Packaging Business in Thailand

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Thailand Institute of Scientific and Technological Research (TISTR)

Online roundtable meeting
“Opportunities and Investment Support Measures for Packaging Business in Thailand”

9th September 2021
www.tistr.or.th
Thai Packaging Centre

Activities
- Research and Development in packaging area
- Testing of packaging materials and containers with modern equipments and standard test methods
- Disseminating of packaging knowledge and conducting seminars and training programmes on packaging

Member: APF, IAPRI, WPO, ISTA

Testing & Consultancy

ISO 9001: 2015 CERTIFICATION

Promotion & Training
Material Biodegradation Testing Laboratory

Biodegradable Testing Center

- Compostable Plastic Test
- Ready Biodegradability Test
- Preliminary Biodegradation Test
- Pesticides Bioremediation
Thailand Packaging Business

Manufacturing
- Raw materials:
  - Wood pulp (L/l)
  - Petroleum/Plastic compounds/resins (L/l)
  - Silica sand (L)
  - Al/Steel sheet/reel (L)
- Finished products:
  - Paperboard/Corrugated boxes/cartons/trays
  - Plastic bags/pouches/tray/bottles/jars/tubes/crate/pallets
  - Glass jars/bottles
  - Al cans, TP cans

Converting
- End-users:
  - Food & Beverage
  - Cosmetic
  - Pharmaceutical
  - Electrical Appliances
  - Personal care products
  - Household products etc.

Supply chain
- Local supply & Export
  - Micro, SMEs, Start up
- Trading agent/Wholesaler/Retailer
- Consumers

Supporting
- Non-recycling:
  - Thin films
  - Multilayer films
  - EPS containers etc.
- Packaging waste:
  - Paperboard/corrugated board cartons
  - PE, PP, PET bottles
  - Steel/Al cans
  - Glass jars/bottles

Government
- Thai Food & Drug Administration (FDA)
- Thai Industrial Standard (TIS)
- Thai Packaging Centre, TISTR
- Board of Investment (BOI)
- Department of Industrial Promotion (DITP)
- Department of Export Promotion
- Office of Industrial Economics (OIE)
- Universities e.g. KU, KMITL

Private Organization
- Thai Packaging Association (TPA)
- The Federal of Thai Industry
- QS1 Thailand
- Informa Market
Global Packaging Industry

- Global packaging volume is approximately USD110,985.7 Million in 2021 (1st Quarter)
  - 13% increase in comparison to 2020
  - Growing rate has expected about 7.5% per year (2019-2027)
- Thailand is the largest exporter in Asean which accounts about USD844.8 Million (11.2% increase). Its strength due to application of high technology and production of high quality products.
- Major importers are US (14.6%), Japan (14.5%), Vietnam (9.3%), Indonesia (8.6%), China (6%)
- 78.2% of export value are plastic packaging which accounts about 1.7% of global market share.
Thailand Packaging Industry

- Packaging volume in Thailand is approximately 5.61 Million Tonnes in 2020 (excluding pkg machinery)
  - Growing rate has expected about 2-5% per year (2021-2027)
- Growth may be due to
  - Domestic consumption expansion especially e-commerce packaging due to Covid-19 and lockdown policy
  - Increase of export values especially in Asean
  - Packaging demand for safety and wellness including medical device
- Environment issue will also affect the use of packaging esp. for plastics
### Thailand’s Packaging Industry: 2020

<table>
<thead>
<tr>
<th>Material</th>
<th>Production, Tonnes</th>
<th>Consumption, Tonnes</th>
<th>Export, Million Baht</th>
<th>Import, Million Baht</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paperboard</td>
<td>2,215,701.0</td>
<td>2,200,343.0</td>
<td>7,521.40</td>
<td>6,243.62</td>
</tr>
<tr>
<td>Plastics</td>
<td>1,388,728.7</td>
<td>988,677.8</td>
<td>40,041.48</td>
<td>25,531.35</td>
</tr>
<tr>
<td>Glass</td>
<td>1,566,619.8</td>
<td>1,932,930.9</td>
<td>2,087.01</td>
<td>1,604.29</td>
</tr>
<tr>
<td>Metal</td>
<td>437,268.4</td>
<td>402,781.9</td>
<td>8,851.49</td>
<td>4,914.76</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5,608,317.9</strong></td>
<td><strong>5,524,733.6</strong></td>
<td><strong>58,501.38</strong></td>
<td><strong>38,294.02</strong></td>
</tr>
</tbody>
</table>

*Source: [https://packaging.oie.go.th/](https://packaging.oie.go.th/)*
Packaging consumption by materials

- Paperboard: 35.0%
- Plastic: 39.8%
- Glass: 17.9%
- Metal: 7.3%

Source: https://packaging.oie.go.th/
No. Packaging manufacturers in Thailand

Source: https://packaging.oie.go.th/
## No. Packaging manufacturers in Thailand

<table>
<thead>
<tr>
<th>Material</th>
<th>No. of company</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paperboard</td>
<td>403</td>
<td>SCG packaging is leading</td>
</tr>
<tr>
<td>Corrugated fiberboard box</td>
<td>157</td>
<td></td>
</tr>
<tr>
<td>Paperboard</td>
<td>154</td>
<td></td>
</tr>
<tr>
<td>Others e.g. paper bags</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>Plastics</td>
<td>998</td>
<td>Approx. 70% is SMEs Large manufacturers are Thai owners or joint-ventures with foreigners</td>
</tr>
<tr>
<td>Flexible packaging</td>
<td>435</td>
<td></td>
</tr>
<tr>
<td>Semi-rigid packaging</td>
<td>493</td>
<td></td>
</tr>
<tr>
<td>Others e.g. plastic sack</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>Glass</td>
<td>74</td>
<td>Low no. due to high investment</td>
</tr>
<tr>
<td>Glass bottles/jars</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Metal</td>
<td>166</td>
<td></td>
</tr>
<tr>
<td>Metal cans</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,641</strong></td>
<td></td>
</tr>
</tbody>
</table>
# Top 4 Big Glass Manufacturers

<table>
<thead>
<tr>
<th>No.</th>
<th>Company</th>
<th>Capacity, Tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bangkok Glass Co., Ltd.</td>
<td>3,735 Tonnes/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12,000 Million Baht</td>
</tr>
<tr>
<td>2</td>
<td>Berli Jucker Ltd. (BJC)</td>
<td>3,035 Tonnes/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18,900 Million Baht</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(including Aluminum can)</td>
</tr>
<tr>
<td>3</td>
<td>Siam Glass Industry Co., Ltd.</td>
<td>600 Tonnes/day</td>
</tr>
<tr>
<td>4</td>
<td>Asia Pacific Glass Co., Ltd.</td>
<td>620 Tonnes/day</td>
</tr>
</tbody>
</table>

Source: https://positioningmag.com/1144216
### Paperboard Packaging (2019-2020)

<table>
<thead>
<tr>
<th>Item</th>
<th>2019</th>
<th>2020</th>
<th>Growth rate, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production, Tonnes</td>
<td>2,254,032</td>
<td>2,215,701</td>
<td>-1.7</td>
</tr>
<tr>
<td>Consumption, Tonnes</td>
<td>2,235,465</td>
<td>2,200,343</td>
<td>-1.57</td>
</tr>
<tr>
<td>Import, Million Baht</td>
<td>5,122.93</td>
<td>6,243.62</td>
<td>21.88</td>
</tr>
<tr>
<td>Export, Million Baht</td>
<td>8,139.72</td>
<td>7,521.40</td>
<td>-7.59</td>
</tr>
</tbody>
</table>

Production and consumption decreased about 1.5-1.7% which may due to Covid-19 and lock down and consumers want packaging to ensure safety. In addition, export decreased due to reduction of export goods especially food products.

**Source:** [https://packaging.oie.go.th/](https://packaging.oie.go.th/)
# Plastic Packaging (2019-2020)

<table>
<thead>
<tr>
<th>Item</th>
<th>2019</th>
<th>2020</th>
<th>Growth rate, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production, Tonnes</td>
<td>1,317,482</td>
<td>1,388,728.71</td>
<td>5.41</td>
</tr>
<tr>
<td>Consumption, Tonnes</td>
<td>953,021</td>
<td>988,677.77</td>
<td>3.74</td>
</tr>
<tr>
<td>Import, Million Baht</td>
<td>23,291.39</td>
<td>25,531.35</td>
<td>9.62</td>
</tr>
<tr>
<td>Export, Million Baht</td>
<td>39,811.12</td>
<td>40,041.48</td>
<td>0.58</td>
</tr>
</tbody>
</table>

Production and consumption increased about 5.41 and 3.74%, respectively which may due to Covid-19. Thus, consumers prefer single-use packaging to ensure safety. In addition, import & export increased due to increase demand for bio-based packaging and bio-degradable packaging.

**Source:** [https://packaging.oie.go.th/](https://packaging.oie.go.th/)
Application of Plastic by sectors

Source: Plastics Institute of Thailand
### Glass Packaging (2019-2020)

<table>
<thead>
<tr>
<th>Item</th>
<th>2019</th>
<th>2020</th>
<th>Growth rate, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production, Tonnes</td>
<td>1,526,175</td>
<td>1,566,619.80</td>
<td>2.65</td>
</tr>
<tr>
<td>Consumption, Tonnes</td>
<td>1,878,641</td>
<td>1,932,930.90</td>
<td>2.89</td>
</tr>
<tr>
<td>Import, Million Baht</td>
<td>1,462.44</td>
<td>1,604.29</td>
<td>9.70</td>
</tr>
<tr>
<td>Export, Million Baht</td>
<td>2,481.49</td>
<td>2,087.01</td>
<td>-15.90</td>
</tr>
</tbody>
</table>

Production and consumption increased about 2.65 and 2.89%, respectively. Demand of glass containers is a little higher, while import of glass containers also increased about 10%. This may due to the fact that consumers required functional / health foods or beverages with tightly seal to ensure safety.

**Source:** [https://packaging.oie.go.th/](https://packaging.oie.go.th/)
## Metal Packaging (2019-2020)

<table>
<thead>
<tr>
<th>Item</th>
<th>2019</th>
<th>2020</th>
<th>Growth rate, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production, Tonnes</td>
<td>399,024</td>
<td>437,268.44</td>
<td>9.58</td>
</tr>
<tr>
<td>Consumption, Tonnes</td>
<td>321,250</td>
<td>402,781.93</td>
<td>25.38</td>
</tr>
<tr>
<td>Import, Million Baht</td>
<td>4,133.27</td>
<td>4,914.76</td>
<td>18.91</td>
</tr>
<tr>
<td>Export, Million Baht</td>
<td>9,147.48</td>
<td>8,851.49</td>
<td>-3.24</td>
</tr>
</tbody>
</table>

Production and consumption increased about 9.58 and 25.38%, respectively. Demand of metal containers is much higher, thus it’s necessary to import metal containers which increased about 19%. This may due to the fact that consumers required shelf stable foods under thermal processing with tightly seal to ensure safety and longer shelf life. However, export decreased may be due to Covid-19 resulted in declined of export food products.

**Source:** https://packaging.oie.go.th/
Trends for Packaging Machinery

- Similar to packaging materials, packaging machinery will continue to grow
- Requirements of packaging machinery
  - Cost reduction
  - Waste reduction
  - Increase efficiency
- AI, Robotic and IOT will be implemented to improve production efficiency as comply with Thailand 4.0 policy
Packaging Trends

- Growing of E-commerce packaging
  - Demand for transport or tertiary packaging directly from manufacturers to consumers (B2C)
- Green Packaging
  - Reduce
  - Reuse
  - Recycle
- Wellness and Senior Friendly Packaging
  - Ready-to-eat/cook and smaller size pack
  - Convenience
  - Safety & Tightly seal
## Thailand’s E-commerce Market

<table>
<thead>
<tr>
<th>Category</th>
<th>Revenue in 2016, US$ million</th>
<th>Revenue in 2021, US$ million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic &amp; Media</td>
<td>1,117</td>
<td>1,774</td>
</tr>
<tr>
<td>Toys, Hobbies &amp; DIY</td>
<td>398</td>
<td>1,029</td>
</tr>
<tr>
<td>Furniture &amp; Appliance</td>
<td>391</td>
<td>855</td>
</tr>
<tr>
<td>Fashion</td>
<td>390</td>
<td>1,310</td>
</tr>
<tr>
<td>Food &amp; Personal Care</td>
<td>154</td>
<td>340</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,450</strong></td>
<td><strong>5,308</strong></td>
</tr>
</tbody>
</table>

Revenues include sales of physical goods via digital channel to a private end user (B2C) and purchases via both desktop computer and mobile devices, but exclude digital media, digitally distributed services, B2B markets, and resale of used goods and sales between private persons.

**Source:** Statistica
# Packaging Trends Before vs After Covid

<table>
<thead>
<tr>
<th>Before Covid</th>
<th>After Covid</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 3Rs concept has been implemented</td>
<td>• Growing on E-commerce market and delivery services especially for food products</td>
</tr>
<tr>
<td>• Source reduction of petroleum based plastics and replacement by environmentally friendly renewable materials</td>
<td>• Increase demand for single use packaging with tightly seal to ensure hygiene &amp; safety</td>
</tr>
<tr>
<td>• Government and private sectors had encouraged to use reusable packaging or containers e.g. any discount if bring your own packages</td>
<td>• Plastic waste increased during the lockdown up to 15%, or up from around 5,500 tons a day to 6,300 tons a day</td>
</tr>
<tr>
<td>• Single use plastics are banned in some countries</td>
<td>• Increase both supply and demand for biodegradable packaging</td>
</tr>
</tbody>
</table>
Thailand’s Roadmap on Plastic Waste Management 2018 – 2030

100% of target plastic wastes will be recycled by applying Circular Economy Principle

Target 1
Reduce and stop using single-use plastic targets by replacing with environmentally friendly products

SDGs
• Summary of implementation in accordance with SDGs
• Continuously working to meet the target of Roadmap

Target 2
100% of target plastic waste to Circular Economy

Stop using in 2022
- Plastic bag < 36 micron
- Foam food container
- Plastic cup < 100 micron
- Plastic straw
- Monitoring, evaluation, and review of Roadmap and Action Plan
- Develop recycling plastic waste system through circular economy

Stop using in 2019
- Cap seal
- Oxo
- Microbead

- Adopted “Bangkok 3R Declaration towards Prevention of Plastic Waste Pollution through 3R and Circular Economy”
- Adopted “Bangkok 3R Declaration on Combating Marine Debris in ASEAN Region”
- Develop plastic waste recycling system through circular economy

Phase 1
- Establish Subcommittee/Working groups
- Develop Roadmap for Plastic Waste Management 2018 – 2030

Phase 2
- Developing guidelines/requirements/standard for environmentally friendly plastic products

Phase 3
- Reducing and stop using other single-use plastics
3 Plastics have been /4 will be banned

cap seals
microbeads
plastic straws
plastic cups
oxodegradable plastics
styrofoam food
lightweight plastic bags
Public Private Partnership for Sustainable Plastic and Waste Management (PPP Plastic)  
>36 members from private organization e.g. PTT, Dow, SCG started in 2018  
**Goal:** Within 5 years, at least 10% of plastic waste in Rayong will be recycled and generate at least THB 3 million income for local communities.  
- By 2022, zero plastic waste will go into landfill in Rayong  
- By 2027, reduce marine plastic debris by at least 50% and 100% of plastic waste to be recycled  
- Municipalities will design the waste management system for their own area for maximum efficiency and sustainability
Packaging Challenges

- How to cut down production cost
  - raw material price increase, esp. paperboard packaging
  - Labor shortage – Increase production cost

- Customization
  - Small order with high frequency purchase
  - Digital technology play important role

- Higher competitive due to globalization
- Unpredictable economic situation due to Covid-19
Thank you for your attention!