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

Ilaria DiMatteo
United Nations Statistics Division

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Outline

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

- Subsystem of SEEA Central Framework, the recently adopted international statistical standard for environmental-economic accounts
- In-depth elaboration of the Energy Accounts fully consistent with SEEA
- 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
The information pyramid

Indicators

Accounts and Balances
- SEEA-Energy

Basic Statistics
- Energy
- Economic
- Environmental
- Socio-demographic
Features of the SEEA-Energy

SEEA-Energy contains information on a number of areas:

- Flows of energy and related materials within the economy and between the economy and the environment in both physical and monetary terms
- Stocks of energy resources and changes in these stocks in physical and monetary terms
- Energy taxes, subsidies, permits, fees
- Depletion adjusted aggregates
Features of the SEEA-Energy (2)

SEEA-Energy is:

- Intended to be used by compilers in national statistical offices
- 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 Framework

Physical supply and use tables (PSUTs)

- Record the flows of energy from when they are extracted or captured (e.g. wind, solar, hydro) from the environment, transformed and used within the economy and returned back to the environment in the form of air emissions, losses or waste.
- Used to assess the mix of energy products supplied and used by an economy by activities. Can be used to examine changes in production and consumption patterns over time.

Monetary supply and use tables

- Record fees paid by users, energy taxes and subsidies, permits to extract energy resources and to emit energy-related emissions, investments in infrastructure for extracting and capturing energy.
- Provide structural information on the energy sector and the level of activity in this sector.
- Provide information on expenditures on energy compared to total expenditures by economic activities.
Asset accounts

- Record the opening and closing stock of assets and changes in stocks over an accounting period
- Used to assess whether current patterns of economic activity are depleting energy resources
- Used to assess contribution of energy resources to national wealth

Combining the accounts

- Combine modules of SEEA-Energy to form a full-sequence of accounts and integrating physical and monetary accounts
- Indicators of end use of energy by economic activities, energy efficiency/productivity by economic activity (energy use/Value added)
Accounts and balances: similarities and differences

**Similarities**
- Energy accounts and balances are an integration of basic energy statistics
- It is of great importance that basic energy statistics are collected in a manner that fosters their use for both energy accounts and balances
- Energy accounts and balances both use the Standard International Energy Product Classification (SIEC)

**Differences**
- Residence vs. territory principle
  - Energy accounts use the residence principle (production and consumption is calculated for all economic activities of resident institutional units that have their center of economic interest in the country)
  - Energy balances use the territory principle (production and consumption activities are based on whether they are undertaken within the territory)
- Classifications of producing and consuming units
  - Energy accounts use ISIC for economic activities;
  - Energy balances use technology (e.g. transportation, coke furnace)

Accounts can be compiled by making adjustments from the balances or directly from basic energy statistics directly
Uses and applications of the accounts

- The accounts inform on many energy policy questions:
  - Do we have an affordable, economically sustainable and environmentally sustainable energy supply?
  - How would incentives to invest in renewable energy impact on production and emissions, which economic activities would be most affected? etc..
  - How are energy taxes affecting the behaviour of consumers?
  - Is the resource rent generated from the extraction of the resources being recovered by the government? Or is the extractor benefitting from it?

- Compiling the accounts allows for extensive analysis of the role of energy sector within the economy at large
- Depletion adjusted measures can be easily calculated
Finalizing SEEA-Energy

- Expert Group Meeting in October 2011 reviewed a draft
- Revised draft reviewed by a small group of experts
- New version is being prepared for presentation at the UNCEEA meeting in June
- Consultation:
  - Global consultation
  - London Group on Environmental Accounts
  - Oslo Group on Energy Statistics
- Document will be submitted to the UN Statistical Commission in 2013 for adoption as a statistical standard
Thank you!

seea@un.org