

Data requirements to transform energy balances into energy accounts

Sjoerd Schenau



Introduction

- International Recommendations for Energy Statistics (IRES)
- Energy Statistics Compilers Manual (ESCM)
- SEEA en SEEA-E

→ *What are the data items required to transform energy balances into energy flow accounts ?*

Main data items from IRES

- 1.1 Production (differentiated into primary and secondary production)
- 1.2 Total Imports
 - 1.2.1 Imports by origin
- 1.3 Total Exports
 - 1.3.1 Exports by destination
- 1.4 International Marine Bunkers
- 1.5 International Aviation Bunkers
- 1.6 Stocks at the end of the period
- 1.7 Stock Changes
- 1.8 Transfers
- 1.9 Transformation (by transformation processes a)
- 1.10 Losses
- 1.11 Final Consumption
 - 1.11.1 For Energy Use
 - 1.11.1.1 Of which: for transport (by type of transport c)
 - 1.11.2 Non-Energy Use

IRES data items in physical supply use tables

SUPPLY TABLE

	<i>Industries</i>	<i>Households</i>	<i>ROW</i>	<i>Changes in inventories</i>	<i>Environment</i>
<i>Natural inputs</i>					Primary production (totals)
<i>Products</i>	Secondary production		Imports		
<i>Residuals</i>	Losses	Losses			

USE TABLE

	<i>Industries</i>	<i>Households</i>	<i>ROW</i>	<i>Environment</i>	
<i>Natural inputs</i>	Primary production				
<i>Products: transformation use</i>	Transformation input	Transformation input	Exports	Stock changes	
<i>Products: end use</i>	Final consumption	Final consumption		Stock changes	
<i>Residuals</i>					Losses (totals)

Extra data items required for the compilation of energy flow accounts

- A) Adjustments with regard to residence and territory
- B) Adjustments with regard to reallocation data to ISIC classification
 - Transport
 - Services

Extra data items : adjustments with regard to residence and territory

Item number	Data item
1	International Marine Bunkers: deliveries to resident units
2	International Marine Bunkers: deliveries to non resident units
3	International Aviation Bunkers: deliveries to resident units
4	International Aviation Bunkers: deliveries to non resident units
5	Fuel for transportation purchased abroad by resident units
6	Fuel for transportation purchased by non resident units
7	Other energy products purchased abroad by resident units
8	Other energy products purchased by non resident units

Adjustments for imports / exports / end use

Imports (SEEA-E)

Imports (energy balances) +

Fuel for transportation purchased abroad by resident units

Other energy products purchased abroad by resident units

Exports (SEEA-E)

Exports (energy balances) +

International Marine Bunkers: deliveries to non resident units

International Aviation Bunkers: deliveries to non resident units

Fuel for transportation purchased by non resident units

Other energy products purchased by non resident units

End use (products) (SEEA-E)

Use for final consumption (energy balances) +

International Marine Bunkers: deliveries to resident units

International Aviation Bunkers: deliveries to resident units

Fuel for transportation purchased abroad by resident units

Other energy products purchased abroad by resident units

Data sources

- 1) **Traffic statistics** provide information on kilometres driven/sailed/flown.
- 2) **Transport statistics** provide information on the total cargo or persons transported.
- 3) **Monetary data** on energy use may be obtained from the National accounts (monetary supply use tables).
- 4) **Annual reports** of large transport companies, for example large airlines, may provide information on their energy use.
- 5) **Tourism statistics** may provide a variety of information on traffic by residents and non residents.

Extra data items : adjustments with regard to reallocation data to ISIC classification

A) Transport

Data sources:

- 1) **Traffic statistics** usually yields information on the mode of transport (i.e. cars, lorries busses etc) which may be used to allocate the kilometres travelled to ISIC/households.
- 2) **Transport statistics** may yield information whether the transport is done by specialised producers (i.e. ISIC49-51) or not.
- 3) **Structural business statistics** (based on survey information) may provide monetary information on fuel use.
- 4) **National accounts** (supply and use tables) provide information on the monetary fuel use by ISIC and households.
- 5) **Stock of motor vehicles**: may be used If no other direct information on energy use is available

Extra data items : adjustments with regard to reallocation data to ISIC classification

A) Service industries

Data sources:

- 1) **Structural business statistics** (based on survey information) may provide monetary information on energy use.
- 2) **National accounts** (supply and use tables) provide information on the monetary energy use by ISIC and households.
- 3) **Customer registers** from energy companies provide direct information on who purchases and uses the energy.
- 4) **Employment data**. When the above data sources are not available / do not provide reliable data, employment data may be used as an key to allocate energy use to ISIC.

Conclusions

- Energy balances min data source for compiling energy flow accounts
- Extra data items needed to correct for resident principle
- Additional data sources needed to allocate energy use to ISIC / households