MALAYSIA’S EXPERIENCE IN THE DEVELOPMENT OF SEEA – ENERGY

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Date: 29 November 2017
Venue: Hotel Alilia Jakarta, Indonesia

10.30 a.m.
JOURNEY OF SEEA MALAYSIA

2012*
Study the Handbook of SEEA 2003¹ & NAMEA²

2010
Parliamentary Question related to Green GDP

23 – 27 Sept 2013
The 1st Sub-Regional Course on SEEA
- Collaboration with UNESCAP/UNSIAP/UNSD

30 Sept – 1 Oct 2013
Assessment Mission on SEEA by UNESCAP/UNSIAP/UNSD

9 July 2014
Proposed to Main User Committee (MUC)
   i. PSUT Energy (2014-2015)
   ii. PSUT Water (2015-2016)

19 – 23 Sept 2016
Assessment Mission on SEEA by UNSD and UNESCAP

19 – 23 Sept 2016
Assessment Mission on SEEA by UNESCAP

30 Sept – 1 Oct 2013
The 1st Sub-Regional Course on SEEA
- Collaboration with UNESCAP/UNSIAP/UNSD

3 April 2014
SEEA Awareness Workshop with agencies

2015 – 2016
Compilation of MySEEA PSUT-Energy
- Set up Technical Working Group (inter DOSM & inter agency)

24 – 27 Jan 2017
Technical Assistance from UNSD & Statistics Denmark
- Evaluation on MySEEA PSUT-Energy

22 Feb 2017
Present findings of MySEEA Energy to MUC

August 2017
Released of Report on MySEEA PSUT-Energy 2010

March – Nov 2017
Communication strategy

1 Handbook of National Accounting: Integrated Environmental and Economic Accounting 2003
2 National Accounting Matrix with Environmental Accounts

Note:
• SEEA CF 2012 was still draft document. It is adopted as a standard manual by UNSD at the 43rd UNSC session in 2013.

Handbook of National Accounting: Integrated Environmental and Economic Accounting 2003
National Accounting Matrix with Environmental Accounts
MySEEA PSUT-ENERGY

Energy Resources

NATURAL RESOURCES
- Natural gas
- Crude oil
- Coal & coke

RENEWABLE RESOURCES
- Hydro
- Solar*
- Bio Mass*
- Bio Gas*

ENERGY PRODUCTS FROM TRANSFORMATION
- LNG
- Petroleum products
- Electricity
- Others**

Note: * will be covered on MySEEA PSUT-Energy 2015
**Others refer to additive (which are used as refinery intake)
  e.g. imported Light Diesel, Crude Residuum & Middle East Residue.

Classification

Energy Products
- Standard International Energy Products Classification (SIEC)

Industry
- Malaysia Standard Industrial Classification 2008

Data Sources

National Energy Balance (NEB) 2010
Economic Census (EC) 2011 (RY2010)
Petroleum & Natural Gas Statistics 2011
Input-Output Tables, Malaysia 2010
Household Expenditure Survey 2009/2010
Census of Distributive Trade
Trade data
Report on the Study of Production Cost of Selected Food Items, 2008
Journals and selected NSO reports

Note: * will be covered on MySEEA PSUT-Energy 2015
**Others refer to additive (which are used as refinery intake)
  e.g. imported Light Diesel, Crude Residuum & Middle East Residue.
### BASIC STRUCTURE

#### Energy Balance

<table>
<thead>
<tr>
<th>Item Code</th>
<th>Flow</th>
<th>Energy Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Primary production</td>
<td>Total of which: Renewables</td>
</tr>
<tr>
<td>1.2</td>
<td>Imports</td>
<td></td>
</tr>
<tr>
<td>1.3</td>
<td>Exports</td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td>International Bankers</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>Stock change (closing-opening)</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>Total energy supply</td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td>Statistical difference</td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Energy industries only</td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td>Final consumption</td>
<td></td>
</tr>
<tr>
<td>4.1</td>
<td>Transformation processes</td>
<td></td>
</tr>
<tr>
<td>4.2</td>
<td>Energy industries own use</td>
<td></td>
</tr>
<tr>
<td>4.3</td>
<td>Energy losses</td>
<td></td>
</tr>
<tr>
<td>4.4</td>
<td>Final energy consumption</td>
<td></td>
</tr>
<tr>
<td>4.5</td>
<td>Manufacturing, consist and non-fuel mining industries, Total iron and steel</td>
<td></td>
</tr>
<tr>
<td>4.6</td>
<td>Chemical and petrochemical</td>
<td></td>
</tr>
<tr>
<td>4.7</td>
<td>Other industries</td>
<td></td>
</tr>
<tr>
<td>5.1</td>
<td>Extraction of energy from natural input</td>
<td></td>
</tr>
<tr>
<td>5.2</td>
<td>Collection &amp; treatment of conversion losses</td>
<td></td>
</tr>
<tr>
<td>5.3</td>
<td>Accumulation of conversion losses</td>
<td></td>
</tr>
<tr>
<td>5.4</td>
<td>Conversion losses from accumulations</td>
<td></td>
</tr>
<tr>
<td>5.5</td>
<td>Household consumption</td>
<td></td>
</tr>
<tr>
<td>5.6</td>
<td>Changes in inventories</td>
<td></td>
</tr>
<tr>
<td>5.7</td>
<td>Export</td>
<td></td>
</tr>
<tr>
<td>5.8</td>
<td>Total use of energy products</td>
<td></td>
</tr>
</tbody>
</table>

#### SEEA PSUT-Energy Account

<table>
<thead>
<tr>
<th>Supply</th>
<th>Industries</th>
<th>Households</th>
<th>Accumulation</th>
<th>Rest of the World</th>
<th>Environment</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy from natural input</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy product</td>
<td>Output</td>
<td></td>
<td>Imports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total supply</td>
<td>Total supply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Use</th>
<th>Industries</th>
<th>Households</th>
<th>Accumulation</th>
<th>Rest of the World</th>
<th>Environment</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy from natural input</td>
<td>Extraction of energy from natural input</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy product</td>
<td>Intermediate consumption</td>
<td>Household consumption</td>
<td>Changes in inventories</td>
<td>Export</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total use</td>
<td>Total use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Conversion losses: i) Natural resource losses are natural resource inputs that do not subsequently become incorporated into production processes and, instead, immediately return to the environment. (SEEA CF-3.98) ii) 4 types of losses i.e. losses during extraction, losses during distribution, losses during storage and losses during transformation. (SEEA CF-3.100)
METHODOLOGY

Top-down approach

Structure:
• Economic Census
• I-O Table
• HES

Note:
Industry is based on Malaysia Standard Industrial Classification 2008 adopted from ISIC Ver.4.
# TABLE OF MySEEA PSUT – ENERGY 2010

<table>
<thead>
<tr>
<th>Item</th>
<th>Total Supply</th>
<th>Domestic Supply</th>
<th>Imports</th>
<th>Total Use</th>
<th>Industry</th>
<th>Household</th>
<th>Change in inventory (Accumulation)</th>
<th>Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>201,194</td>
<td>160,625</td>
<td>40,569</td>
<td>201,194</td>
<td>132,333</td>
<td>9,047</td>
<td>(359)</td>
<td>60,171</td>
</tr>
<tr>
<td>Crude Oil</td>
<td>42,370</td>
<td>33,136</td>
<td>9,235</td>
<td>42,370</td>
<td>25,358</td>
<td>-</td>
<td>337</td>
<td>16,676</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>67,688</td>
<td>62,165</td>
<td>5,523</td>
<td>67,688</td>
<td>66,266</td>
<td>82</td>
<td>-</td>
<td>1,340</td>
</tr>
<tr>
<td>Coal &amp; coke</td>
<td>14,584</td>
<td>1,511</td>
<td>13,073</td>
<td>14,584</td>
<td>14,777</td>
<td>-</td>
<td>(255)</td>
<td>62</td>
</tr>
<tr>
<td>Liquified Natural Gas</td>
<td>29,839</td>
<td>29,839</td>
<td>-</td>
<td>29,839</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>29,839</td>
</tr>
<tr>
<td>Petroleum Product</td>
<td>36,810</td>
<td>24,428</td>
<td>12,382</td>
<td>36,810</td>
<td>18,115</td>
<td>7,028</td>
<td>(441)</td>
<td>12,108</td>
</tr>
<tr>
<td>Hydropower</td>
<td>540</td>
<td>540</td>
<td>-</td>
<td>540</td>
<td>540</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Electricity</td>
<td>9,007</td>
<td>9,007</td>
<td>-</td>
<td>9,007</td>
<td>7,056</td>
<td>1,937</td>
<td>-</td>
<td>13</td>
</tr>
<tr>
<td>Others</td>
<td>356</td>
<td>-</td>
<td>356</td>
<td>356</td>
<td>222</td>
<td>-</td>
<td>-</td>
<td>133</td>
</tr>
</tbody>
</table>
Main contents:

1. Methodology
2. Strategic Plan for the Development of SEEA Malaysia
3. Issues & Challenges
4. Findings

Purpose:
To document experience as a reference & guideline for the future reference
POLICIES RELATED TO ENVIRONMENT

Policy Needs

Green growth refers to growth that is resource-efficient, clean, and resilient. It is a commitment to pursue development in a more sustainable manner from the start.

Infrastructure development ensures that the rakyat have access to essential amenities and services such as transport, communications, electricity and clean water. Better integration.
ISSUES & CHALLENGES

Knowledge
- SNA and IO concept
- Biophysical/environmental subject & term
- NEB concept, compilation methods & coverage

Data
- Data scattered at the various agencies
- Different scope, coverage & classification

Technical matters
To identified best estimation methods and techniques on:
- Losses
- Balancing
- Rearrange of supply & use data from NEB to SEEA

Exchange of focal person in agencies

Communication Strategy
- Convincing the policy makers on the relevance of SEEA for development planning in Malaysia
- How to present SEEA in a simple and informative way to the public/user
Publication on MySEEA PSUT-Energy was released in August 2017.

Recognition by international by inviting DOSM to share experience in compiling the account:
- 2nd APES Week in Bangkok Thailand, May 2017
- Inter-regional Workshop in Latin America, the Caribbean & Asia-Pacific Countries, Santiago, Chile, July 2017

Additional officers to compile SEEA account in DOSM has been approved by government.
WAY FORWARD

Compile next MySEEA PSUT – Energy in 2018 (includes time series data)

Include question on consumption of energy, abstraction of water etc. in current economic and environmental surveys

To include other renewable energy in next compilation (solar, biomass, biogas)

Handbook on MySEEA PSUT-Energy (step by step guidelines)
“Statistics are the barometer that reflects the pulse of the country”

Dr. Mohd Uzir Bin Mahidin, The Star, 14th July 2016

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