

Work of the Conference of European Statisticians' Steering Group on Climate Change-Related Statistics and SEEA

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Starting point for UNECE's work in this area in 2011

CES Recommendations on Climate Change-Related Statistics

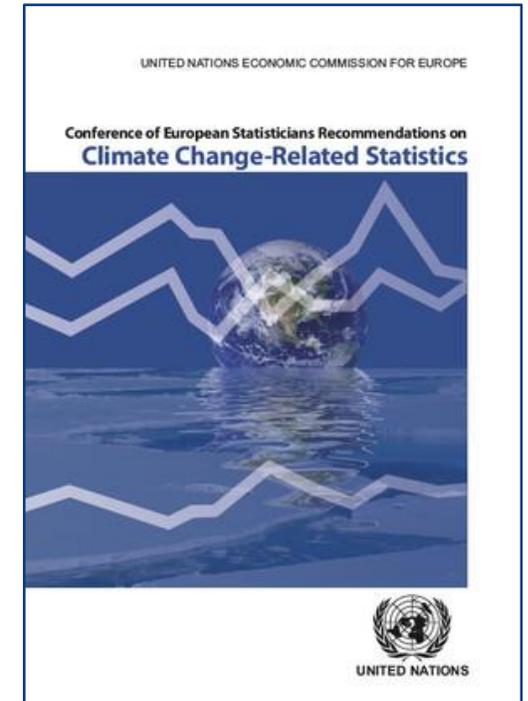


Mandate and background

- **Task Force on Climate Change-Related Statistics:** Canada (Chair), Finland, Italy, Mexico, Norway, Qatar, the United Kingdom and international organizations (e.g., EEA, Eurostat, DG Clima, IPCC, FAO, UNFCCC and the WMO) established by the CES Bureau in 2011

Objectives

- To improve the **contribution of the statistical community** to the work on **GHG reporting** under the Kyoto Protocol
- To **improve existing official statistics** for the purposes of climate change analysis building on the **key competencies of official statisticians**
- Focused on data relevant for climate change analysis but **not scientific or meteorological data**



Endorsed in 2014 by more than **60** countries and international organizations.

CES Recommendations on Climate Change-Related Statistics



Three groups of recommendations

1. On supporting greenhouse gas inventories
2. On other climate change-related statistics (than GHG inventories)
3. On statistical infrastructure

Next steps and unresolved issues

Recommended next steps:

- Establish a small Steering Group
- Define a set of key climate change-related statistics
- Establish an expert forum

Unresolved issues included:

- How best to use SEEA-CF for the measurement of climate change-related statistics?
- How to update existing statistical standards to better serve climate change data needs?

CES STEERING GROUP ON CLIMATE CHANGE-RELATED STATISTICS

Set up in 2014



Members

- **National statistical offices** of Luxembourg (Chair), Canada, Italy, Kyrgyzstan, Mexico, Netherlands, Russian Federation, Sweden and the United Kingdom.
- DG-Clima, European Environment Agency, Eurostat, FAO, the International Energy Agency, UNSD, UNFCCC and Midsummer Analytics

Main activities

- **Guiding the activities** in climate change-related statistics
- Overseeing **methodological work**
- **Sharing good practices** and improving coherence of GHG inventories and official statistics
- Following up on implementation of the CES Recommendations
- **Collaborating with international organizations** active in measuring climate change
- Identifying areas for **further work**

Methodological work supervised by the Steering Group



CC-Related Statistics and Indicators

CES endorsed in June 2020:

1. Set of 44 core climate change-related indicators
2. Contextual indicators and possible disaggregation variables
3. Implementation guidelines

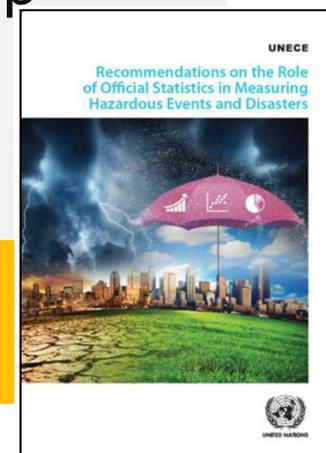
White cover versions available at
<https://statswiki.unece.org/pages/viewpage.action?pageId=285216611>

Hazardous events and disasters

CES endorsed in June 2019:

1. Recommendations on the Role of Official Statistics in Measuring Hazardous Events and Disasters
2. Recommended follow-up work

Download report at
<https://www.unece.org/index.php?id=53838>



CES Task Force on a Set of Key Climate Change-related Statistics Using SEEA



- Established by CES in 2014, mandate renewed in 2017
- Objectives:
 - Define an internationally comparable set of key climate change-related statistics and indicators that can be derived from SEEA and other sources.
 - Draft implementation guidelines
- Initial set of 39 indicators endorsed by CES in June 2017
- Refined set of 44 indicators and implementation guidelines endorsed by CES in June 2020
- In addition a “menu” of contextual and operational indicators has been developed and endorsed

Set of 44 core climate change-related indicators



Scope and selection criteria

Scope according to CES

Recommendations:

- Drivers
- GHG-emissions
- Impacts
- Mitigation
- Adaptation

Selection criteria

1. Relevance in the region
2. Methodological soundness
3. Data availability

Priority given to SEEA-based indicators

Indicators per area

44 indicators, of which **27 can be produced from SEEA:**

- Drivers: 9 (7 from SEEA)
- Emissions: 9 (7 from SEEA)
- Impacts: 13 (4 from SEEA)
- Mitigation: 8 (5 from SEEA)
- Adaptation: 5 (4 from SEEA)

Why does the set of indicators include both SEEA-based and other indicators?



- 1. Some relevant areas are not related to SEEA, e.g.**
 - Physical conditions of the atmosphere
 - Human health
- 2. Some (territory-based) indicators are well established in climate change-policies or SDGs, e.g.:**
 - Total GHG emissions from the national territory
 - CO2 emissions from fuel combustion within the national territory
 - Renewable energy share in the total final energy consumption within the national territory (SDG indicator 7.2.1)

Role of SEEA in the selection process



1. Analysis of paper “SEEA as a framework for assessing policy responses to climate change” (UNCEEA, 2010, drafted by Statistics Netherlands)
2. Using SEEA as a basis for relevant CC-related indicators where feasible
3. Consultation of UNCEEA in 2018 and decision to use a dual approach in the short-term:
 - For well-established non-SEEA indicators of high policy relevance refer to existing methodologies and data sources, and use territory-based approach
 - Recommend use of SEEA-based indicators if relevant, even if the methodology still needs to be further developed or SEEA account is not established in many countries. Reason: to push methodological development and to encourage countries to implement SEEA

Examples of “dual” indicators



- ***1a – Total energy use by the national economy (SEEA-based) and 1b – Total primary energy supply (TPES)***
- ***2a – Share of fossil fuels in total energy use by the national economy (SEEA-based) and 2b – Share of fossil fuels in total primary energy supply***
- ***9a – Total GHG emissions from the national economy (SEEA-based) and 9b – Total GHG emissions from the national territory***

Open methodological questions → research agenda

Indicator	Reason for classification as tier III – open questions
2a - Share of fossil fuels in total energy use by the national economy	Should the share of fossil fuels used for electricity production be included? If yes, based on which mix (national or regional)?
3 - Losses of land covered by (semi-) natural vegetation	Results could vary according to the classification used and the level of precision of data sources.
4 - Total support for fossil fuels in relation to GDP	Methods to calculate potentially environmentally damaging subsidies (PEDS) are not well-established and not harmonized.
10a - CO2 emissions from fuel combustion attributable to the national economy	Calculated with direct emission factors based on energy products or implicit emission factors based on energy uses?
20 - Carbon stock in soil	Methods to estimate carbon in soil are not harmonized.
29a - Renewable energy share in total energy use by the national economy	Should the share of renewable energy used for electricity production be included? If yes, based on which mix (national or regional)?
30 - Share of climate change mitigation expenditure in relation to GDP	No clear definition of climate change mitigation expenditure available.
32 - Total climate change related subsidies and similar transfers in relation to GDP	No clear definition on climate change-related subsidies and similar transfers available.
35 - Share of government adaptation expenditure in relation to GDP	No clear definition of climate change adaptation expenditure available.
82 - Share of green urban areas in the total area of cities	No harmonized definition of green spaces between international agencies

Upcoming work of the CES Steering Group with SEEA relevance



- Methodologies of “**tier III**” indicators will be updated with outputs from SEEA research agenda and methodological improvements of SDG indicators (where relevant)
- Taking stock of and following the developments related to **green finance** and green investment
- More work needed to measuring climate change **adaptation**
- Continue to provide platform for sharing experience and good practices through **the Expert Fora**

Initial comments on SEEA-EA chapter 13.4 – Accounting for climate change



There is a wide range of indicators that may be derived from the various SEEA accounts concerning climate change:

- GHG air emissions: focus on carbon flow from economy to environment (atmosphere)
 - Levels of GHG emissions by economic activity
- Monetary accounts for CC related transactions:
 - Levels of expenditures to protect (CEPA1) and manage (RM10)
 - Levels of CO₂ taxes
 - Levels of fossil fuel subsidies
- Carbon stocks accounts:
 - Geocarbon stocks
 - Actual biocarbon stocks of different ecosystems
 - Net carbon balance
- Extent accounts:
 - Net forest restoration

Initial comments on SEEA-EA chapter 13.4 – Accounting for climate change



- It could be useful to structure or align the chapter with the IPCC framework and/or areas of the CES Recommendations on CC-related Statistics
 - Drivers
 - GHG emissions
 - Impacts
 - Adaptation
 - Mitigation
- Consider mentioning of CC-related areas to which SEEA can not or only partially contribute, such as:
 - Human health
 - Disaster risk / vulnerable population
 - Atmospheric conditions

Conclusions



- **SEEA provides an important foundation for measuring main climate change-related phenomena**
- Accounts (potentially) useful for producing the 44 core indicators:
 - Energy
 - AFF
 - Water
 - Monetary transactions
 - Land
 - Soil resources
 - **EA: Carbon stock accounts, extent and condition accounts (e.g. potentially for indicator on urban greenspace)**
- Main **limitations** of using SEEA:
 - Some areas (such as health) are not part of SEEA
 - Some policy-relevant indicators are not SEEA-based
 - Some open methodological questions
- **The scope of chapter 13.4 (SEEA-EA) could be defined clearer and linked with IPCC and/or CES Recommendations**