Physical energy flow accounts (PEFA)

Short PEFA guidelines on residence adjustments for water and air transport (visual schemes)

The Eurostat technical note Defining PEFA bridging items vis-à-vis to energy statistics explains in detail the differences – i.e. bridging items – between PEFA totals and key indicators for national totals employed in energy statistics and Eurostat’s energy balances, respectively. This document presents these guidelines in summarised form (visual schemes) for two transport modes, namely water and air transport, and for the key indicator gross inland consumption.

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Water transport – energy use (fuel use) *(Eurostat energy balance versus PEFA)*

**Reporting item in PEFA**

<table>
<thead>
<tr>
<th>Arithmetic</th>
<th>Description</th>
<th>NACE/ISIC 5HS0</th>
<th>Bridge item: less residents abroad – water</th>
<th>Bridge item: plus non-residents on territory – water</th>
<th>Water transport included in energy statistics total (GIC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A)+(B)+(D)+(E)+(F)</td>
<td>Water transport undertaken by resident units of the reporting country</td>
<td>(B)+(D)+(E)+(F)</td>
<td>Less domestic navigation by residents departing from ports outside reporting country and less all international navigation by resident units</td>
<td>(C)</td>
<td>Gross inland consumption (GIC) includes only domestic navigation departing from ports of the reporting country</td>
</tr>
</tbody>
</table>

**Navigation by type (Eurostat energy balance)**
- **Domestic navigation**: Journeys between two ports located in the same country
- **International navigation**: Journeys between two ports located in two different countries

**Navigation by operator (SNA/ESA/SEE)**
- **Resident**: Operators of water transport who are resident units of the reporting country
- **Non-resident**: Operators of water transport who are not resident units of the reporting country

**Geo-reference of journey**
- **Within**: Domestic navigation between two ports located in the same country
- **Outside**: Navigation between two ports located outside the reporting country
  - **From* (outwards)**: International navigation departing from a port located in the reporting country
  - **To (inwards)**: International navigation arriving at a port located in the reporting country

**Navigation type**

<table>
<thead>
<tr>
<th>Navigation type</th>
<th>Operator</th>
<th>Geo-reference of journey</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Domestic</td>
<td>Resident</td>
<td>Within* reporting country</td>
</tr>
<tr>
<td>(B) Domestic</td>
<td>Resident</td>
<td>Outside reporting country, i.e. within another country</td>
</tr>
<tr>
<td>(C) Domestic</td>
<td>Non-resident</td>
<td>Within* reporting country</td>
</tr>
<tr>
<td>(D) International navigation</td>
<td>Resident</td>
<td>From* (outwards) reporting country</td>
</tr>
<tr>
<td>(E) International navigation</td>
<td>Resident</td>
<td>To (inwards) reporting country</td>
</tr>
<tr>
<td>(F) International navigation</td>
<td>Resident</td>
<td>Outside reporting country, i.e. between two other countries</td>
</tr>
<tr>
<td>(G) International navigation</td>
<td>Non-resident</td>
<td>From* (outwards) reporting country</td>
</tr>
</tbody>
</table>

**GIC**: *Gross inland consumption* (also referred to as gross inland energy consumption) is an aggregate indicator used in Eurostat energy balances to quantify the total energy demand of a country or region. It represents the quantity of energy necessary to satisfy inland consumption of the geographical entity under consideration.

**PEFA**: Physical energy flow accounts

**GEO**: reporting country

**SNA/ESA/SEE**: UN System of national accounts/European system of accounts/System of environmental economic accounting

**NACE/ISIC**: Statistical classifications of economic activities

**HS0**: NACE/ISIC code for ‘Water transport’

* Journeys departing from ports of the reporting country are approximated based on fuel sales reported in respective statistics of/for the reporting country.
Air transport – energy use (fuel use) (Eurostat energy balance versus PEFA)

Aviation by type

- Domestic aviation: Flights between two airports located in the same country
- International aviation: Flights between two airports located in two different countries

Aviation by operator (SNA/ESA/SEEA)
- Resident: Operators of air transport who are resident units of the reporting country
- Non-resident: Operators of air transport who are not resident units of the reporting country

Flights by geo-reference
- Within*: Domestic aviation between two airports located in the reporting country
- Outside: Aviation between two airports located outside the reporting country
  - From* (outwards): International aviation departing from an airport located in the reporting country
  - To (inwards): International aviation arriving at an airport located in the reporting country

Reporting item in PEFA

<table>
<thead>
<tr>
<th>Description</th>
<th>Arithmetic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NACE/ISIC HS1: Air transport fuel use by resident units of the reporting country</td>
<td>( (A) + (B) + (C) + (D) + (E) + (F) )</td>
<td>Domestic aviation</td>
</tr>
<tr>
<td>Bridging item: Less residents abroad - air</td>
<td>( (B) + (E) + (F) )</td>
<td>Outside reporting country, i.e. within another country</td>
</tr>
<tr>
<td>Bridging item: Plus non-residents on territory - air</td>
<td>( (C) + (G) )</td>
<td>Outside reporting country</td>
</tr>
<tr>
<td>GIC: Gross inland consumption</td>
<td>( (A) + (C) + (D) + (G) )</td>
<td>Outside reporting country, i.e. between two other countries</td>
</tr>
</tbody>
</table>

GIC: Gross inland consumption (also referred to as gross inland energy consumption) is an aggregate indicator used in Eurostat energy balances to quantify the total energy demand of a country or region. It represents the quantity of energy necessary to satisfy inland consumption of the geographical entity under consideration.

PEFA: Physical energy flow accounts
SNA/ESA/SEEA: UN System of national accounts/European system of accounts/System of environmental economic accounting
NACE/ISIC: Statistical classifications of economic activities
HS1: NACE/ISIC code for ‘Air transport’

* Flights departing from airports of the reporting country are approximated based on fuel sales reported in respective statistics of for the reporting country.