



The System of Environmental- Economic Accounting for Energy (SEEA-Energy)

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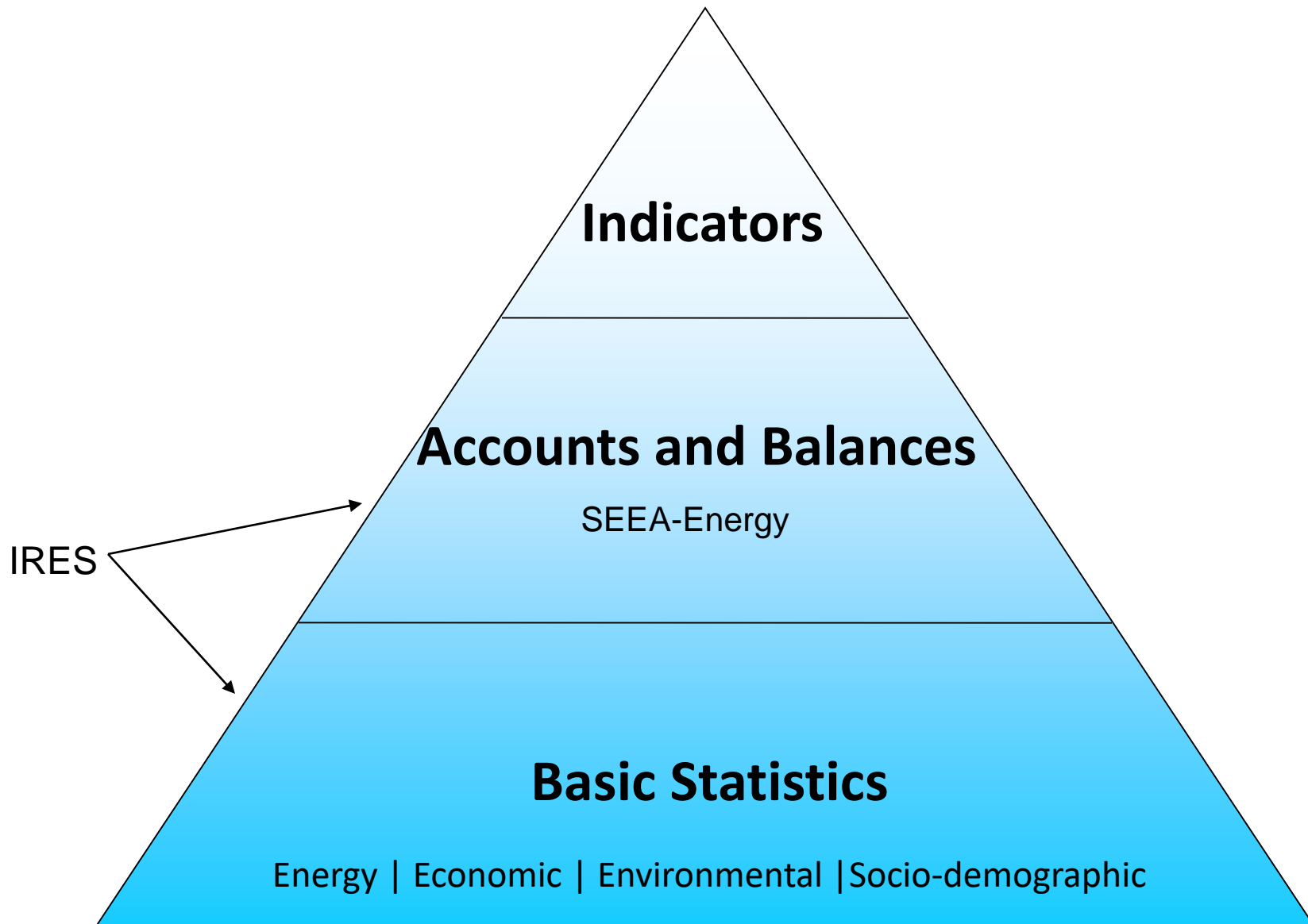
Outline

- What is the SEEA-Energy?
- Structure and content of the SEEA-Energy
- What is the relationship of the SEEA-Energy with other activities in energy statistics?
- Implementation of SEEA-Energy



What is SEEA-Energy?

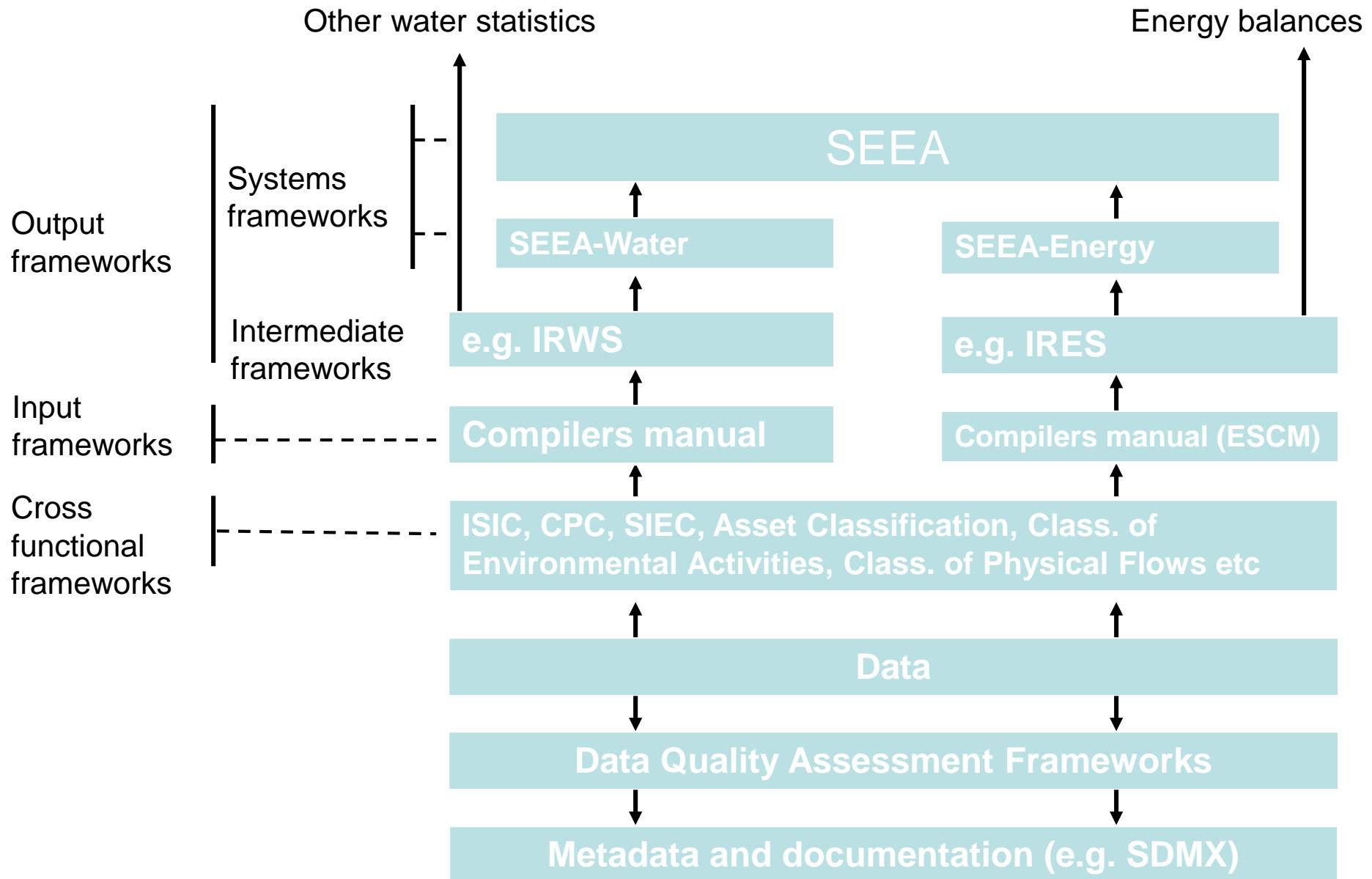
- Subsystem of SEEA Central Framework, the international statistical standard for environmental-economic accounts
- In-depth elaboration of the Energy Accounts in the SEEA Central Framework - fully consistent
- Based on IRES concepts, definitions and classifications
- Applies accounting principles, concepts and definitions to energy
- Uses internationally agreed classification (ISIC, CPC, SIEC) and concepts
- Organizes physical and monetary information related to energy extending the SNA accounting structure





System of Environmental-Economic Accounting

United Nations Statistics Division





Features of the SEEA-Energy

SEEA-Energy is:

- Intended to be used by compilers in national statistical offices and energy statisticians in energy ministries
- Accessible to practitioners of different backgrounds-not only for experts in national accounts and energy statistics
- A stand alone document that builds upon SEEA Central Framework and IRES



SEEA-Energy Chapters

Chapter 1 – Introduction

Chapter 2 – SEEA-Energy Framework

Chapter 3 – Physical Flow Accounts

Chapter 4 – Monetary Flow Accounts and
Combined Presentations

Chapter 5 – Physical Asset Accounts for energy

Chapter 6 – Monetary Asset accounts for
energy

Chapter 7 –Use of Energy Accounts



SEEA-Energy Main Tables

- Supply and use of energy in physical and monetary terms
 - Supply of energy
 - Extraction/production
 - Imports
 - Use of energy
 - Intermediate consumption in industries
 - Final private household consumption
 - Changes in inventories
 - Exports



SEEA-Energy Main Tables

- Supply and use of energy in physical and monetary terms
 - Production/extraction and the intermediate consumption are broken down by the national accounts industry classification used in the country
 - Broken down by a relevant energy product classification used in the country
 - In either physical units
 - specific units (tonnes, m³, GWh)
 - common units (GJ)
 - ... or in monetary units
 - Basic prices, trade margins, taxes, VAT, market prices



SEEA-Energy Main Tables

Supply table—partial view

Physical supply table for energy

	Production (including household production on own-account); Generation of residuals						Accumulation	Flows from the rest of the imports	Flows from the environment	Total supply	
	Agriculture, forestry and fishing	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning supply	Transportation and storage	Other industries					Households
	ISIC A	ISIC B	ISIC C	ISIC D	ISIC H						
Energy natural inputs											
Natural resource inputs											
Mineral and energy resources											
Oil resources									744.0	744.0	
Natural gas resources									417.0	417.0	
Coal and peat resources											
Uranium and other nuclear fuels											
Timber resources									5.0	5.0	
Inputs of energy from renewable sources											
Solar									20.0	20.0	
Hydro									100.0	100.0	
Wind									4.0	4.0	



SEEA-Energy Main Tables

- Asset accounts in physical and monetary terms
 - Physical asset accounts
 - Compiled by type of resource
 - Include all known deposits
 - By definition, information related to changes in stock is only collected for commercially recoverable resources
 - Monetary asset accounts
 - Focus on commercially recoverable resources
 - NPV approach is used as in SEEA CF and SNA
- Inventory accounts are also presented



Stocks of mineral and energy resources

Type of mineral and energy resource	Class of known deposit		
	Class A: Commercially recoverable resources	Class B: Potentially commercially recoverable resources	Class C: Non-commercial and other known deposits
Oil resources ('000 barrels)	800	600	400
Natural gas resources (m3)	1 200	1 000	1 500
Coal & peat resources ('000 tonnes)	600	50	50
Uranium and other nuclear fuels (tonnes)			

Physical asset account-partial view

	Type of mineral and energy resource (Class A: Commercially recoverable resources)			
	Oil resources (‘000 barrels)	Natural gas resources (m3)	Coal & peat resources (‘000 tonnes)	Uranium and other nuclear fuels (tonnes)
Opening stock of mineral and energy resources	800	1 200	600	
Additions to stock				
Discoveries				
Upwards reappraisals		200		
Reclassifications				
<i>Total additions to stock</i>		200		
Reductions in stock				
Extractions	40	50	60	
Catastrophic losses				



SEEA-Energy Main Tables

- Other tables include:
 - Primary energy supply, transformation and end use; energy use by purpose
 - Combined presentation of monetary and physical information



Uses of SEEA-Energy

- Energy intensities or energy productivity (economic efficiency)
 - Use of energy compared to output or economic growth
 - Decoupling of use of energy from the economic output
- Input-output model based analysis (multipliers)
 - What is the effect on the use of energy of increased economic activity?
- Decomposition analysis
 - Which factors have contributed to the development?

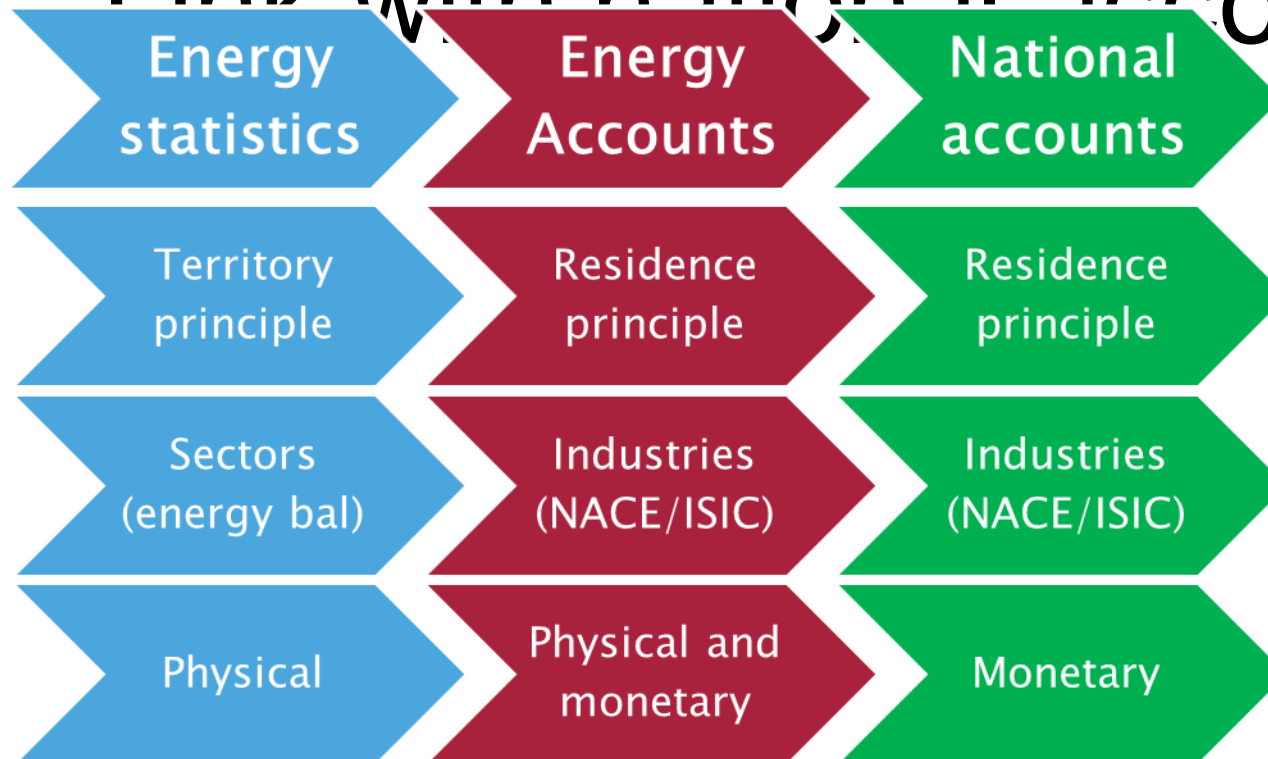


Links between energy statistics, energy balances and energy accounts

Energy Statistics	Energy Balances	Energy Accounts
Based on primary statistics (production, foreign trade, business survey)	Based on energy statistics	Based on energy statistics and balances
Specific energy surveys	Supply and use balances	Supply and use balances
No specific format	Various formats (IEA, Eurostat, UN)	Uses national accounts SUT format
	Sectors and industries (ISIC)	Industries classified by ISIC
	Rearrangement of industries' energy use according to purpose (transport, auto-producers and heat for sale)	No re-arrangement of industries' energy use
	Detailed description of energy sector including technologies	Energy "sector" described by ISIC No description of technologies
	All transport in one separate sector	Own account transportation included in industries' activities
Territory principle	Territory principle	Resident principle
	Statistical differences	No statistical differences
Physical	Physical	Physical and monetary



Link with national accounts





SEEA-Energy and ESCM

- Work has commenced on the Energy Statistics Compilers Manual (ESCM)
- ESCM is key to implementation of both SEEA-Energy and IRES
- One chapter on ESCM will focus on accounts
- Oslo Group on Energy Statistics and London Group on Environmental Accounting will provide inputs in the manual
- List of data items needed for the accounts will be prepared by UNSD and mapped with list of data items in IRES



Implementation of SEEA-Energy

- Implementation of SEEA-Energy will be within the larger context of the implementation of SEEA
- Should energy be a priority then SEEA-Energy along with IRES and ESCM provide the guidance necessary for the compilation of the accounts
- Important to collect basic energy statistics that can be used in the compilation of energy accounts and energy balances



Thank you!

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<http://unstats.un.org/unsd/envaccounting/default.asp>