# GHG EMISSIONS FROM WASTE SECTOR IN MALAYSIA

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### BACKGROUND

- GHG inventory for was sector was headed by Department of Environment
- The compilers were new with limited knowledge
- Dedicated workshops were held for the team to build capacity
- Due to limited data, the team used the INC activity data
- No improvement was made to the activity data
- Emission factors used were from IPCC's EFDB

# DATA SOURCE

| Category              | Category                      | Coverage                        | Source   |
|-----------------------|-------------------------------|---------------------------------|--|
| Municipal solid waste | Solid waste disposal<br>sites | Peninsular Malaysia             | 1. DOS   |
|                       |                               |                                 | ii. National Strategic   |
|                       |                               |                                 | Plan For Solid Waste   |
|                       |                               |                                 | Management by LGD,   |
|                       |                               | East Malaysia                   | MHLGM; and   |
|                       |                               |                                 | iii. Local technical   |
|                       |                               |                                 | experts  |
|                       |                               |                                 | .iv. JICA Report   |
| Waste water           | Commercial and residential    | Malaysia                        | 1. Dept of Statistics  |
|                       |                               | Peninsular Malaysia             |  |
|                       |                               |                                 | 2. IWK   |
| Waste water           | Commercial and residential    | Malaysia<br>Peninsular Malaysia | experts<br>.iv. JICA Report<br>1. Dept of Statistics<br>2. IWK |

## DATA SOURCE

| Category    | Category   |                   | Coverage | Source |
|-------------|------------|-------------------|----------|--------|
| Waste water | Industrial | Palm oil<br>mill  | Malaysia | MPOB   |
|             |            | Rubber -<br>latex |          | MRB    |
|             |            | Rubber-<br>SMR    |          | MRB    |
|             |            |                   |          |        |

## ASSUMPTION

- Municipal solid waste:
  - All municipal solid waste (MSW) generated in urban areas are disposed off at dumpsites
  - Recycling rate was not factored in due to non availability of data
  - Waste generation rate was based on state figures, except for Sabah, Sarawak and Labuan

#### TOTAL GHG EMISSIONS FROM WASTE

Total Methane emissions in term of (Gg CO<sub>2</sub>eq) = **26,357.18** 



# **IMPROVEMENTS FOR NC3**

- Improved data collection
  - Detail technical data on landfill design such as depth, types of liners used, management of leachate,
  - Size of landfills,
  - Waste composition and
  - Recycling rates and percentage of solid wastes actually disposed to the landfills
- Completeness
  - Food and beverages,
  - Pulp and paper, textiles,
  - Petroleum refineries and petrochemical
  - Rubber-based industries,
  - Fertilizers

# **IMPROVEMENTS FOR NC3**

- Improved data collection
  - Detailed information on landfills
  - Waste composition
  - Recycling rates and percentage of solid wastes actually disposed to the landfills
  - Rural and East Malaysia
- Completeness
  - Food and beverages,
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  - Petroleum refineries and petrochemical
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## **IMPROVEMENT FOR NC3**

- Development of local emissions factors
- Capacity building for both inventory compilers and data providers

### WAY FORWARD

- Improvement of activity data
  - Implementation of Waste Minimisation Master Plan and Action Plan
  - Enhancing awareness amongst stakeholders
- Enhance capacity of inventory compilers

Thank you