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Southeast Asia: a wild card in the global plastics industry

A country report in the run-up to K 2019

The Asian region is buckling down on major trends and issues to achieve a future "perfect" economic growth, which will have a ripple effect on the plastics industry. In the run-up to K 2019, The World´s No. 1 Trade Fair Plastics and Rubber, which will take place in Düsseldorf from 16 to 23 October 2019, we will first take a look at the Asian economy, broken down into various areas, in order to then identify the plastics industry, market growth and challenges in the region.

With the world economies on a roller coaster ride, sluggish trade growth is expected on the heels of further trade restrictions and policy uncertainties. According to the OECD (Organisation for Economic Cooperation and Development), the global economy is likely to expand from 3.3% in 2019 to 3.4% in 2020, down from the 3.5% it had projected for both years last year.

Meanwhile, in China, while new policy measures have offset weak trade developments, OECD's forecast for the country remains close to 2018, with a forecast growth of 6.2% in 2019 from 6.3%. And while India's growth wound down to 7.1% in the third quarter of 2018, it is expected to grow at 7.3% in the fiscal year 2018-19, and 7.5% in the following two years, says the World Bank.

Bracing for further headwinds in the months to come, mature economies are pointing their compasses towards Southeast Asian countries, even against the Bank of America Merrill Lynch forecast of a slowdown in five countries – Indonesia, Malaysia, the Philippines, Singapore and Thailand – with growth falling slightly to 4.8% in 2019, from 5% in 2018.

As a single market, Southeast Asia is very attractive for key industries, including automotive, packaging, construction and medical devices. The region is also embracing salient issues relating to fuel efficiency, through development of its electric vehicle industry; plastics waste reduction through a recycling infrastructure; and adoption of smart manufacturing via Industry 4.0 initiatives. Southeast Asia's plastics market is expected to register a

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CAGR of 5.5% from 2018-2023, according to a report by Mordor Intelligence. Construction and packaging industries are the major consumers of plastics in the region, as are film/sheet applications.

Meanwhile, Mordor Intelligence also says that the market for engineering plastics in Asia-Pacific was 25.37 million tonnes in 2017. The market is expected to portray a healthy growth rate over the forecast period of 2018-2023, at a CAGR of 5.7%. PET (Polyethylene terephthalate) resins are expected to dominate the segment, with a 51% share in the engineering plastics' product share and a growth of 6.6% over the next five years.

Flaunting its automotive base assets

To remain competitive, Southeast Asia needs to measure up with the global automotive demand. The region produced over 4 million vehicles in 2018, and averaged a 7.6% growth in production and sales, from January-November 2018, according to the ASEAN Automotive Federation (AAF).

Thailand the region's largest producer of vehicles (commercial and passenger vehicles), takes the lead, having produced 2.16 million units in 2018, up by 9% from the previous year. For 2018, full year vehicle sales in Thailand increased 19.2% year-on-year to 1 million units. However, the Federation of Thai Industries (FTI) forecasts that vehicle production in Thailand is expected to decrease slightly to 2.15 million units in 2019. The country, dubbed as the Detroit of Asia, remains a manufacturing haven for global automobile makers including Toyota, Ford, Honda, BMW, Mercedes and more, which have set up factories in Thailand.

Second in rank in production is Indonesia, which produced over 1.24 million units, up 9.9% from 1.13 million units a year ago, according to the AAF data. As well, Indonesia remains the largest market for vehicles in 2018, having sold 1.06 million units in the 11 months to November, up 6.9% from 994,436 units over the same period a year ago.

Meanwhile car producing Malaysia, saw a 23.7% dip in sales following three months of a windfall from June-August; and capped the month of November 2018 with a sales growth of 5.5%, according to the Malaysian Automotive Association (MAA).

Plugging into electric vehicles or EVs

Sales of electric cars are increasing around the world, surpassing 1.2 million for the first time in 2018, and more than 1.6 million EVs expected to be sold worldwide by the end of the year, according to the Frost & Sullivan Global Electric Vehicle Market Outlook for 2018. While China, the US and Europe account for around 90% of all electric car sales in the world, Japan and South Korea are also major players, with China cornering half of global production in 2017, followed by Europe and the US with 21%, and 17%, respectively; and Japan and South Korea representing 8% and 3%, respectively.

Southeast Asia, where vehicle, industrial and biomass burning are main reasons for degrading air quality, is also progressing towards low carbon transport. A 2018 study by Frost & Sullivan and Nissan, covering Singapore, Indonesia, Thailand, Malaysia, Vietnam and the Philippines, says though EV uptake remains comparatively low, consumers are aware of the differences in various EV technologies such as battery electric vehicles (BEVs), plug-in hybrid vehicles (PHEVs) and full hybrid. It also said EVs are gaining popularity among young individuals below the age of 40.

When British technology firm Dyson picked Singapore as the location for its multi-billion dollar electric car project, to roll out its first EVs by 2021, it came as a surprise since almost 90% of vehicles are petrol-based in Singapore. According to the Land Transport Authority (LTA), as of last year, 357 cars were petrol-electric plug-ins while 466 were pure electric, of the 614,937 cars registered in Singapore. Nevertheless, the country is one of a few in the world with both an electric car-sharing scheme and an electric taxi fleet and it is also expected that 60 electric buses will ply public bus routes by 2020, according to the LTA.

Elsewhere, the "Big 3" – Thailand, Malaysia, and Indonesia, have formed respective EV roadmaps to build an integrated EV ecosystem to support private investments across the value chain. Under its "Electric Vehicle Promotion Plan", part of the Thailand Alternative Energy Development Plan 2012-2021, Thailand has progressed from having 60,000 hybrid passenger cars and 8,000 battery electric motorcycles in 2014 to 102,000 hybrid cars and 1,400 battery electric vehicles in 2018, according to the Land Transport Department.

Indonesia has delved deeper into the issue of adoption, pushing its goal for 20% of all locally manufactured cars to be electric by 2025. It is targeting 2.1 million units of two-wheeler EVs like e-motorcycles and and 2,200 units of four-wheeler vehicles by 2025. Investments are rife and recent developments include South Korea's Hyundai setting up a 250,000-unit/year EV plant in Cikarang Industrial Complex; and a consortium of investors from South Korea, Japan and China building a US$4 billion EV battery plant in Morowali to tap into Indonesia's abundant nickel laterite reserves, a key ingredient in lithium ion batteries. The country is also finalising a policy that offers fiscal incentives to EV battery producers and car makers, as well as tariff agreements with countries that have high EV demand.

Under its National Green Technology Master Plan and the Electric Mobility Blueprint (EMB), Malaysia envisages by 2030, it will have 100,000 electric cars on the road, along with 2,000 electric buses and 125,000 charging stations, says the Malaysian Investment Development Authority.

In the Philippines, the Electric Vehicle Association of the Philippines (EVAP) set a target in 2014 to have 1 million EVs on roads by 2020, while the Philippine Department of Energy (DOE) collaborated with the Asian Development Bank (ADB) to introduce e-tricycles (e-trikes) powered by lithium-ion battery technology. As of 2018, around 1,400 e-jeepneys and e-trikes ply the roads, according to the Department of Trade and Industry's Board of Investments, along with charging stations in 19 locations. EVAP envisions 200 of these in place by 2022. In predominantly two-wheeler Vietnam, its first car manufacturer Vinfast expects to produce 250,000 e-motorcycles/year and is planning to release its own electric car in the near future.

Still, the region has to tackle the slow take-up rate of EVs due to unattractive incentives, higher prices of EVs, compared to petrol engine equivalents, and lack of availability of charging infrastructure, with the Frost & Sullivan findings indicating that governments have a critical role to play in promoting EV usage.

Top scorers in packaging

The Asian flexible packaging market is poised to reach a CAGR of 5.7% to US$6.7 billion from 2016-2024, according to a Transparency Market Research sector forecast, driven by growth and increasing disposable incomes. Thailand, touted as the "Kitchen of the World" for drawing importance on its food and agriculture sectors, has one of Asia's most advanced food processing segment, with more than 10,000 food-and-beverage processing factories. Its third largest sector, it accounts for over 20% of the country's GDP.

The Thai packaging industry is expected to grow to 63.1 trillion units in 2020 from 51.3 trillion units in 2017, registering a CAGR of 4.2%, says Global Data research. Packaging that offers greater functionality such as on-the-go, sustainable or personalised packs are forecast to rake in higher demand in the longer term, as is rigid plastics with the highest market share gainer and growth of 4.5% during 2017-2022.

Indonesia is, likewise, predicted to lead in the flexible packaging market in the region, with food packaging accounting for 70% of plastic consumption, according to Transparency Market Research. Food and beverage sales are among key drivers to Indonesia's strong retail sales growth averaging 3.7% year-on-year based on the December 2018 data of Bank Indonesia. This backs the growth of the Indonesian plastics market, forecast to witness a CAGR of 6.23% in a Mordor Intelligence report spanning 2018-2023.

The emerging trend of busy, fast-paced lifestyles in Indonesia's flourishing urbanisation is driving the demand for smaller, convenient, on-the-go packs, and other packaging types, according to Global Data, which also alludes to rising environment awareness among consumers as a key factor in thriving demand for eco-friendly packaging formats. Flexible packaging holds a broad usage in Indonesia's food industry, owing to its low cost, flexibility to suit multiple shapes and sizes, convenience, and low-carbon foot print. Flexible packaging occupied a market share of 42% in 2016, accounting for 42 billion units in 2016, and is forecast to reach 52 billion units in 2021, at a CAGR of 4.3% during 2016-2021. Nevertheless, rigid packaging snapped up a sizeable market share in Indonesia in 2016, accounting for nearly 25% of the market, and is expected to grow at a CAGR of 7.7% by 2021.

With over 1,500 plastic production companies, Malaysia's plastics market is driven by packaging. Citing data from Statista, Malaysia's food and beverage segment is predicted to earn US$268 million in 2019; and is expected to grow annually at a CAGR of 18% to US$520 million by 2023. In the same trajectory, the pharmaceutical industry is propelling the growth of packaging.

Looming waste problem – going full circle for sustainability

The booming plastics and packaging sectors in Southeast Asia have resulted in a growing waste problem. According to the Ocean Conservancy environmental advocacy group, and based on the findings of the *Science* journal, more than half of plastics that end up in the oceans come from five countries – China, Indonesia, the Philippines, Thailand, and Vietnam.

Meanwhile, with China's ban on the import of most global recyclable plastics last year, to develop its own domestic recycling capacity, Southeast Asia has become a dumping ground for plastic waste from other countries. And while Thailand, Vietnam and Malaysia have started to enforce import bans on plastic waste, further legislation is required to stem the tide, since illegal plastics recycling factories rise up even with the enforcement.

As the second largest contributor to the plastic waste crisis in the oceans, trailing only behind China, Indonesia has a monumental task to tackle. The 250 million-populated country used 9.8 billion plastic bags in 2016 alone, according to the Ministry of Environment and Forestry. Against a failed plastic bag tax on single-use bags, which would have had an "impact on small and medium enterprises", according to Indonesian Olefin, Aromatic and Plastic Industry Association (Inaplas), the country has now pledged US$1 billion, including a US$100 million loan from the World Bank. It expects to reduce the amount of plastic it leaks into the oceans by 70% by 2025, according to the Coordinating Ministry for Maritime Affairs, through product packaging redesign, use of recyclable materials, and adequate waste management. Of the latter, the country has a "sizeable" recycling industry, with about 1.1 million tonnes/year of plastic waste recycled, yet the recycling rate remains low at 20%, says the newly formed Indonesia Plastics Recyclers (IPR).

With Thailand producing around 3 million tonnes/year of plastic waste, the country has established a 20-year strategy, which includes banning the use of thin single-use plastic bags by 2022, followed by single-use plastic cups and straws in 2025, according to plans drafted by the Pollution Control Department.

Neighbouring country Malaysia has charted a zero-waste plan that aims to abolish single-use plastics by 2030. With incineration high on its agenda, Singapore has held off on introducing policies that either ban or tax single-use plastic, to the chagrin of environmentalists since even Cambodia has introduced a levy on plastic bags in shopping centres and supermarkets. In the Philippines, a ban on single-use plastic also came into effect in government offices, with plastic utensils, bags and straws banned. Local governments have also enforced zero-plastic policies in their cities.

Conclusions and outlook for the Southeast Asian plastics industry

As Southeast Asia moves on a trajectory path, in its plastics sector growth, sustainability in the industry cannot be achieved without altering the current systems of plastics management and consumption. Already, the five Asian countries of Indonesia, the Philippines, Vietnam, Thailand and Malaysia collectively produce 8.9 million tonnes/year of mismanaged plastic waste. Addressing the environmental impact of handling waste build-up through plastic bag bans, and similar tax-based actions, which are predominantly the first line of defence for many countries to manage waste, may no longer be as efficient as anticipated. Today, a more expansive approach is sought to incorporate design and enable technologies to maximise the value of materials. Bringing into the fold is the circular economy model that aims to curb wastage through reuse of materials as well as recyclability of materials in major sectors (automotive, construction, packaging and others).

Meanwhile, targets have been set in the newly formed sustainable framework led by Malaysia-based NGO, Circular Economy Asia (CEA), to consolidate efforts for Asia to tackle its waste leading to a circular economy. CEA's model includes providing a regular, convenient and efficient collection service, support of informal recycling collectors and utilising the tiers they operate within because it is a system that already works well; as well as licensing informal recycling collectors for technology-connected geographical areas, providing the information and data for a range of key

solutions. CEA is also lauding the Asian Plastics & Packaging Agreement (APPA), a programme that seeks to establish a common recycling labelling system, a certifiable supply chain and advocates each country in Asia to establish a sustainable, circular plastics and packaging industry.

Finally, CEA says that if policy makers embrace the circular economy now, it is expected to come full circle for Asia in 2050, through the elimination of landfilling with the diversion of recyclable resources for reprocessing and with the production of 100% of recyclable plastics.

At K 2019, both raw material producers and mechanical engineers want to make their experience and knowledge of recycling, sustainable development and circular economy with plastics available internationally. Against this background in particular, the "Circular Economy" will be at the centre of K 2019, which as the leading global trade fair for the sector offers optimum conditions for deepening discussions on this important topic with experts from many countries around the world and for intensifying cooperation.

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