Linkages between SDG and GBEP Sustainability Indicators for Bioenergy

The UN SE4ALL Global Tracking Framework - Input for the GBEP Indicator Work?

Renewable Energy Indicators

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Goals

SE4ALL

“Double the proportion of renewable energy in the energy mix by 2030”

18% → 36%

SDG

“By 2030 increase substantially the share of renewable energy in the global energy mix”
SE4All Renewable Energy - Indicator Choices

• Start date (2010)

• Definition
  • “Renewable energy is energy from natural sources that are replenished at a faster rate than they are consumed, including hydro, bioenergy, geothermal, aerothermal, solar, wind, and ocean.”

• Traditional biomass – in or out?

• Sustainability?

• Data

• TPES of TFEC?
**TPES or TFEC?**

<table>
<thead>
<tr>
<th>% renewables in global energy mix</th>
<th>RE CONTRIBUTION TO WORLD PRIMARY ENERGY SUPPLY</th>
<th>RE CONTRIBUTION TO TOTAL WORLD FINAL ENERGY CONSUMPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Physical content method</td>
<td>Direct equivalent method</td>
</tr>
<tr>
<td>2010</td>
<td>69</td>
<td>13</td>
</tr>
</tbody>
</table>

### PRIMARY ENERGY SUPPLY

- **Advantages**
  - Widely used.
  - Based on physical measurement of fuels.
- **Disadvantages**
  - Different conventions for assumptions on efficiencies means that contribution of RE depends on calculation procedure.
  - Underrepresents directly produced RE.

### FINAL ENERGY CONSUMPTION

- **Advantages**
  - Heat and electricity in form ready for consumption.
  - Closer to useful energy output valued by end-users.
  - Better balance for directly produced RE.
- **Disadvantages**
  - Losses need to be allocated.

**TFEC chosen!**
“Traditional Use of Biomass”

• Definitional issues
  - “The use of biomass in the residential sector in non-OECD countries”
  - But:
    - traditional use in OECD
    - Inefficient industry use

• Measurement difficulties and data quality
The Results!
Supplementary Indicators

• Geographical diversity

• Policy targets for renewable energy and adoption of relevant policy measures;

• Technology costs for each of the renewable energy technologies

• Total investment in renewable energy
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Unit</th>
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</thead>
<tbody>
<tr>
<td>Modern Bioenergy</td>
<td>EJ and % of TFEC</td>
</tr>
<tr>
<td>Trad Biomass</td>
<td>EJ</td>
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<tr>
<td>Electricity Generation</td>
<td>TWh</td>
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<td>Modern Heat</td>
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<td>Total</td>
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<td>Novel biofuels</td>
<td>EJ</td>
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