### TABLE 2. SUPPLY, TRANSFORMATION, ENERGY SECTORS AND END USE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Indigenous Production</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Imports (Balance)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Imports (Balance)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stock Changes (National Territory)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade (exports - imports)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade (exports - imports)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**13 energy products**

**60 flows divided into 6 sections**

- **Supply**
  - Transformation Sector
  - Energy Sector
  - Industry Sector
  - Transport Sector
  - Other Sectors

Data is collected in TJ - on a Net Calorific Basis (NCV)

© OECD/IEA 2010
TABLE 2: COMMODITY BALANCE FORMAT

<table>
<thead>
<tr>
<th>Transformation Sector</th>
<th>Final Energy Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry Sector</td>
<td>7</td>
</tr>
<tr>
<td>Chemical (including Petrochemical)</td>
<td>8</td>
</tr>
<tr>
<td>Non-Ferrous Metals</td>
<td>9</td>
</tr>
<tr>
<td>Residential Commercial Agriculture</td>
<td>10</td>
</tr>
<tr>
<td>Energy Sector</td>
<td>11</td>
</tr>
<tr>
<td>Transport</td>
<td>12</td>
</tr>
<tr>
<td>Industry</td>
<td>13</td>
</tr>
</tbody>
</table>

### Commodities

- **Geothermal**
- **Solar thermal**
- **Biofuels**
- **Wastes**

### Flow Chart

- **Supply**
  - Indigenous Production
  - Exports
  - Imports
  - Stock Draw
  - Stock Build

- **Demand**
  - Final Consumption
  - Energy Sector
  - Transport
  - Industry
  - Residential Commercial Agriculture

© OECD/IEA 2010
Transformation Sector

- Inputs of primary energy that get transformed to secondary energy
- Outputs of Electricity (MWh) and Heat (TJ) are collected in Table 1
- Efficiencies of each type of plant (electricity, CHP, and heat) at the sectoral level can be calculated with the data
TABLE 2. SUPPLY, TRANSFORMATION, ENERGY SECTORS AND END USE

| Country | MNULM | MNULSH | MNULTH | MNULF | MNULGB | MNULG | MNULH | MNULI | MNULJ | MNULK | MNULM | MNULN | MNULO | MNULP | MNULQ | MNULR | MNULS | MNULT | MNULT | MNULT | MNULT |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Indigenous Production | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
| Total Imports (Balance) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Exports (Balance) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stock Changes (National Territory) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Statistical Differences | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

**Transformation Sector**

- Main Activity Producer Electricity Plants
- Main Activity Producer CHP Plants
- Main Activity Producer Heat plants
- Autoproducer Electricity Plants
- Autoproducer CHP Plants
- Autoproducer Heat plants
- Patent Fuel Plants (Transformation)
- BKB Plants (Transformation)
- Gas Works (Transformation)
- For Blended Natural Gas
- For Blending to Motor Gasoline/Diesel
- Charcoal Production Plants (Transformation)
- Non-specified (Transformation)

**Energy Sector**

- Gasification Plants for Biogas
- Own Use in Electricity, CHP and Heat Plants
- Coal Mines
- Patent Fuel Plants (Energy)
- Coke Ovens (Energy)
- Petroleum Refineries
- BKB Plants (Energy)
- Gas Works (Energy)
- Blast Furnaces (Energy)
- Charcoal Production Plants (Energy)
- Non-specified (Energy)

**Distribution losses**

**Total Final Consumption**

**Final Energy Consumption**

**Industry Sector**

- Iron and Steel
- Chemical (including Petrochemical)
- Non-Ferrous Metals
- Non-Metallic Minerals
- Transport Equipment
- Machinery
- Mining and Quarrying
- Food, Beverages and Tobacco
- Paper, Pulp and Printing
- Wood and Wood Products
- Construction
- Textiles and Leather
- Non-specified (Industry)

**Transport Sector**

- Rail
- Road
- Domestic Navigation
- Non-specified (Transport)

**Other Sectors**

- Commercial and Public Services
- Residential
- Agriculture/Forestry
- Fishing
- Non-specified (Other)

**13 energy products**

- Geothermal
- Solar thermal
- Industrial Waste
- MSW – Renewable
- MSW – Non-Renewable

**Wood/wood Wastes/Other Solid Wastes**

- Charcoal
- Landfill Gas

**Wood**

**Vegetal Waste**

**Wood Wastes**

**Black Liquor**

**Other Solid Wastes**
TABLE 2: COMMODITY BALANCE FORMAT

Supply

Wood/Wood Wastes/Other Solid Wastes
Indigenous Production
Imports
Stock Draw
Exports
Stock Build

Transformation
Secondary Energy

Final Consumption
Energy Sector
Transport
Industry
Residential Commercial Agriculture

Demand
Only production is collected for individual agricultural residues and wood.
**Table 2**
Supply, Transformation, Energy Sectors and Energy end use
= Transformation + Energy + Distribution Losses + Final Energy Consumption

**Table 4**
Production of Wood / Wood Waste / Other Solid Waste
DATA QUALITY CHECKS

- Integers, negative numbers, sums
- Percentage differences with prior year
- Comparisons to other questionnaires
- Calorific values
- Statistical difference
- Transformation efficiency rates
- Shifts in product classification
- Breaks in series
USE OF THE DATA

- Renewable Information book
- Electronic online files
- Energy balances
- CO₂ emissions
- Data support for other IEA divisions/other organizations
- Country reviews
- Analysis
  - Assessing security of supply
  - Evolution of efficiencies
  - Environmental impacts
- Making policy and business decisions
ON-GOING CHALLENGES

- General Challenges:
  - Lack of resources allocated to statistics
  - Lack of expertise

- Challenges Specific to Renewables and Waste
  - Not all renewable and waste energies flow through conventional systems
  - Scattered production/consumption data
  - Multitude of individual small installations
  - Lack of standardized estimation methodology