


SEEA Energy Accounts

What are they and how are they related to the work of the Joint Task Force?

Michael Nagy
12th Session of the Joint Task Force on environmental Statistics and Indicators, 17-18 November 2016, Geneva



UNECE

Content



1. Why to compile energy accounts?
2. Indicators derived from energy accounts
3. What are the energy accounts?
4. How are energy accounts related to the work of the JTF?
5. Conclusion: What is the beauty of energy accounts?

1. Why compile energy accounts?



- SEEA consists of a coherent, consistent and integrated set of tables and accounts. Energy accounts are part of it.
- Accounting approach that records, as completely as possible, the stocks and flows of energy within the economy as well as energy-related aspects of environmental issues
- Helps to make sense of the larger picture and helps to identify pieces that are missing
- Can make connections to other statistics - especially economic statistics

2. Indicators derived from energy accounts (examples)



International Policy frameworks:

- Renewable energy share in the total final energy consumption (SDG 7.2.1)
- Renewable energy supply in the total primary energy supply (TPES) (OECD GGI)
- Renewable electricity, % total electricity generation (OECD GGI)
- Energy intensity measured in terms of primary energy and GDP (SDG 7.3.1)
- Energy productivity, GDP per unit of TPES (OECD GGI)
- Energy intensity, TPES per capita (OECD GGI)
- Total primary energy supply (OECD GGI)

"Key indicators" according to Eurostat's Manual on Physical Energy Flow Accounts (PEFA):

- Total extraction of natural energy inputs by economic activities
- Domestic production of energy products
- Total intermediate consumption of energy products
- Total household consumption of energy products
- Total use of waste for energetic purposes
- Net domestic energy use
- Total energy input/output

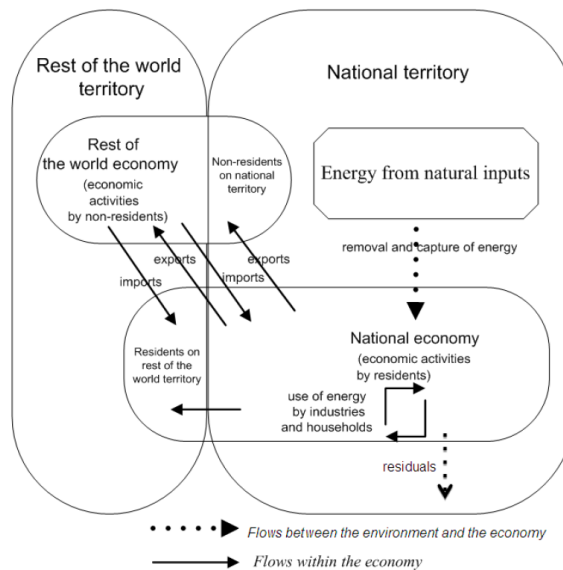
3. What are the energy accounts?



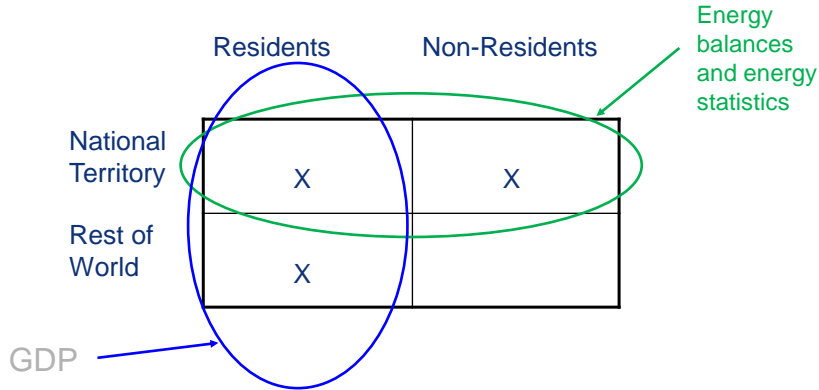
- a) Physical flow accounts – Physical Supply and Use Tables (PSUT)
- b) Monetary flow accounts – Monetary Supply and Use Tables (MSUT)
- c) Asset accounts – physical and monetary terms

→ Flexibility in implementation

Physical flows of energy from the national perspective



Difference between energy accounts and energy balances



Energy statistics and energy balances are the starting point for compiling energy flow accounts
 Main differences between accounts and balances:

- terminology and concepts
- territory principle / residence principle
- treatment of transport
- allocation to ISIC

Basic form of a Physical Supply and Use Table for Energy



SUPPLY TABLE						
	Industries	Households	Accumulation	Rest of the World	Environment	Totals
Energy from natural inputs					A. Energy inputs from the environment	Total supply of energy from natural inputs
Energy products	C. Output			D. Imports		Total supply of energy products
Energy Residuals	I. Energy residuals generated by industry	J. Energy residuals generated by household consumption	K. Energy residuals from accumulation	L. Energy residuals received from the rest of the world	M. Energy residuals recovered from the environment	Total supply of energy residuals
USE TABLE						
	Industries	Households	Accumulation	Rest of the World	Environment	Totals
Energy from natural inputs	B. Extraction of energy from natural inputs					Total use of energy from natural inputs
Energy products	E. Intermediate consumption	F. Household consumption	G. Changes in inventories	H. Exports		Total use of energy products
Energy residuals	N. Collection & treatment of energy residuals		O. Accumulation of energy residuals	P. Energy residuals sent to the rest of the world	Q. Energy residual flows direct to environment	Total use of energy residuals

Basic form of a Monetary Supply and Use Table for Energy



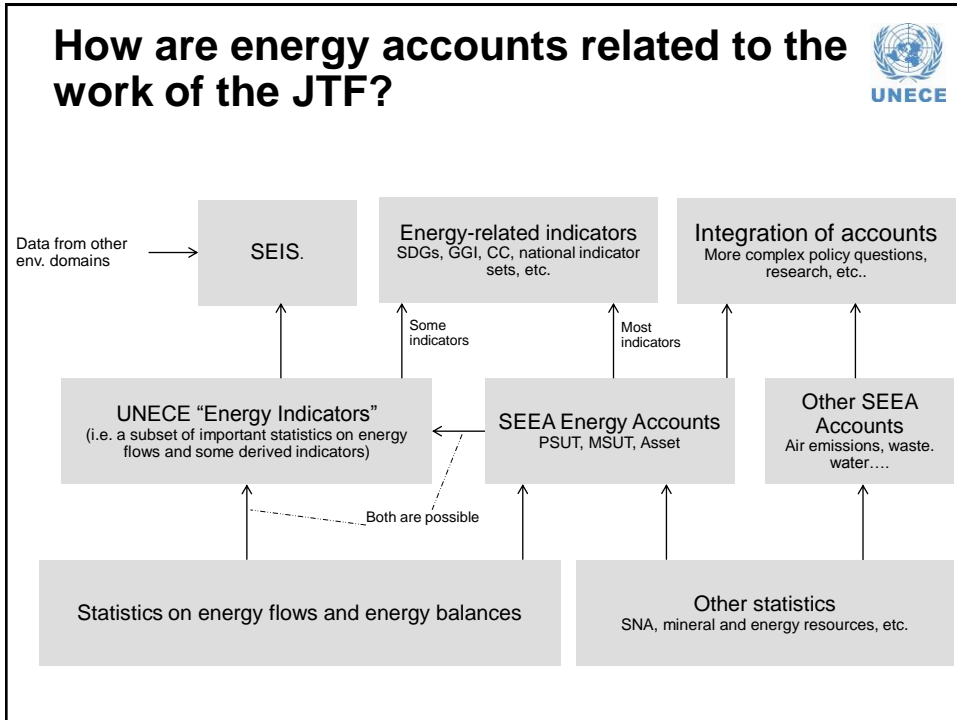
	Industries	Households	Accumulation	Rest of the world	Total
Supply table					
Products	Output			Imports	Total
Use table					
Products	Intermediate consumption	Household final consumption	Gross capital formation (incl. changes in inventories)	Exports	Total use
	Value added				

Basic form of an asset account



Opening stock of resources	
Additions to stock of resources	
Growth in stock	
Discoveries of new stock	
Upwards reappraisals	
Reclassifications	
<i>Total additions to stock</i>	
Reductions in stock of resources	
Extractions	
Normal loss of stock	
Catastrophic loss	
Downwards reappraisals	
Reclassifications	
<i>Total reductions in stock</i>	
Revaluation of the stock of resources *	
Closing stock of resources	

* Only applicable for asset accounts in monetary terms



5. Conclusion: What is the beauty of energy accounts?



- Provide the complete picture on energy stocks and flows in
 - Physical terms (joule)
 - Monetary terms (national currency)
- Follow the residential principle, thus consistent with SNA
- Territorial analysis possible via bridge tables
- Follow statistical classifications → easily to be integrated with other official statistics
- Major parts of it can be compiled from (IEA) energy balances (re-organisation of data, converting to ISIC, converting from oil equivalent to joule)

Thus, energy accounts

- a) **Can serve multiple policy questions in a coherent way**
- b) **Provide the basis for (almost) all important energy-related indicators**
- c) **Are a useful tool for research and policy advisors**



Thank you very much for your attention!