The ASEAN Steel Industry in 2019 and Overcapacity Issues

Presentation at:
Global Forum Stakeholder Event
7 July 2020
SEAISI organizes a major international conference & exhibition and a forum every year. The SEAISI Conference & Exhibition is the one of the largest events on the iron & steel industry in ASEAN.

VISION: To become a world-class steel institute to contribute to sustainable steel value chain in ASEAN

MISSION: To educate and advocate sustainable development of ASEAN steel value chain, in partnership with global institution and experts

~900 members with >400,000 employees • 27 countries ... since 1971

SEAI SI organizes a major international conference & exhibition and a forum every year. The SEAISI Conference & Exhibition is the one of the largest events on the iron & steel industry in ASEAN.

Statistical Yearbook • Steel Quarterly Journal • Member Directory • Map of ASEAN Steel Industry • Monthly Newsletter
OUTLINE:

A

- ASEAN Steel Consumption
- ASEAN Steel Imports & Exports
- ASEAN Steel Consuming Sectors
- Rise of the Megamills
- Emerging Low Cost Centres for Stainless Steel
- Future Scenario & Recovery
- Why Do We Have This Issue?
- A Case Study
APPARENT STEEL CONSUMPTION IN ASEAN

In 2019, ASEAN-6 apparent steel consumption reached 81 million tonnes, up 1.2% from 80 million tonnes a year ago.

Source: SEAISI statistics
APPARENT CONSUMPTION OF STEEL (FLATS/LONGS)

The continued growth in long steel production is partly to serve export while flat steel production is to serve domestic.

### Long Products (2019E)
- **Consumption**: 39.2 m MT
- **Production**: 32.4 m MT
- **Net Imports**: 6.8 m MT
- **Production growth partly is to export**
- **2020 Forecast**: 38.0 m MT

### Flat Products (2019E)
- **Consumption**: 41.8 m MT
- **Production**: 12.9 m MT
- **Net Imports**: 28.9 m MT
- **Market is mostly served by imports**
- **2020 Forecast**: 41 m MT

Source: SEAISI statistics
ASEAN imported a total of **12.5 million MT** of long products in 2019, mainly from China, Japan, Korea and within ASEAN; These are used in the Construction Sector.

**Total Import**
- ASEAN imported a total of **12.5 million MT** of long steel in 2019.

**Import by Products**
- More than 80% of steel imports are for the Construction sector:
  - Wire Rod (38%)
  - Bar (23%)
  - Sections (23%)

**Import by Countries**
- China continues to dominate long products supply, supplying 47% of steel in 2019.
- The other major suppliers are from Japan (12%), Korea (12%), Turkey (8%) and Taiwan (3%).
- Intra ASEAN imports increased from 9% in 2018 to 15% in 2019.

Source: SEAISI statistics
ASEAN imported a total of 38.7 million MT of flat products in 2019, mainly from China, Japan, Korea and within ASEAN.

Total Import
- ASEAN imported a total of 38.7 million MT of flat steel in 2019

Import by Products
- More than 70% of steel imports into ASEAN are
  - HR Coils (47%)
  - Coated Sheets (22%)
  - CR Coils (17%)
  - HR Plates (11%)

Import by Countries
- Major supply of flat products came from
  - China (33%)
  - Japan (24%)
  - Korea (14%)
  - Within ASEAN (9%)

Source: SEAISI statistics
ASEAN FINISHED STEEL IMPORTS

Finished steel import in Indonesia and Vietnam increased in 2019 mainly due to increase in domestic demand

- Finished steel import growth in most ASEAN-6 countries increased slightly, by 1.3% in 2019
- Vietnam and Indonesia experienced strong growth in steel import, by 8-9% y-o-y
- A major portion of the import in Indonesia was flat steel, especially HRC and coated sheet, while Vietnam import increase was for Section and HRC.

Source: SEAISI statistics
LONG PRODUCT EXPORTS IN ASEAN

ASEAN exported a total of 5.7 million MT of long products in 2019, mainly to other ASEAN countries, India, Korea, Australia and Taiwan.

Source: SEAISI statistics

Total Exports
• ASEAN exported a total of 5.7 million MT of long steel in 2019

Export by Products
• More than 80% of steel exports are:
  - Bars (31%)
  - Wire Rod (42%) (mostly from Malaysia)
  - Sections (17%)

Export by Countries
• Most of ASEAN long products exports are to neighbouring ASEAN countries (41%) and Myanmar (12%) and to China 18%
ASEAN exported a total of **9.8 MT of flat products** in 2019, mainly within ASEAN.

### Total Export
- ASEAN exported a total of 9.8 million MT of flat steel in 2019

### Export by Products
- Most steel exports are:
  - Coated Sheets (25%)
  - HR Coils (27%)
  - CR Coils (18%)
  - Welded Pipes (15%)
  - HR Plates (15%)

### Export by Countries
- Most flat products were exported to
  - Within ASEAN (44%)
  - Taiwan (10%)
  - India (9%)
  - China (6%)

Source: SEAISI statistics
Finished steel export from ASEAN-6 registered significant increases in 2019, mainly from Vietnam and Indonesia which is the export from production from new capacity.

- Most of ASEAN countries are not significant steel exporters.
- However, Indonesia’s steel export continued to increase significantly,
  - Stainless Steel
  - Plates
- Malaysia’s export of wire rod jumped from as low as 100,000 tonnes a year to 1.3 million tonnes in 2019.
- Vietnam remained the biggest steel exporter in ASEAN.

Source: SEAISI statistics
ASEAN-6 ASC is expected to dip to 79.3m MT (-2.1%), supported by growth in Vietnam and Indonesia; 2021 ASC (for now) is expected to reach 83.2 m MT.

ASEAN 6 – Apparent Steel Consumption (million MT)

Note: The forecast is assumes COVID19 is contained by mid 2020 and economic recovery starts soon thereafter.

Source: STECO, worldsteel, SEAISI Research & Analysis
Steel Demand in ASEAN-6 have traditionally been in the Construction Sector followed by Automotive and Shipbuilding Sectors

Apparent Steel Consumption by Steel Consuming Sectors & Country - 2015 Study (%)

Source: SEAISI Research & Analysis, SEAISI Study (2015)
OUTLINE:

A

- ASEAN Steel Consumption
- ASEAN Steel Imports & Exports
- ASEAN Steel Consuming Sectors

B

- Rise of the Megamills
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RISE OF THE INTEGRATED MEGAMILLS (CARBON STEEL)

Many huge integrated mills (carbon steel) are starting up in Malaysia, Indonesia, Philippines and Vietnam, with most of the investors being China Steel Mills.

### Upcoming Integrated Capacities in ASEAN

- **Kunming I & S (MM)**
  - 4 million MT
  - 2018(r): FLP 0.7 m MT
  - ?: FLP 2 m MT

- **Eastern Steel (MY)**
  - 2 million MT
  - 2018(r): FLP 0.7 m MT
  - ?: FP 1.3 m MT

- **Alliance Steel (MY)**
  - 3.5 million MT
  - 2017/18: LP 3.5m MT

- **WenAn Steel (MY)**
  - 10 million MT
  - 2021/22: FLP 10 m MT

- **Krakatau Steel (KS) / Krakatau POSCO (KP)**
  - 10 million MT (ID)
    - <2014: FP 1.8 m MT(KS)
    - 2014: FP 3.0 m MT(KP)
    - 2019: FP 1.2 m MT(KS)
    - 2025?: FP 4.0 m MT (?)

- **Megasteel (MY)**
  - 3.2m MT FP

- **Hebei Bishi Group (ID)**
  - 3 + 3 million MT
  - 2019/20: 3.0 m MT

- **Gunung Group (ID)**
  - 1.5 million MT
  - 2020: FP 1.5 m MT

- **Hoa Phat Group (VN)**
  - 4 million MT
  - 2019: LP 2.0 m MT
  - 2020: FP 2.0 m MT

- **HBIS SteelAsia JV (PH)**
  - 8 million MT
  - 2023?: LP 4.5 m MT
  - 2026?: LP 3.5 m MT

- **Panhua Group (PH)**
  - 10 million MT
  - 2022?: FP 10 m MT

- **Baowu Steel Grp (KH)**
  - 3.1 million MT
  - ?: 3.1 m MT (RL)

- **Sinosteel (ID)**
  - USD 2.7 billion Steel & Nickel
  - 2017: FLP 7.5 m MT
  - 2019: LP 7.5 m MT
  - 2026?: LP 3.5 m MT

- **Formosa Ha Tinh (VN)**
  - 22.5 million MT
  - 2017: FLP 7.5 m MT
  - 2020: LP 7.5 m MT

- **PT Dexin Steel (ID)**
  - 3.5 million MT
  - 2020: LP 3.5 m MT

### Source:
Various public sources, SEAISI Research & Analysis

Updated: July 2020
EMERGING LOW COST CENTRES FOR STAINLESS STEEL

Over the last 4-5 years, Tsingshan and Jiangsu Delong have invested in Nickel Production facilities in Indonesia, which provided the lowest costs of production.

<table>
<thead>
<tr>
<th>Company</th>
<th>Project Duration</th>
<th>Location</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tsingshan Group @ Morowali (2015-2018)</td>
<td></td>
<td>Henjaya Mines Indonesia</td>
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<tr>
<td></td>
<td></td>
<td>FeNi Ore: 180 m MT</td>
<td>Ni: ~2.3 m MT</td>
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<tr>
<td>Sulawesi Mining Investment</td>
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<tr>
<td>NPI: 0.3 m MT</td>
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<tr>
<td>SS Slabs: 1.0 m MT</td>
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<td>Indo Guang Ching Nickel SS Industry</td>
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<tr>
<td>NPI: 0.6 m MT</td>
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<tr>
<td>SS Slabs: 1.0 m MT</td>
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<tr>
<td>SS HRC: 2.0 m MT</td>
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<tr>
<td>Indo Tsingshan Stainless Steel</td>
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<tr>
<td>NPI: 0.6 m MT</td>
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<td>SS Slabs: 1.0 m MT</td>
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<tr>
<td>Indo Ruipu Nickel and Chrome Alloy</td>
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<td>Tsingshan Steel Indonesia</td>
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<tr>
<td>FerroCh: 0.6 m MT</td>
<td></td>
<td>NPI: 0.5 m MT</td>
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<tr>
<td>SS CRC: 0.7 m MT</td>
<td></td>
<td>Carbon: 1.0 m MT</td>
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<tr>
<td>Coke: 0.6 m MT</td>
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<tr>
<td>Tsingshan Group @ Weda Bay (2020)</td>
<td></td>
<td>Weda Bay Nickel Project (Mines)</td>
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<td></td>
<td></td>
<td>FeNi Ore: 30,000 +</td>
<td>Ni: ~9.3 m MT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(NPC) 35,000 MT</td>
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<td>Virtue Dragon Nickel Industry</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>NPI: 0.8 m MT</td>
<td>S. Steel: 3.0 m MT</td>
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<td></td>
<td></td>
<td>Carbon: 1.0 m MT</td>
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<tr>
<td>JIANGSU DELONG @ KonaWE (2019)</td>
<td></td>
<td>Obsidian Stainless Steel</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>SS Billets: 0.6 m MT</td>
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<td></td>
<td></td>
<td>+2.4 m MT</td>
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</tbody>
</table>

Source: SEAISI Research & Analysis
WHY SO MANY INVESTMENTS IN ASEAN
A myriad of reasons for investments in ASEAN, with a few success stories

1. Attractiveness of ASEAN as potential Economic Bloc
   • Opportunity to build facilities in one country and export to the others
2. ASEAN is one of the fastest growing market for steel
3. Access to Market / Expansion Strategy
4. Investment opportunities to cover supply demand gaps
   (Formosa Ha Tinh, Krakatau POSCO)
5. Low cost source of raw materials
   (Tsingshan Steel, Jiangsu Delong)
6. Unable to grow in China due to Supply Reforms
7. Forced to close capacity in China due to Supply Reforms
8. Ability to export products back to China

Applicable to investments from Chinese Steel Mills
THE FUTURE SCENARIO

Should all integrated mill capacities come on stream, there will be an additional 61.5 million MT of steel coming from all the identified integrated mills in ASEAN.

EXISTING: 89.5 m MT

+ 61.5 m MT

FUTURE: 151.0 m MT

Excluding Myanmar & Cambodia

Source: SEAISI Research & Analysis
RECOVERY – SIMPLE NUMBERS

How long does it take for current consumption growth to catch up with all potential installed capacity in ASEAN?

ASEAN Steel Consumption 2018: ~80 m MT

ASEAN Steel Consumption Growth 2018: ~5% per year

Years for Consumption Growth of ~4 m MT to reach ~78.5 m MT of Overcapacity, excluding all other EAF steelmaking capacities coming up: ~18.9 – 20.4 years

Source: SEAISI Research & Analysis
Scenario analysis shows most positive realistic scenario (2) will still see demand catching up with supply in 16+ years; COVID19 will add another 2-3 years

Scenario A:
ASC grows 4m MT / year (based on previous year growth of 5%)

ASC Overcapacity Scenarios for ASEAN-6 (based on Overcapacity over ASC)

- Scenario C: ASC grows 7.3% / year (based on previous CAGR 1998-2018)
- Scenario B: ASC grows 4.2% / year (based on previous CAGR 1995-2018)
- Scenario A: ASC grows 4m MT / year (based on previous year growth of 5%)

Source: SEAISI Research & Analysis
WHY DO WE HAVE THIS ISSUE? (1/2)

Authorities usually focus on FDI only, mainly based on KPI, and usually assume the FDI is value adding, which is true under certain circumstances ...

A. Existing Industry Value
B. Value of New FDI in Steel Industry
C. Assumed Value of Total Industry
D. Possible Situations to Achieve Scenario

Under what circumstances will this scenario happen?

a. When the market is under-capacity
b. When the market is supplied by imports (substitution is possible)
c. When business generating Y is not in direct competition even though there is an overcapacity (e.g. Y for export or not “like” products)

Source: SEAISI Research & Analysis
WHY DO WE HAVE THIS ISSUE? (2/2)

... however, in an **overcapacity situation**, the assumed value of X+Y+Z may not happen because there is no room for the new entrant in the domestic market.

A. Existing Industry Value
B. Value of New FDI in Steel Industry
C. Possible Scenario 2
D. Possible Scenario 3
E. Possible Scenario 4

- **Scenario 2** (immediate term severe competition)
- **Scenario 3** (long term shakeout)
- **Scenario 4** (triggering the export option)

F. ASEAN-6 Capacity is Full & Demand is Down Due to COVID19
G. Where Next? Region & World
H. What if You Face Global Overcapacity, and AD ...?

*Source: SEAISI Research & Analysis*
CONCLUSIONS

1. Many proposed huge mega mills in ASEAN will add capacity to an already overcapacity market, threatening the sustainability of ASEAN Steel Industry and eventually the Global Steel Industry

2. Positioned well, few investments have been able to capture market share without disrupting the market; these add value

3. Authorities reviewing FDIs should consider these:
   • Industry situation (i.e. overcapacity)
   • Ensuring overall industry value add happens (i.e. “X+Y+Z”) and to avoid decreasing the overall industry value (i.e. “X- and Y-”)
   • Regional developments that could impact local industries

4. GFSEC continues to play a critical role in addressing the persistent global excess capacity issues in the world

Case Study

• Ongoing event since Oct 2018
• Overcapacity situation
• New entrant’s shifting to exports
• Puts a value to direct negative impact on Steel Producers
• Actual impact on entire industry will be substantially more
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MALAYSIA – APPARENT STEEL CONSUMPTION & TRADE
Malaysia’s steel demand shrank moderately in both long and flat steel demand due to economic slowdown in the country which has impacted all sectors

Apparent Steel Consumption 2019 (E) (MT)

<table>
<thead>
<tr>
<th>Finished steel</th>
<th>2017</th>
<th>2018</th>
<th>2019E</th>
<th>% Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>3,772,057</td>
<td>3,800,735</td>
<td>5,561,568</td>
<td>46.3%</td>
</tr>
<tr>
<td>Import</td>
<td>7,076,476</td>
<td>7,163,277</td>
<td>6,638,935</td>
<td>-7.3%</td>
</tr>
<tr>
<td>Export</td>
<td>1,405,423</td>
<td>1,187,887</td>
<td>2,735,801</td>
<td>130.3%</td>
</tr>
<tr>
<td>Consumption</td>
<td>9,443,110</td>
<td>9,776,125</td>
<td>9,464,702</td>
<td>-3.2%</td>
</tr>
</tbody>
</table>

• Steel consumption in 2019 continued to decline moderately
  - Production increased nearly 2 million tonnes (46.3%)
  - Import dropped 7% to 6.6m MT
  - Export surged around 1.5m MT, which was mainly the export of wire rod, 60% of the wire rod export was to ASEAN countries

• It is expected that steel demand in 2020 will drop dramatically due to COVID-19.

• However, with the impact of COVID-19, the growth may be minimum.

Source: SEAISI’s estimation
MALAYSIA – EXPORTS IN 2019

In 2019, Malaysia exported ~5.5 million tonnes of steel, the bulk of which are semi finished products and wire rods; 90% of exports were to the APAC region.

Heat Map of Malaysia Exports in 2019 (~ 5.5 million MT)

Source: SEAISI Research & Analysis

1. Top 5 Exports
   - Semi Fin Steel (bilm, bm bklnk)
   - Wire Rods
   - Scrap
   - Bars

2. Top 5 Destinations
   - ASEAN-6
   - China
   - Other APAC
   - ASEAN-4
   - Americas

3. Top 5 Export Items
   - Semis > ASEAN-6, China
   - WR > ASEAN-6, China
   - Scrap > ASEAN-6, O-APAC
   - Sections > ASEAN-6
   - Semis > O-APAC

Note: ASEAN-6 refers to Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam.
MALAYSIA – CAPACITY VS CONSUMPTION

Flat Steel Consumption vs Production and Capacity

Long Steel Consumption vs Production and Capacity

Source: SEAISI Research & Analysis
NEW ENTRANT IN AN OVERCAPACITY MARKET

A new entrant into the overcapacity long products market, led to losses of ~MYR 845m (~USD 197m), if we were to attribute the all losses to the party

Aggregated Revenues & PBT for 6 Listed Long Products Producers in Malaysia (MYR million)

Source: SEAISI Research & Analysis
NEW ENTRANT IN AN OVERCAPACITY MARKET

The flat producers typically produce products for the Construction Industry, and we will use this as a proxy for industry trend.

Aggregated Revenues & PBT for 2 Listed Long Products Producers in Malaysia (MYR million)

Source: SEAISI Research & Analysis
NEW ENTRANT IN AN OVERCAPACITY MARKET

Using Flat Products Producers’ PBT as a proxy for industry trend, then the 6 listed entities’ losses is estimated to be around ~MYR 962m (~USD 224m)

Aggregated Revenues & PBT for 6 Listed Long Products Producers in Malaysia (MYR million)

Source: SEAISI Research & Analysis
NEW ENTRANT IN AN OVERCAPACITY MARKET

A New Entrant in an overcapacity market will cause the industry to lose value; Officers should be aware of the need to increase industry value instead of FDIs

- In an overcapacity market, a new entrant who produces “like products” will lead to a severe competition in the market
- The industry will experience a loss of value, with the direct impact on Producers:
  - 6 listed companies lost ~MYR 845 to 962 million from Oct 2018 to Mar 2020
  - As the 6 listed companies represent 70-75% of market, grossing up to 100% of market, the total lost group value is ~MYR 1.12 – 1.37 bn over 18 months
- The above scenario does not calculate loss of jobs and business sustainability issues that may lead to business closures (e.g. funding and liquidity)
- In a COVID19 scenario, the impact will be worse as demand is greatly affected
- The assumption that an FDI is a full incremental value does not work in a market that is in an overcapacity situation and when the FDI is going to come into the market with “like products”
- Authorities in charge of FDIs should consider FDIs with a view of enhancing entire industry value instead of just achieving the FDI only, and be aware of potential regional risks that may not be so apparent

Source: SEAISI Research & Analysis
THANK YOU

THE BEST SOLUTION
FOR YOUR BUSINESS