Indonesia’s GHG Inventories at Regional Level

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Outline:

1. Background
2. National GHG Inventories
3. GHG Inventories at Regional Level:
   - Achievements
   - Improvement
4. Conclusions
1. Background: National Circumstances

- Characteristics of geography, economic and social
  - Characteristics of geo-biodiversity in three eco-regions (Sundaland, Wallacea, Sahul)
  - Characteristic of region in 34 Province and 511 City/District

- Two approach of national GHG inventories
  - Top-down approach: using national aggregate data with involvement of national ministries/institutions
  - Bottom-up approach: using regional data with involvement of local government/institutions.
2. National GHG Inventories

- Indonesia has submitted two GHG inventories to the UNFCCC
  - Initial National Communication (INC) in 1999
  - Second National Communications (SNC) in 2010
National GHG Inventories

- Starting 2014, Indonesia as non-Annex I Parties will be required to submit GHG inventories every other year, as part of the Biennial Update Report.

Preparation Stages

- GHG inventories
- mitigation actions
- needs and support received

1st BUR submission

2nd BUR, 3rd Natcom submission

2014

2016

The Indonesian government has set a Presidential Regulation No. 71 of 2011 as the basis for the development of national GHG inventory system
PRESIDENTIAL DECREES NO. 71 OF 2011 – NATIONAL GHG INVENTORY

• A guidance to provide regular information on level, status, and trend of GHG emission and removals change, including carbon stock at national, provincial, and city level;
• A guidance to accounting process and procedure of GHG Inventories, task & authorities of governments at central as well as provincial and city, verification, reporting, and assistance to local governments
## Role and Responsibilities
under Presidential Regulation No.71/2011

<table>
<thead>
<tr>
<th>Inventory Preparation</th>
<th>MoE</th>
<th>Line ministries</th>
<th>Province</th>
<th>District/City</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Coordinating the implementation of National GHG inventory. ✓ Implementing the monitoring and evaluation towards GHG inventory processes and results. ✓ Coordination in the preparation of reports for National Communication ✓ Submission of reports for National Communication to the National Focal Point</td>
<td>✓ Conducting the GHG inventory ✓ Arranging a trend of change of emission and removal ✓ Developing inventory methodologies and emission factor or removal of GHG in coordination with the stakeholders.</td>
<td>✓ Performing GHG inventory at the provincial level ✓ Coordinating the implementation of GHG inventory at the district and city.</td>
<td>✓ GHG inventory implementation at the district and city.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Report</th>
<th>MoE</th>
<th>Line ministries</th>
<th>Province</th>
<th>District/City</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Report of the results of GHG inventory to the Coordinating Minister for People’s Welfare.</td>
<td>✓ Report of the result of GHG inventory to MoE once a year.</td>
<td>✓ Report of the result of GHG inventory from district/city to MoE once a year.</td>
<td>✓ Report of the result of GHG inventory to the Governor, once a year.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Guidelines</th>
<th>MoE</th>
<th>Line ministries</th>
<th>Province</th>
<th>District/City</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Establishing national guidelines for the implementation of GHG inventory.</td>
<td>✓ Providing guidance to the GHG inventory implementation related task and function line ministries.</td>
<td>✓ Providing guidance to coordinate the GHG inventory implementation to district/city and stakeholders.</td>
<td>—</td>
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</tr>
</tbody>
</table>
3. GHG Inventories at Regional Level

- Each province is responsible for performing GHG inventory at provincial level and to coordinate the implementation of GHG inventory at its city and district area.

- GHG inventory at regional and city/district levels has important role in implementation of national GHG inventory, especially to provide activity data and development of local emission factor.
3.1 GHG Inventories at Regional Level: Achievement

• GHG inventory activities that have been conducted in 33 Provinces in Indonesia has resulted historical actual data until 2010 for sector energy, AFOLU and waste – that is used to prepare Regional Action Plan for GHG Emission Reduction or known as “RAD-GRK” in every province.

• In 2014, GHG inventories at regional level will be targeted to obtain the level of GHG emissions up to year N-2 (2012).
GHG Inventories at Regional Level: Achievement

• Capacity building conducted for local government on GHG inventory and GHG modeling

• Tools developed:
  – GHG Inventory Guideline based on the 2006 IPCC Guideline and GPGs
  – Manual for GHG Inventory in Waste Sector
  – Manual for calculation to ease the user using the guideline.
GHG Inventories at Regional Level: Achievement

National GHG Inventory Guideline in Bahasa

- There are five Guideline books:
  - Book I: General Guideline
  - Book II Volume 1: Energy
  - Book II Volume 2: Industrial Process and Product Use
  - Book II Volume 3: Agriculture, Forestry and Other Land Uses
  - Book II Volume 4: Waste
GHG Inventories at Regional Level: Achievement

• Improving the accuracy of GHG inventory
  – Develop pilot project on waste sector in 2 Province (North and South Sumatera), cooperation with JICA under the Project of Capacity Development for Climate Change Strategies in Indonesia.
  – The results of these pilot activities are Indonesia has local values for waste composition and dry matter content data.
  – Currently it is focused to obtain waste stream data and development of local EF from domestic and industrial wastewater.
Pilot Project in North and South Sumatera
**Dry matter content values from Pilot Project in North Sumatera & South Sumatera**

<table>
<thead>
<tr>
<th>Components</th>
<th>Average Dry Matter Content (% weight)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>South Sumatera</td>
</tr>
<tr>
<td>Food waste</td>
<td>23</td>
</tr>
<tr>
<td>Paper &amp; Nappies</td>
<td>51</td>
</tr>
<tr>
<td>Garden &amp; Wood</td>
<td>50</td>
</tr>
<tr>
<td>Textile</td>
<td>56</td>
</tr>
<tr>
<td>Plastic</td>
<td>84</td>
</tr>
<tr>
<td>Metals</td>
<td>76</td>
</tr>
<tr>
<td>Glass</td>
<td>100</td>
</tr>
<tr>
<td>Other</td>
<td>92</td>
</tr>
</tbody>
</table>
# Waste Composition Results in North and South Sumatera

<table>
<thead>
<tr>
<th>Components</th>
<th>% North Sumatera</th>
<th>% South Sumatera</th>
<th>% Average</th>
<th>Default IPCC 2006 For ASEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food waste</td>
<td>55.77</td>
<td>58.85</td>
<td>57.31</td>
<td>43.50%</td>
</tr>
<tr>
<td>Garden &amp; Wood</td>
<td>14.02</td>
<td>3.36</td>
<td>8.69</td>
<td>9.90%</td>
</tr>
<tr>
<td>Textile</td>
<td>3.20</td>
<td>1.79</td>
<td>2.50</td>
<td>2.70%</td>
</tr>
<tr>
<td>Plastic</td>
<td>0.52</td>
<td>0.34</td>
<td>0.43</td>
<td>0.90%</td>
</tr>
<tr>
<td>Metals</td>
<td>10.45</td>
<td>18.79</td>
<td>14.62</td>
<td>7.20%</td>
</tr>
<tr>
<td>Glass</td>
<td>0.34</td>
<td>0.40</td>
<td>0.37</td>
<td>3.30%</td>
</tr>
<tr>
<td>Other</td>
<td>1.48</td>
<td>1.05</td>
<td>1.27</td>
<td>4.00%</td>
</tr>
<tr>
<td>Food waste</td>
<td>0.83</td>
<td>0.42</td>
<td>0.62</td>
<td>16.30%</td>
</tr>
</tbody>
</table>
3.2 GHG Inventories at Regional Level: Improvement

• The challenge GHG Inventories at regional level:
  o Avoiding double counting (trans-boundary problem)
  o Consistency in methodology (generating activity data)
  o Capturing variability of local emission factors at national level calculation
GHG Inventories at Regional Level: Improvement

• Each province has developed their plain of improvement to provide a better inventory, within the framework of fulfillment the TACCC (Transparency, Accuracy, Completeness, Comparability and Consistency) principle.

• Capacity development in implementing GHG inventory at regional level is necessary to improve capacity in each province for implementing GHG inventory in accordance with IPCC GL 2006.
4. Conclusions

- GHG inventory at regional levels has important role in implementation of national GHG inventory, especially to provide activity data and development of local emission factor.
- There are needs for capacity building for human resources.
- Synergizing GHG inventory at regional levels with regional action plan for GHG emission reduction
- Enhancing international cooperation on GHG inventory development
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THANK YOU