



System of  
Environmental  
Economic  
Accounting

## SEEA-Energy Diagnostic Tool

**Regional Training Workshop on the Production of SEEA-Energy  
Accounts and Use of Energy Information for Policy**

**17 – 20 December 2019  
Almaty, Kazakhstan**



Ministry of National Economy  
of the Republic of Kazakhstan  
Statistics committee



### **What is the purpose of this tool?**

This Diagnostic Tool supports discussions for the implementation of SEEA in general and SEEA-Energy in particular, and is aimed at:

1. Identifying the stakeholders including producers and users of energy and environmental statistics but also other groups that can benefit from improved information;
2. Documenting national priorities for energy, natural resource, development and environmental policies;
3. Identifying key national data sources that can be used for SEEA-Energy and other SEEA accounts;
4. Understanding what progress has already been made in energy and other SEEA accounts;
5. Assessing the constraints to understand the feasibility of specific SEEA accounts, particularly SEEA-Energy;
6. Identifying related statistical development activities that could benefit environmental accounting initiatives (and vice versa); and
7. Determining the priorities for action to develop SEEA-Energy and other SEEA accounts.

### **Preparation for the workshop**

Participants in the Regional Training Workshop on the Production of SEEA-Energy Accounts and Use of Energy Information for Policy on 17 – 20 December 2019 in Almaty, Kazakhstan, are requested to pre-fill the diagnostic tool questionnaire. Please coordinate on the national level and fill one questionnaire per country. The questionnaires will be discussed in Session 11 on the last day of the workshop.

### **What is SEEA?**

Using statistical evidence to support national sustainability goals is an important objective of governance. However, providing that evidence in a way that is suitable, transparent and cost-effective is not a simple undertaking. In response to this need, the international community has produced the System of Environmental-Economic Accounting (SEEA). This is a coherent and integrated measurement framework for linking environment and economic statistics and applying them to decision-making on environmental, natural resource and development issues.

Countries have different priorities. Their governments organize themselves and their statistical systems in different ways. Their capacities to produce and use statistical evidence vary. Therefore, implementing this framework requires a flexible and modular approach.

The objectives of development initiatives are often measured in terms of their short-term contribution to GDP. This important but solitary indicator does not take into account whether the initiatives are drawing down national wealth by depleting natural resources, damaging the health of the population or restricting their access to vital resources such as water and energy. Therefore, even if initiatives

contribute to GDP, they may not be sustainable. Since SEEA links economic and environment statistics and can be linked to information on population and employment, it provides a broad measurement framework to understand the longer-term effects of development initiatives.

SEEA adheres to the principles of the System of National Accounts (SNA), and expands its scope by:

- providing standard terminology, definitions and classifications for environmental-economic accounting;
- including measures of the physical stocks of natural capital and their values;
- integrating physical measures of flows of natural inputs and residuals (land, metals and minerals, timber, energy, water, fish, air emissions, water emissions, solid waste) with flows of products; and
- linking these to economic activities (producers and consumers).

Experience has shown that SEEA implementation works best when:

1. Producers and users of statistics collaborate to define their needs and opportunities;
2. Organizations are prepared to change the way they do things to provide better information and to use it effectively;
3. Activities across sectors are well coordinated;
4. There is a clear use of the accounts; and
5. Capacity (in terms of resources, knowledgeable staff, and relevant systems) to compile accounts within the country is developed.

### **What is SEEA-Energy?**

SEEA-Energy is a multi-purpose conceptual framework for organizing energy-related statistics. It supports analysis of the role of energy within the economy, the state of energy inputs and various energy-related transactions of environmental interest. It is fully consistent with the SEEA Central Framework. Energy information is typically presented in physical terms, but the SEEA-Energy also applies monetary valuations to various stocks and flows, based on the SEEA accounting approach. Two main types of accounts capture relevant energy information in a systematic way:

- **Flow accounts:** In physical terms these accounts record physical flows of energy between the environment and the economy. Physical flows are recorded in joules to provide a common unit to aggregate across energy sources. Parallel monetary accounts then record the monetary flows associated with energy-related transactions for energy products.
- **Asset accounts:** These accounts measure the quantity of mineral and energy resources and changes in these resources over an accounting period. These accounts can be compiled in physical terms, which provide valuable information about energy resource availability. They can

also be compiled in monetary terms to show the contribution and depletion to natural capital of energy resources.

## Questionnaire

### Area 1: Stakeholders and institutional arrangements

*Who are the main stakeholders in energy-related statistics and accounts? This includes not only the **producers** of the data but also the potential **users** of the data and other interests that could benefit from improved information.*

Groups that may be considered include:

- Central government agencies
- Environment and natural resource government agencies
- Universities (specify institute or centre)
- NGOs and private industry associations

*It is also important to describe policy development processes, interdepartmental mechanisms, strategies and plans in place to make energy-related statistics and accounts.*

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### Area 2: Energy-related policy priorities

SEEA-Energy can inform a variety of related objectives, including:

1. **Improving access to services and resources:** these may include objectives such as reducing costs of energy, improving equitability or sustainability of resource exploitation.
2. **Managing supply and demand:** these may include objectives such as managing energy; improving resource efficiency; improving the sustainability of production and consumption.
3. **Improving the state of the environment and reducing impacts:** these may include objectives such as reducing emissions and wastes or improving management practices.
4. **Mitigating risks and adapting to extreme events:** these may include objectives such as adapting to climate change; reducing greenhouse gas emissions; compensation for environmental damages.

*Does your country already have a deliberate approach to determining the most important and systemic issues requiring consideration, particularly around energy-related issues? If so, summarize the approach and the current outcomes here. If not, perhaps you could draft a statement here based on your understanding of your national development strategy.*

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### Area 3: Data sources

*What are the main data sources related to the energy-related policy priorities and what is their availability?*

Depending on the priority, this could include:

- Emissions inventories (air, water, greenhouse gases, solid wastes, hazardous wastes)
- Energy statistics (supply and use)
- Natural resource statistics
- Other environment statistics (e.g., energy statistics and balances, participation in multilateral environmental agreements and environmental conventions)
- National accounts (natural resource inputs; expenditures on environmental protection, environmental taxes)
- International trade statistics (transborder flows of natural resources)
- Other statistics (e.g., population census, employment data, etc.)

*Describe any key documents or research initiatives that are related to the priority sources identified above. Provide as much detail as possible for example in terms of when data have been released, their frequency, data owner/producer.*

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### Area 4: Existing accounts and previous studies

*Are energy accounts or any other environmental-economic accounts already being produced in your country? Have any been prototyped in the past? Consider the possibility of work having been completed in academic institutions.*

The most common SEEA accounts include:

- Flow accounts
  - Supply and use for energy (physical and monetary)
  - Supply and use for water (physical and monetary)
  - Air emissions (physical)
  - Water emissions (physical)
  - Waste (physical)
  - Environmental protection expenditure accounts (EPEA) (monetary)
  - Resource use and management accounts (REMEA) (monetary)
  - Environmental goods and services sector (EGSS) (monetary)
  - Environmentally-related payments to and by government (monetary)
- Asset accounts
  - Mineral and energy resources (physical and monetary)
  - Land cover (physical and monetary)
  - Soil resources (physical)

- Timber resources (physical and monetary)
- Aquatic resources (fish and crustaceans) (physical and monetary)
- Water resources (physical)
- Experimental ecosystem accounts
  - Ecosystem extent account (physical)
  - Ecosystem condition account (physical)
  - Ecosystem services supply and use (physical and monetary)
  - Ecosystem asset accounts (monetary)
  - Carbon stocks (physical)
  - Biodiversity (physical)

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**Area 5: Constraints**

*What are the main constraints to implementation of SEEA-Energy accounts, or SEEA accounts in general? How can the constraints be overcome? A combination of activities may be used, such as capacity building (training, guidance documents), data development (establishing or improving sources of data) and institutional coordination (establishing or changing mechanisms, establishing funding sources).*

Constraints:

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Possible strategies to overcome the constraints:

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**Area 6: Opportunities**

*What opportunities are there in terms of policy or measurement initiatives / projects that can be used to promote SEEA-Energy (or SEEA in general) that the SEEA implementation can take advantage of?*

The following opportunities may be considered:

- National development planning processes that may be an opportunity for promoting SEEA and seeking resources.
- Related international statistical initiatives such as support for the development of the NSS (e.g. the development of National Statistics Development Strategies, SNA implementation, FDES, FAO Agricultural Statistics program, etc).

- Related international policy initiatives that may provide additional support for the task of implementation of SEEA (e.g., 2030 Sustainable Development Agenda, Convention on Biological Diversity).
- Opportunities for highlighting work at national and international forums and the potential to share resources across countries.

Opportunities for SEEA-Energy:

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Opportunities for SEEA in general:

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**Area 7: Next steps**

*What are the next steps for the implementation of SEEA-Energy in your country?*

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