Thailand economic and steel industry development

To
OECD STEEL COMMITTEE MEETING

By
Iron and Steel Institute of Thailand (ISIT)
MAY, 2012

CONTENTS

- ISIT introduction
- Thailand steel industry snapshot
- Key drivers to Thailand steel market in medium term
- Steel industry and AEC
Iron and Steel Institute of Thailand, a network of the Ministry of Industry

Mission and Vision

Vision

ISIT aims to develop Thai iron and steel industry to be internationally competitive and effectively drive the development of strategic industry.

Mission

1. Encourage industrial competitiveness
2. Co-operate and support government’s policy
3. Develop iron and steel industrial database
4. Encourage the co-ordination and co-operation among involving stakeholders
5. Create value-added services for iron and steel industry
ISIT past major activities

- 2001: Issuing Anti-Dumping Measure of HR, CR, and CRSS
- 2002: Adjusting Harmonize Code 10 Digits
- 2003: Steel Industry Transformation plan
- 2004: Training Custom Officers
- 2005: Launching the project of steel industry’s energy development
- 2006: Launching the project of steel industry’s efficiency and productivity development
- 2007: Issuing Thai Safeguard Measure
- 2008: Launching the project of downstream industry’s efficiency and productivity development
- 2009: Issuing Anti-Dumping Measure of HR, CR, and CRSS
- 2010: Adjusting Harmonize Code 10 Digits
- 2011: Issuing Thai Safeguard Measure
- 2012: Training Custom Officers

ISIT’s collaboration network:

- AISC
- Worldsteel
- AACHEN
- JISF
- NEDO
- Worldsteel
- CISRI
- KOSA
- TSIA
- ISIT
- SEAISI
- VSA
- MISIF
- PSI
- NSIA

Organizations and Institutions:
- Federation of Thai Industries
- Ministry of Industry
- Ministry of Finance
- Ministry of Science
- Ministry of Commerce
- Steel companies
- Steel fabricators
- Part makers
- Universities
- Research Institutes

Energy Management for Steel Industry in next 20 years

Guidelines Set up for Thailand Steel Industry Under ASEAN Economic Community

Neural Network for Steel Price Forecast

Structural Steel Consultation Center

Leading Indicator Technical Service

Encouragement of Integrated Steel Project for High Quality Steel

Feasibility Study of Sustainable Integrated Iron and Steel Industry Development in Thailand

Upgrading Testing Center

Launching the project of steel industry’s efficiency and productivity development

Launching the project of steel industry’s energy development
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Thailand steel industry development started from re-rolling business

<table>
<thead>
<tr>
<th>Traders / Stockists</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rebar – old mill</td>
<td>Semi – Long: 5.8 million tpy</td>
</tr>
<tr>
<td>Long – mini mills</td>
<td>Semi – Flat: 3.0 million tpy</td>
</tr>
<tr>
<td>Cold-formed section &amp; pipe</td>
<td>Rolled products: Long: 8.5 million tpy</td>
</tr>
<tr>
<td>Flat – rolling mills</td>
<td>Rolled products: Flat: 12.9 million tpy</td>
</tr>
</tbody>
</table>
... that limit local production to serve overall demand

Apparent steel demand compares to crude steel production ('000 Tonnes)

- Thailand imported all raw material, semis and finished products at 14.96 million tonnes in 2011
- High grade steel products are imported from Japan, South Korea, Taiwan, EU and US at 6.59 million tonnes in 2011 (45% of overall steel demand)
- Intensive competition from Chinese steel products as import rose from 0.65 million tonnes in 2009 to 1.9 million tonnes in 2011
- Thailand exported steel products at 0.73 million tonnes, 53% of total export go to ASEAN

Source: Iron and Steel Institute of Thailand

Overall steel market has increased on average 7.3% per year during last 11 years

Thailand apparent steel use ('000 Tonnes)

Source: Iron and Steel Institute of Thailand
Construction is major steel consuming sector

- Demand per capita = 217 Kg.
- Ratio Long product : Flat product = 33 : 67
- Demand breakdown
  - Construction 54%
  - Automotive 16%
  - Machinery & Industrial 13%
  - Appliance 12%
  - Packaging 5%

Source: Iron and Steel Institute of Thailand

Thai economy is expected to grow in the range of 5.5 - 6.5% in 2012

<table>
<thead>
<tr>
<th>Economic Projection Year 2012</th>
<th>2010 (% YOY)</th>
<th>2011</th>
<th>Projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>H1</td>
<td>H2</td>
<td>Year</td>
</tr>
<tr>
<td>GDP (at 1988 price)</td>
<td>7.8</td>
<td>3.0</td>
<td>-2.8</td>
</tr>
<tr>
<td>Total Investment (at 1988 price)</td>
<td>9.4</td>
<td>6.6</td>
<td>0.0</td>
</tr>
<tr>
<td>Private</td>
<td>13.8</td>
<td>10.5</td>
<td>3.8</td>
</tr>
<tr>
<td>Public</td>
<td>-2.2</td>
<td>-5.9</td>
<td>-11.4</td>
</tr>
<tr>
<td>Total Consumption (at 1988 price)</td>
<td>5.1</td>
<td>2.8</td>
<td>-0.1</td>
</tr>
<tr>
<td>Private</td>
<td>4.8</td>
<td>3.0</td>
<td>-0.4</td>
</tr>
<tr>
<td>Public</td>
<td>6.4</td>
<td>1.4</td>
<td>1.3</td>
</tr>
<tr>
<td>Export of Goods (US$)</td>
<td>28.4</td>
<td>22.6</td>
<td>10.7</td>
</tr>
<tr>
<td>Volume</td>
<td>17.7</td>
<td>14.8</td>
<td>6.0</td>
</tr>
<tr>
<td>Import of Goods (US$)</td>
<td>37.0</td>
<td>26.9</td>
<td>22.7</td>
</tr>
<tr>
<td>Volume</td>
<td>26.8</td>
<td>15.0</td>
<td>11.5</td>
</tr>
<tr>
<td>Current Account to GDP (%)</td>
<td>4.1</td>
<td>3.9</td>
<td>3.0</td>
</tr>
<tr>
<td>Inflation</td>
<td>3.3</td>
<td>3.5</td>
<td>4.1</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>1.0</td>
<td>0.7</td>
<td>0.6</td>
</tr>
</tbody>
</table>

Source: Office of the National Economic and Social Development Board
Steel demand in 2012 is expected to expand by 6.1% to 15.55 million tonnes

Thailand apparent steel use projection in 2012 (’000 Tonnes)

Assumption
- Construction sector expands by 1%-3%
- Automotive sector expands by 20%-39%
- Appliance sector expands by 5%-7%
- Machinery sector expands by 3%-5%
- Canned food sector expands by 2%-4%

Source: Iron and Steel Institute of Thailand

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Opportunity in Thailand construction market

- Infrastructure development
  - Mass transit development
  - Irrigation development
- Residential and commercial building
  - New condominium and housing along subway and skytrain lines
- Industrial factory
  - New investment from appliances and machinery sectors
  - Factory relocation from Japan

Source: Iron and Steel Institute of Thailand

Hope Thailand infrastructure development will perform well during next five years

Thailand capital formation in construction outlook index

<table>
<thead>
<tr>
<th>Year</th>
<th>Construction: Total</th>
<th>Construction: Building</th>
<th>Construction: Civil engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>2001</td>
<td>55</td>
<td>55</td>
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<td>2002</td>
<td>60</td>
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<td>2003</td>
<td>65</td>
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<td>2004</td>
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<tr>
<td>2005</td>
<td>75</td>
<td>75</td>
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<tr>
<td>2006</td>
<td>80</td>
<td>80</td>
<td>80</td>
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<tr>
<td>2007</td>
<td>85</td>
<td>85</td>
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<tr>
<td>2008</td>
<td>90</td>
<td>90</td>
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<td>2009</td>
<td>95</td>
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<td>2010</td>
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<td>2011</td>
<td>105</td>
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<td>2012</td>
<td>110</td>
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<td>110</td>
</tr>
<tr>
<td>2013</td>
<td>115</td>
<td>115</td>
<td>115</td>
</tr>
<tr>
<td>2014</td>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>2015</td>
<td>125</td>
<td>125</td>
<td>125</td>
</tr>
</tbody>
</table>

CAGR 15/10 (%)

- 4.8%
- 5.2%
- 5.8%

Source: Oxford Economics and ISIT analysis
### Path for Thailand automotive industry

<table>
<thead>
<tr>
<th>Auto output (Million units)</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.6</td>
<td>1.5</td>
<td>2.1</td>
<td>2.3</td>
<td>2.5</td>
<td>2.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Auto capacity (Million units)</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.2</td>
<td>2.7</td>
<td></td>
<td></td>
<td></td>
<td>3.0</td>
</tr>
</tbody>
</table>

**Milestone**

- Nissan-March
- Ford- Fiesta
- Honda-Brio
- Eco car-Mitsu, Suzuki
- GM: Pickup export
- Ford: More export
- Eco car-Toyota
- Total export: 1.3 million units
- AEC-Free labor move

Source: Thailand Automotive Institute, Federation of Thailand Industry and Somboon Advance Technology PLC.

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### Path for Thailand automotive industry

**New model in 2012 and beyond**

<table>
<thead>
<tr>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-Max³ / D-Max(RT50)</td>
<td>Isuzu</td>
<td>D-Max(RF10 SUV =&gt; to replace MU-7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jazz³/City³/Accord⁴</td>
<td>Honda</td>
<td>Jazz-Hybrid⁵ / CR-V</td>
<td>Accord / Brio (Sedan)</td>
<td>Jazz</td>
<td>City</td>
</tr>
<tr>
<td>Vigo³/Yaris³/Vigo⁵¹</td>
<td>Toyota</td>
<td>Yaris⁵¹</td>
<td>Corolla, Eco (Sedan, Hatchback)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lancer/EX/Triton</td>
<td>Mitsubishi</td>
<td>Mirage (HB)</td>
<td>Eco-Car (Sedan)</td>
<td>Triton</td>
<td></td>
</tr>
<tr>
<td>March(Exo car R/Vanna⁶ / Venetta/V200)</td>
<td>March(sedan)</td>
<td>New compact sedan (to replace Tida Latio)</td>
<td></td>
<td>Navara</td>
<td></td>
</tr>
<tr>
<td>Mazda2(sedan), Mazda⁷³</td>
<td>Mazda</td>
<td></td>
<td>Everest (Escape discontinued)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiesta(S29), Focus³²</td>
<td>Ford</td>
<td>Focus</td>
<td>Everest (Escape discontinued)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cruze(J300)</td>
<td>Chevrolet</td>
<td>Colorado (SUV)</td>
<td>Aveo(J300)³⁹</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swift/JX³¹⁷</td>
<td>Suzuki</td>
<td>Eco car</td>
<td>New Small³⁸</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

1. - minor change
2. - nano change
3. - not confirmed

Source: Somboon Advance Technology
Farm machinery and petrochemical business are potential sectors under industrial

Projection of business growth 2009 - 2015

<table>
<thead>
<tr>
<th>Sub-sector</th>
<th>2009/2008 (%)</th>
<th>2012/2009 (% per year)</th>
<th>2015/2012 (% per year)</th>
<th>2015/2009 (% per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar &amp; Ethanol</td>
<td>4.4</td>
<td>5.7</td>
<td>5.7</td>
<td>4.7</td>
</tr>
<tr>
<td>Food processing</td>
<td>3.6</td>
<td>5.8</td>
<td>5.1</td>
<td>4.5</td>
</tr>
<tr>
<td>Power plant</td>
<td>1.7</td>
<td>2.7</td>
<td>1.9</td>
<td>1.8</td>
</tr>
<tr>
<td>Farm machine</td>
<td>20.3</td>
<td>13.1</td>
<td>8.8</td>
<td>8.7</td>
</tr>
<tr>
<td>Chemical &amp; petrochemical plant</td>
<td>5.6</td>
<td>9.0</td>
<td>10.6</td>
<td>8.3</td>
</tr>
<tr>
<td>Paper</td>
<td>0</td>
<td>1.7</td>
<td>2.0</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Source: ISIT survey on Market Analysis and Forecast of Thailand Stainless Steel, 2010

New major investments come from local and abroad

2010
- Millcon Steel Industries invested THB 2.9bn ($87.6m) on a melting shop to support its long products rolling operations with capacity 500,000 tonnes per year

2011
- JFE Steel Corporation established JFE Steel Galvanizing (Thailand) Ltd to produce high end hot-dip galvanized steel sheet with capacity 400,000 tonnes per year to serve automakers steel demand

2012
- Nippon Steel Corp invested $300 million to build a steel galvanising production line in Thailand named Nippon Steel Galvanizing (Thailand) Co., Ltd. This mill will supply hot-dip galvanized and galvannealed steel sheets for automotive
- Tycoons Worldwide Group (Thailand) has announced that the company is going to invest about TWD 1.672 billion to build the electric furnace in its Thailand mill. The designed annual capacity of this new billet production line will be 500,000 tonnes per year
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Milestones of ASEAN

- Bangkok Declaration
- AFTA
- 40th Anniversary of ASEAN Cebu The Philippines
- Declaration of ASEAN Concord II Bali Indonesia
- ASEAN Community


INDONESIA
PHILIPPINES
SINGAPORE
MALAYSIA
THAILAND
VIETNAM
CAMBODIA
MYANMAR
LAOS
BRUNEI DARUSSALAM

20

21
Overview of the ASEAN Economic Community

AEC

characteristic

Single Market and Production base

Free flow of goods, services, investment, and skilled labor

Freer flow of capital

objective

To create a stable, prosperous and highly competitive ASEAN economic region

Characteristics of ASEAN steel industry

- Fragmented production facilities
- Lack of ironmaking
- Scrap base steelmaking limits capability to produce high grade steel products
- Net import of semi-finished product, especially slab
- Net import of long and flat products, especially high grade products
- Rising intra-competition among producers in region

Source: Iron and Steel Institute of Thailand
Implications to the ASEAN steel industry

Private sector roles
- Steel trade center/network
- ASEAN Joint Venture Firm
- ASEAN Holding Firm

Government roles
- Rule of Origin (ROO)
- Mutual Recognition Agreement
- Trade Facilitation
- New investment in high grade steel product
- Preparation for new trade regulations

Steel association/institute can play roles in
- Cooperation with private sector and government to create solid and fast action
- Data center in trade statistics, trade regulations, and insightful market information

Source: Iron and Steel Institute of Thailand

THANK YOU