

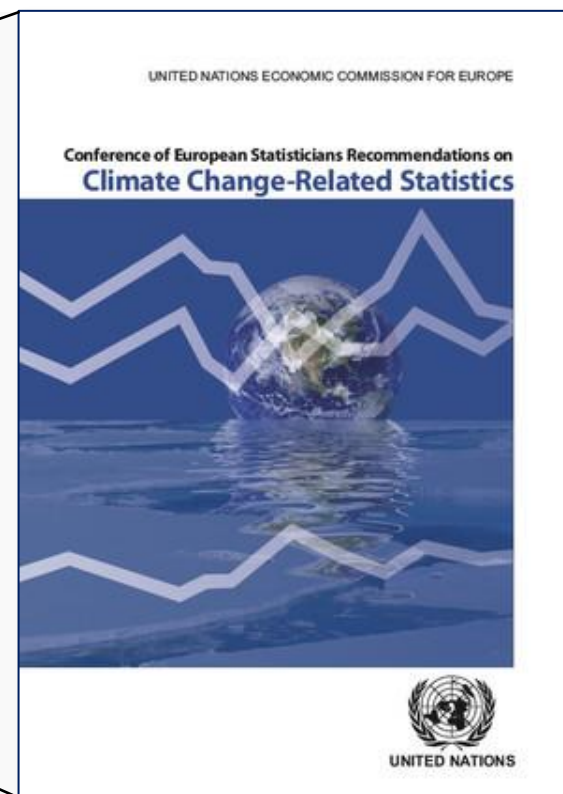
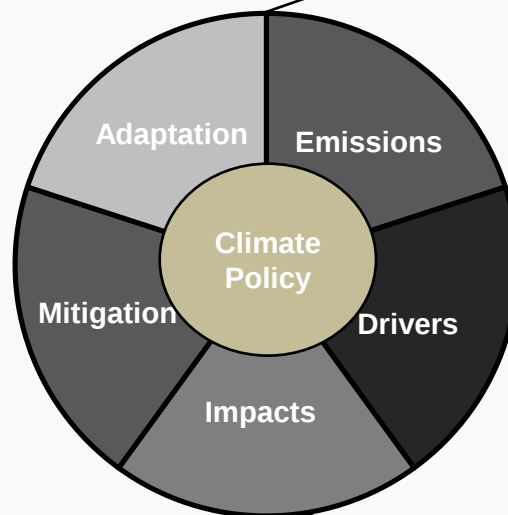
The UNECE initial of set climate change indicators: the issue of dual measurement

Thirteenth meeting of the UN Committee of Experts on Environmental-Economic Accounting (UNCEEAA)

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United Nations, New York, 21 June 2018

- Approved by CES in 2014
- Defines the scope



- Recommends practical steps to:
 - Inform emission inventories
 - Inform analysis of climate change
 - Improve the fitness of official statistics to inform climate policies
- Provided the starting point for developing the set of indicators

Goal: to develop an internationally comparable set of key climate change-related statistics and indicators derived from the UN System of Environmental-Economic Accounting (SEEA) to the extent possible



and other sources, such as the UN Framework for the Development of Environment Statistics (FDES)



taking into account:

- ❑ SDGs



- ❑ Sendai Framework on Disaster Risk Reduction



- ❑ UNFCCC (COP21)



NSOs, Ministries and International Organizations

- Chair: Italy (Angelica Tudini)
- Vice-Chair: Luxembourg (Olivier Thunus)
- Countries: Canada, Finland, Kyrgyzstan, Mexico, Netherlands, Russian Federation, Sweden, Turkey
- Organizations: EEA, Eurostat, FAO, IEA, OECD, UNEP, UNFCCC, UNSD
- Secretariat: UNECE (Michael Nagy)

Initial set of key climate change-related indicators

- A well-aligned set of 39 indicators with definitions and sources was developed by the Task Force:
 - **75%** linked with the Framework for Development of Environment Statistics
 - Over **50%** can be produced from the System of Environmental Economic Accounting
 - **25%** are SDG indicators
 - **10%** are Sendai Framework indicators
- Covers the scope of climate change-related statistics:
 - **Drivers:** 8 indicators
 - **Emissions:** 7 indicators
 - **Impacts:** 13 indicators
 - **Mitigation:** 6 indicators
 - **Adaptation:** 5 indicators
- Adopted by the CES in June 2017
- Main criteria: relevance, methodological soundness and data availability

Initial set of key climate change-related indicators

DOMAIN	SUB DOMAIN	INDICATOR
DRIVERS	National total	1. Total primary energy supply (TPES)
		2. Share of fossil fuels in total primary energy supply (TPES)
		3. Losses of land covered by (semi-) natural vegetation
		4. Total support for fossil fuels / GDP
	Production	5. Total energy intensity of production activities
		6. CO2 intensity of energy for the economy
		7. Emission intensity of agricultural commodities
	Consumption	8. Energy consumption by households / capita
EMISSIONS	National total	9. Total GHG emissions
		10. CO2 emissions from fuel combustion
		11. GHG emissions from land use
	Production	12. Total GHG emissions of production activities
		13. GHG emission intensity of production activities
	Consumption	14. Direct GHG emissions from households
		15. Carbon footprint
IMPACTS	Physical Conditions	16. Annual average surface temperature
		17. Percentage of land area suffering from unusual wet or dry conditions (Standard Precipitation Index)
	Water resources	18. Level of water stress: freshwater withdrawal as a proportion of available freshwater resources
	Land, Land Cover, Ecosystems and Biodiversity	19. Cumulative number of alien species
		20. Carbon stock in soil
		21. Proportion of land that is degraded over total land area
	Extreme Events and Disasters	22. Number of deaths and missing persons attributed to hydro-meteorological disasters, per 100,000 population
		23. Occurrence of extreme weather events
		24. Direct economic loss attributed to hydro-meteorological disasters in relation to GDP
		25. Number of people whose destroyed dwellings were attributed to hydro-meteorological disasters
	Human settlements and human health	26. Distribution of cases of vector-borne diseases
		27. Heat-related mortality
	Agriculture, forestry and fishery	28. Direct agricultural loss attributed to hydro-meteorological disasters

Initial set of key climate change-related indicators

DOMAIN	SUB DOMAIN	INDICATOR
MITIGATION	Energy resources	29. Renewable energy share in the total final energy consumption
	Expenditures	30. Share of climate change mitigation expenditure relative to GDP
	Environmental Governance and Regulation	31. Share of energy and transport related taxes as percentage of total taxes and social contributions
		32. Total climate change related subsidies and similar transfers / GDP
ADAPTATION	Expenditures	33. Average carbon price
		34. Mobilized amount of USD per year starting in 2020 accountable towards the USD 100 billion commitment
	Water resources	35. Share of government adaptation expenditure to GDP
	Human settlements and human health	36. Change in water use efficiency over time
	Agriculture, forestry and fishery	37. Proportion of population living in dwellings with air conditioners or air conditioning
		38. Progress towards sustainable forest management
		39. Proportion of agricultural area under productive and sustainable agriculture

Dual indicators

How to choose between the **residence principle** and the **territory principle**?

Relevant issue especially for indicators related to air emissions and energy

Also on the basis of input from UNCEEA in 2016, the Task Force adopted a **dual approach**:

for all indicators that can be derived also from other sources than SEEA, a dual measurement should be foreseen in the short term.

Approach consistent with alignment of SDG indicators with SEEA

Dual indicators

N. in indicator list	Indicator name
1	Total primary energy supply (TPES)
2	Share of fossil fuels in total primary energy supply (TPES)
3	Losses of land covered by (semi-) natural vegetation
5	Total energy intensity of production activities
6	CO2 intensity of energy for the economy
7	Emission intensity of agricultural commodities
8	Energy consumption by households / capita
9	Total GHG emissions
10	CO2 emissions from fuel combustion
11	GHG emissions from land use
14	Direct GHG emissions from households
15	Carbon footprint
18	Level of water stress: freshwater withdrawal as a proportion of available freshwater resources
21	Proportion of land that is degraded over total land area
29	Renewable energy share in the total final energy consumption

Recent TF work

- **Pilot survey** was conducted in the second half of 2017 - results available for 10 volunteer countries and the Food and Agriculture Organization of the United Nations (FAO)
→ **dual indicators need further clarification**
- Based on the outcomes of the pilot testing, the Conference extended the mandate of the Task Force to **refine** the initial set of core climate change-related indicators, and to **identify further methodologies**, data sources and **guidance for implementation**, in the period **2017-2019**
- Interim results will be presented at the **Expert Forum for producers and users of climate change-related statistics**, that will take place in Geneva, 2-4 October 2018.

Recent TF work on dual indicators

Preliminary TF conclusions:

- a) The **SEEA approach** is to be prioritized;
- b) 3 indicators (18 – Level of water stress, 3 – Losses of land, 21 – Land degradation) might be defined according to the territory approach only;
- c) All other dual indicators will be split into **two indicators**, of which one represents the **SEEA approach** and the other one the **territory approach**;
- d) The **SEEA-related indicators** will become part of the **core set** of climate change-related indicators;
- e) The **“other” indicators** will become **“contextual indicators”**; it will be recommended to countries to use them as part of their national set of “core indicators” as long as the underlying SEEA-accounts are not available (proxy indicators);
- f) The report of the Task Force will acknowledge the importance of the alternative (contextual) indicators for specific policy questions.

1. Do you agree with the general approach regarding “dual indicators” as proposed in this paper? In particular, what is your opinion regarding the role of indicators derived from GHG inventories?
2. Do you have specific comments on some of the indicators?
3. How can we better coordinate to ensure that member states use the SEEA to derive these core indicators?

***Thank you very much for your
attention!***

Michael Nagy



Angelica Tudini

