Challenges with “Waste”

- Distinction between Industrial Waste and Municipal Solid Waste data may not be available until later years
  - Data collection systems were not in place until early 1990’s

- IEA methodology considers Industrial Waste and MSW Renewable -> Non-Renewable
  - Distinction is important because the non-renewable component is counted when calculating CO2 emissions
  - Some countries may include it for their national targets

- Split MSW into Renewable & Non-Renewable Parts:

  - Municipal Waste
  - Renewable
  - Non-Renewable
Challenges with “Waste”

- Split MSW into Renewable & Non-Renewable Parts:

  ![Diagram of Municipal Waste, Renewable, and Non-Renewable categories]

- IEA estimate assumes 50/50 split when the split is unknown
- Most countries follow this assumption if unknown
- Some countries have other methods to determine the split:
  - An assumption of: 70/30
  - Surveys done at one point in time to assess the share that were carried through in later years (Canada)
Definition of “Waste” is only a portion of the residues from all economic activity.

- Waste
  - Industrial Waste
  - Municipal Waste
  - Biogases
  - Wood Wastes
  - Vegetal Waste
  - Other Solid Wastes
  - Black Liquor
  - Coal Manufactured Gases
  - Other Oil Products i.e. Syngas
  - Chemical Heat
  - Other: “waste” heat?

Residues from the forestry, paper, and agricultural industries

Residues from other manufacturing industries

Products outside the scope of energy statistics
TOTAL PRIMARY ENERGY SUPPLY
2009

Energy from “Waste”s is likely higher than the definition of waste within energy statistics

World

- Coal: 32.8%
- Natural Gas: 20.9%
- Oil: 27.2%
- Nuclear: 5.8%
- Hydro: 2.3%
- Biofuels & Waste: 13%
- Other: 0.8%

Renewables & Waste

- Hydro: 2.3%
- Biofuels & Waste: 10.2%
- Other Renewables: 0.8%
- Solid Biofuels: 76.5%
- Waste: 2.4%
- Liquid biofuels: 3.3%
- Solid biofuels/charcoal: 69.4%

12,150 Mtoe

1617 Mtoe

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### Geographical Coverage of Questionnaire Use

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<td>UZBEKISTAN</td>
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Regional On-Going Challenges (#1)

- Communication – maintaining contacts is difficult
  - No contact for Tajikistan, Turkmenistan, Uzbekistan
  - Language barriers (Energy balances provided in Russian)
- FSU statistical system used, difficulties to disaggregate and match to international (IEA, EU, etc.) systems
  - Some consumption is not for energy use
  - Russia & Ukraine – difficulties to determine the breakdown of electricity and heat from combustible fuels
  - Energy balances provided in Russian (units in mtce)

- Uncovered Regions
  - Autonomous regions leads to fragmentation in coverage
Regional On-Going Challenges (#2)

- Need for expertise
- Need for resources
  - Lack of staff, funds, computer resources
- Problems obtaining data
  - Lack of legislation, claims of data confidentiality,
- Problems collecting non-commercial data (e.g. solid biomass)
  - Too many individuals to survey, lack of credible extrapolation methods from survey data, market is too volatile
Training and capacity-building

1. Two Annual trainings per year at the IEA (March and October)

2. Centralised Training – Balkans countries

3. Consulting Training – INOGATE – ECCA countries

4. One – to – one
   - Ukraine statisticians came to Paris, 2011
   - IEA held a training session for Russia, 2012
Efforts to Build Capacity and Expertise

**Manuals**


The Manual is now available in 10 languages and widely used all around the world.
Efforts to Build Capacity and Expertise

Harmonisation among international organisations:

Agreement on harmonised definitions (including Renewables and Waste) reached at the end of 2010 after 5 years of collaboration.