry and expanding investment opportunities to a global scale. This has positioned Thailand as the leader in South East Asia (SEA) and one of the key players in the Asian polyolefins landscape. This article focuses mainly on Thailand's position in the SEA polyolefins industry and the expected future direction in the background of various challenges faced by the industry.

Asian polyolefin growth – opportunities & challenges for SEA

Exhibit 1 presents the global economic outlook for the period 2011-2015. Asia is expected to remain the key driver for the economic growth, mainly led

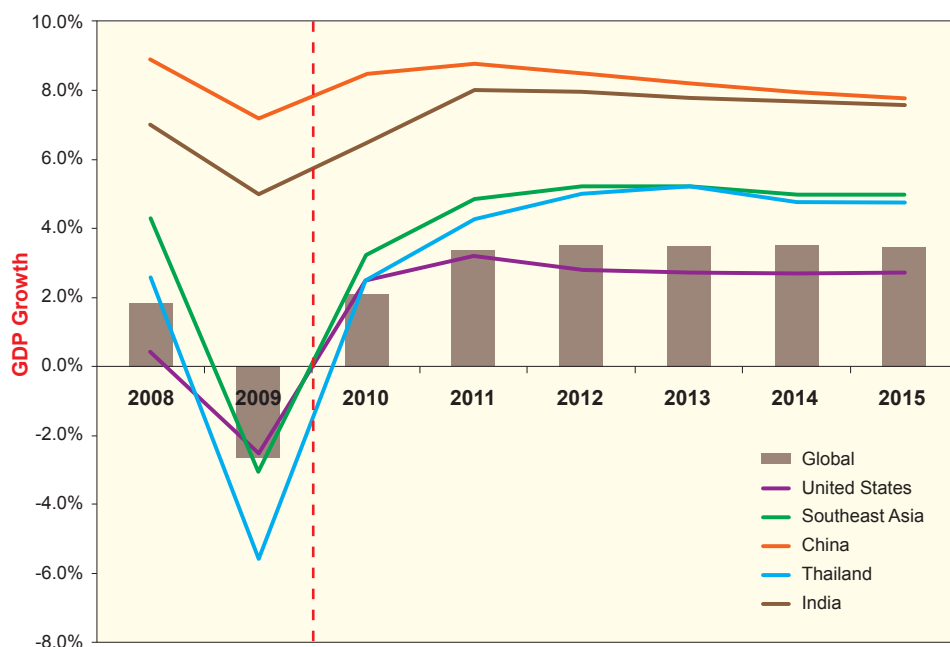
by China and India. South East Asia (SEA) is also expected to see sustained growth of above 4% per annum. Thailand's situation is expected to follow the South East Asian trend. As a result, petrochemical demand is expected to remain very strong in Asia.

China is the major driver for polyolefin growth in Asia. Economic and domestic polyolefin demand growth is expected to remain high as China will remain a net importer of PE and PP even after capacity additions. China will remain the largest and most competitive export market. Delays in Middle East capacity

will allow SEA countries to benefit from the growth in China in the short-term. Further, the emerging demand within the SEA region following robust economic growth combined with a strong converting industry presents significant opportunities for the SEA polyolefin industry.

With opportunities come challenges mainly related to the effect of overcapacity which was amplified by the demand loss during the economic downturn. Capacity build-up & competition continue to characterize the industry. China continues to

Exhibit 1: Global & Asian Economic Outlook



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develop significant capacity – for self sufficiency as domestic demand outpaces capacity making it a net importer and a battleground for every export-oriented petrochemical industry (esp. SEA and South Korea). SEA countries are also building significant capacity to participate in Chinese growth, to cater to increasing regional demand, and also monetize domestic resources. Added to these supply additions is the heavy competition from low-cost suppliers from the Middle East, essentially making commodity polyolefins a difficult playing field for the SEA polyolefin industry.

In SEA, three countries that are exposed to these opportunities and challenges alike are Thailand, Singapore and Malaysia – which are also the three largest polyolefin producers in the region.

Current & future position in SEA polyolefin industry

Thailand plays a leading role in the South East Asian petrochemical industry. Thailand is a leader in the South East Asia region for polyolefins followed by Singapore and Malaysia.

Exhibit 2 presents the competitive positions of these three countries in the four broad polyolefin product areas – LDPE, LLDPE, HDPE and PP – along with their relative export exposure or import dependence of these products as of 2009/10.

In HDPE, Thailand is by far the leader with a good mix of unimodal and bimodal technologies. However, the export exposure (nearly 55% of existing capacity) is significant and is expected to increase further following proposed

capacity additions of nearly 700 KTA. The closest competitor, Singapore, is equally exposed to exports but however lacks any bimodal capacity. Thailand's position, especially, in value-added segments such as PE100 offers significant opportunities compared to the other SEA counterparts.

In LDPE, Malaysia is the largest supplier with nearly 70% exposure to exports, which to a certain extent has been sustainable due to lack of significant LDPE capacity in the region. The new capacity additions in Thailand will make the kingdom the largest producer and supplier of LDPE in the region moving forward. While Thailand will benefit from robust growth rate for LDPE and current price premiums in the region, there will be increasing competitive pressure from Malaysian producers. Singapore's limited capacity and focus on a mix of LDPE and High EVAs will hedge them from these competitive pressures.

In LLDPE, Singapore has the largest capacity share; however most of this swing capacity has been used for HDPE production in the past. With new capacity additions, Thailand will have the largest capacity share increasing its export exposure to significant levels. Singapore

is also adding capacity for LLDPE and thus would be the largest competitor in the region. Malaysia is expected to remain a net importer for LLDPE.

In PP, Thailand is the largest supplier with strong domestic consumption supported by an established converting industry and growth in automotive and appliance markets. However, new capacity additions will significantly increase its exposure to export markets. Further, capacity additions in Singapore will present significantly higher competitive pressure.

As is expected, Thailand like other SEA players is heavily exposed to export markets and the commodity polyolefins are and will continue to be under significant pressure. Thailand however, has significant advantages in the region including 1) a good mix of ethane and naphtha as feedstock making it relatively more cost competitive, 2) scale of operations & world class facilities, 3) strong government support, 4) a strong downstream processing industry, 5) established large players (PTT & SCG group), and very importantly 6) access to a large domestic market and over 300 million people right across borders.

Exhibit 2: Competitive Position of SEA Polyolefin Producers, By Product, 2009/10

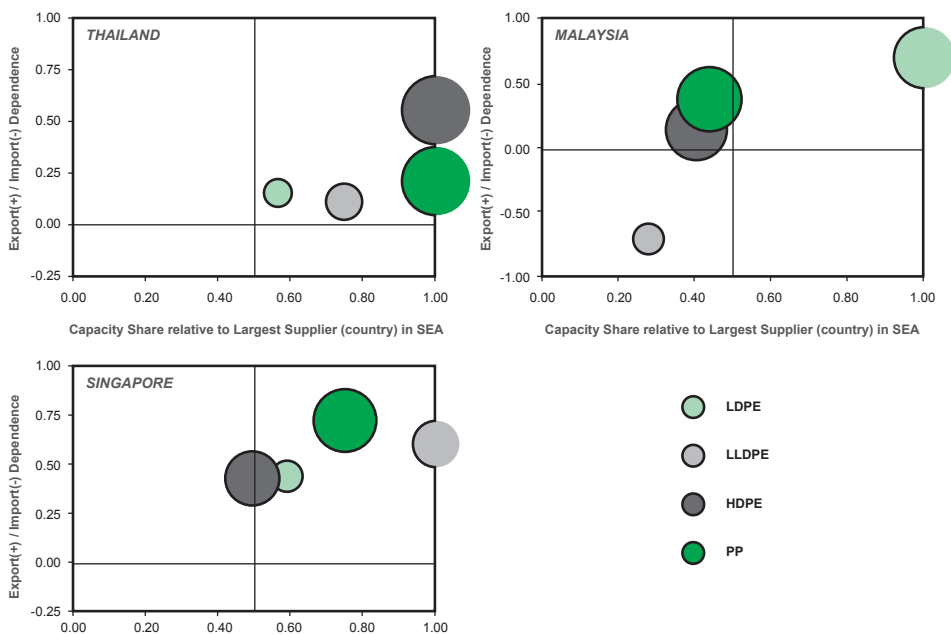
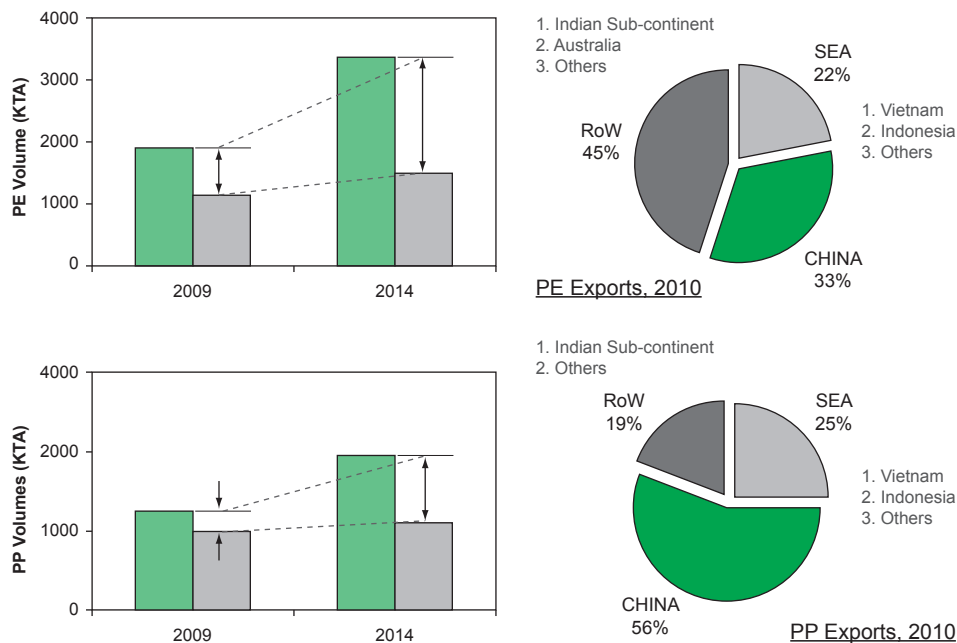



Exhibit 3: Thailand's Increasing Exposure to Exports, 2009-2014


The movement towards specialty and value-added products is already a trend in Thailand.

On the downside, in addition to the challenges faced by most SEA countries, Thailand is faced with several key issues including: 1) Ethane availability becoming limited leading to higher exposure to oil prices, 2) Product mix heavily oriented towards commodities, 3) Some of the assets are old and may have difficulty competing in commodities, 4) significant oversupply with new capacity additions and high export exposure (Exhibit 3), 5) environmental policy, 6) ASEAN Free Trade Agreement, and 7) development of polyolefins capacity in neighboring countries / regions (especially Vietnam and India – Exhibit 3) which are key export markets.

Some of these key issues are not necessarily weaknesses or threats as they present a lot of future opportunity to further grow and diversify the Thai polyolefin industry into previously unfamiliar (but profitable) territory. The old assets and their economies of scale are not well suited for commodities, but they do open up avenues for

specialties and value-added products. This would automatically shift the current commodity focus into a balanced portfolio of commodities, differentiated products and specialties. Movement in this direction presents opportunities to 1) import substitution of value-added products which have typically been supplied by players from US, Europe and Japan, 2) reduction in some of the export exposure, 3) better competitiveness in export markets with offerings differentiated from what is available from the Middle East and other low-cost suppliers, and 4) better price premiums.

The movement towards specialty and value-added products is already a trend in Thailand with some of the majors such as Dow/SCG making significant investments in metallocenes. PTT group and others are considering various value-added products to strengthen their portfolio either via catalyst development or through value chain integration (via compounding). The trend is also well supported by increased emphasis on R&D, both, from the polyolefin industry and the government. Significantly more emphasis is needed in this direction to fully develop these products in the

region. This is not only critical in terms of product diversification but also in terms of potential to become the technology leader/provider for South East Asia.

In addition to the movement towards specialties, Thai polyolefin players in recent years have invested heavily and developed strong marketing channels on a global basis including sound logistics. Their experience in the export markets and ability to provide a wide variety of commodity products resulting from their diverse technology mix positions them well among all of their SEA counterparts. The ASEAN free trade agreement which is seen by some to increase pressure in the domestic markets is also a significant opportunity given the increasing export dependence and potential emergence of the polyolefin industry in Vietnam and other neighboring regions.

Concluding remarks

New capacity additions and commodity focus have resulted in a heavily exported-oriented polyolefin industry in Thailand, like most other SEA countries. All the new capacity that is being built in the Middle East will be targeted for exports to Asia due to large demand and lower delivered cost. The new wave of exports will displace the Asian producers exporting to China due to lower cost.

To accommodate these changing dynamics, Thailand is and will continue to focus on exporting to other regions including western countries and displacing imports of value-added products currently being supplied by developed economies. Since the region is relatively new to specialties it will require significant emphasis on R&D. Thailand is fairly advanced and is in a very suitable position to develop specialty and value-added products.

Overall, the Thai polyolefin industry is positioned very well in the SEA region and will continue to hold the leadership role in both commodities and value-added products in SEA. ®