

CONFERENCE OF EUROPEAN STATISTICIANS

For discussion and
recommendations

Meeting of the 2015/2016 Bureau
Luxembourg, 9-10 February 2016

Item III (e) of the Provisional
Agenda

**CLIMATE CHANGE-RELATED STATISTICS, INCLUDING A
PROGRESS REPORT OF THE TASK FORCE ON A SET OF KEY CLIMATE
CHANGE-RELATED STATISTICS**

Note by the Task Force

The report informs about the UNECE contribution to the discussion on climate change-related statistics at the UN Statistical Commission (UNSC) in March 2016, and provides a progress report of the Task Force on a set of key climate change-related statistics using SEEA. The CES Bureau considered how to support the climate change-related work at the UNSC, and provided comments and advice on the work of the Task Force.

I. INTRODUCTION

1. The CES Bureau discussed the work in the area of climate change-related statistics in October 2015 based on the outcome of the Expert Forum for producers and users of climate change-related statistics, held on 2-3 September 2015 in Geneva. The paper provides information on some developments since then, in particular the discussion on climate change-related statistics at the UN Statistical Commission (UNSC) in March 2016, and the work of the Task Force on a Set of Key Climate Change-related Statistics using SEEA.

II. DISCUSSION AT THE UN STATISTICAL COMMISSION

2. The UN Statistical Commission will discuss climate change-related statistics in March 2016. After the programme review in 2009, the UNSC decided to consider this topic approximately every five years with 2016 as the first opportunity.

3. Two UNSC documents are providing information on the activities on climate change-related statistics under the Conference of European Statisticians (CES). First, the Secretary General's report on climate change statistics was prepared in collaboration with UNECE (E/CN.3/2016/15)¹. The summary of the paper notes that:

“it describes the progress made in the work of ECE on climate change-related statistics and indicators. The Statistical Commission is invited to express its views on the report and discuss the way forward.”

4. Under Section III (b), it is noted that:

¹ <http://unstats.un.org/unsd/statcom/47th-session/documents/2016-15-Climate-change-statistics-E.pdf>

“The Economic Commission for Europe (ECE) has produced the Conference of European Statisticians recommendations on climate change-related statistics, which aims at improving existing official statistics to support climate change analysis and reporting on greenhouse gas emissions under the Convention on Climate Change and focused on statistics that are relevant for analysing climate change, its causes and impacts, rather than on scientific or meteorological data describing changes in weather and climate.”

5. The Section V of the document describes the climate change-related statistics work in UNECE. The Section VI “The way forward” notes that:

“The Statistics Division, ECE and partner agencies are committed to providing technical assistance to countries, particularly developing countries, to strengthen their capacities to produce statistics on the environment and climate change. Their expertise and guidelines are available to foster these efforts.”

6. Finally, under Section VII “points for discussion”, point (e), UNSC is invited to:

“Express its views on the work being undertaken by the ECE task force on climate change-related statistics and indicators in particular their efforts to develop a set of climate change-related statistics and indicators, and discuss to what extent that work can serve as a basis for developing a global set of climate change statistics and indicators.”

7. Second, UNECE prepared a background document for the UNSC session that provides more detail on the CES activities in this area.² The background document draws attention to the *CES Recommendations on climate change-related statistics* and informs about the outcomes of the Expert Forum and the work of the two Task Forces. **The paper notes that the *CES Recommendations on climate change-related statistics* could be useful for the global statistical community, and proposes that UNECE could submit regular reports to the United Nations Statistical Commission to inform the global statistical community of the new developments in this area and to collect input for future work.**

III. PROGRESS REPORT BY THE TASK FORCE ON A SET OF KEY CLIMATE CHANGE-RELATED STATISTICS USING SEEA

8. The CES Bureau established the Task Force on a set of key climate change-related statistics using the System of Environmental-Economic Accounting (SEEA) in October 2014. Its work is guided and overseen by the Steering Group on Climate Change-related Statistics.

9. The objective of the Task Force is to define an internationally comparable set of key climate change-related statistics and indicators that can be derived from SEEA and other sources. The work takes into account the Sustainable Development Goals (SDGs) and relevant issues raised in the context of the 2030 Development Agenda. The work is expected to be completed by December 2016.

10. Members of the Task Force represent the national statistical offices of Italy (chair), Canada, Kyrgyzstan, Luxembourg, Mexico, Netherlands, Philippines, Romania, Russian Federation and Turkey. Furthermore, the following international organisations are members of the Task Force: The European Environment Agency (EEA), the Food and Agriculture

² <http://unstats.un.org/unsd/statcom/47th-session/documents/BG-2016-15-ClimateChange.pdf>

Organization of the United Nations (FAO), the Organisation for Economic Co-operation and Development (OECD), the Statistical Office of the European Commission (Eurostat), the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Population Fund (UNFPA) and the United Nations Statistical Division (UNSD).

11. The Task Force is progressing according to the work plan and has completed the first stage of its work: prepared the first draft set of key climate change-related indicators. The Task Force is currently consulting the draft set and the selection procedure for indicators with the Steering Group on climate change-related statistics. The Bureau is invited to provide advice on the work, as explained below.

A. The approach for the selection of climate change-related indicators and statistics

12. **The Task Force took as a starting point for the work the data needs based on climate change policy questions.** The required indicators and underlying data should be then derived from the policy questions. The indicators are expected to cover the five areas that define the scope of climate change related statistics as identified in the *CES Recommendations on Climate Change-related Statistics*, namely (i) greenhouse gas emissions, (ii) drivers, (iii) impacts, (iv) mitigation and (v) adaptation.

13. The Task Force took the following steps to select a first draft set of key climate change-related indicators:

a) **Analysing the most important climate change-related frameworks, studies, reports and international and national climate change-related indicator sets** to extract policy questions and indicators. 140 policy questions and 205 related indicators were identified. The policy questions were further grouped under 39 “umbrella questions” with a broader scope.

b) **A survey on the relevance of the policy questions** was carried out among the participants of the Expert Forum for producers and users of climate change-related statistics (Geneva, 2-3 September 2015). The Task Force discussed the results of the survey on 4 September 2015 in Geneva, back-to-back to the Expert Forum.

c) Based on the survey ranking on the relevance of policy questions, the Task Force **identified indicators for each of the five areas based on the criteria of relevance, soundness and measurability.** The headline indicators have to be relevant and need a sound methodology. However, the highly relevant indicators which do not have a sound methodology or high data availability could be classified as “potential headline indicators” and considered again in the future.

d) **The first draft set of key climate change-related indicators** is provided in the Annex. This set is a result of a very strict selection procedure taking into account the relevance, soundness and measurability. **The set includes 26 indicators.** The headline indicators which do not yet have a sound methodology, where data are available only in a few countries or where the task force still needs to identify the soundness of the methodology and/or data availability are provided in brackets (these are 15 out of the 26, two indicators have not yet been chosen).

B. Next steps

14. As a next step, the Task Force plans to **cross-check this draft set of climate change-related headline indicators with other policy frameworks** (e.g. SDG, the Sendai framework for disaster risk reduction, outcomes of COP21) and analyse whether the set is representative for the main phenomena of climate change. This is expected to result in changes of the set.

15. **Ideally the set of headline climate change-related indicators should overlap with the SDG indicators** relevant to climate change. The current draft set includes 5 SDG indicators. However, the Task Force proposes that the relevant SDG indicators are not automatically part of the set of headline climate change-related indicators. There are several reasons for that. The selection criteria for the indicators are different: the Task Force is considering the relevance, soundness and measurability very important. Furthermore, many of the proposed climate change-related SDG indicators are targeted to one specific aspect (such as poverty or health). Including all relevant SDG indicators in the set would result in a much bigger set which would be unevenly distributed across the five main domains (drivers, emissions impacts, adaptation, and mitigation).

16. **The Task Force considered all proposed SDG indicators** (with the status of middle of 2015) which are related to climate change in the initial set of that included 205 indicators. As one of the next steps, the Task Force will check the latest list of proposed SDG indicators again and consider carefully the cases where climate change-related SDG indicators are not included in the set proposed by the Task Force.

17. **Another relevant policy framework is the Sendai framework for disaster risk reduction.** There are currently 3 indicators in the set which are also considered in the process of selecting indicators within the Sendai framework.

18. **The cross-check with policy initiatives is important for keeping the indicator set well balanced.** For example, currently there is a bias on energy indicators due to their availability (in particular among the indicators for ‘mitigation’ and ‘drivers’). Other aspects, such as land use and forestry are not covered. The Task Force is consulting with experts from these subject areas to find suitable indicators for the set.

19. **Important constraints for choosing the indicators are the existence of a sound methodology and data availability.** Ideally all indicators in the set should be highly relevant and calculated according to a sound methodology. However, for several highly relevant indicators the methodology is not (yet) robust enough, or data are not widely available. These indicators are considered as “potential headline indicators” (listed in brackets in the Annex).

20. An example of such an indicator is the *carbon footprint* for which no sound and internationally agreed methodology exists. However, this might change in the near future. Thus the Task Force recommends considering these kind of indicators as headline indicators in a future revision process.

21. Other examples of ‘potential headline indicators’ are the *share of climate change-related subsidies and similar transfers per GDP* and *shares of climate change mitigation and adaptation expenditures to GDP* where data are available only for a few countries. These are very important indicators but not well defined. More methodological work in SEEA is needed to be able to provide these data.

22. The Task Force will **investigate the ‘potential headline indicators’ further to get more information about their soundness and measurability.** Experts from WMO, WHO, FAO, UN Convention to Combat Desertification (UNCCD) and other international organisations will be consulted to get the needed information.

23. One of the results of the Task Force’s work this far has been **identifying the areas where there are biggest gaps between policy demand for information and availability of**

data. For example, the areas of climate change mitigation and adaptation are very poorly covered, while their policy relevance is high. Data are available only in a few countries and further methodological work is needed. Putting them on the list may serve as an incentive for countries to improve data availability.

24. Another result of the work is **reaching out to some of the subject areas that are not well covered by climate change-related data**, such as land-use, forestry, climate community, health, etc. to identify possible climate change-related indicators. These discussions can lead to developing methodology for climate change-related indicators in areas where they do not yet exist.

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Annex

The first draft of the set of climate change-related indicators under consideration by the Task Force (work in progress)

(indicators which do not have a sound methodology or where data are not widely available are shown in brackets)

Mitigation:

- Renewable energy share in the total final energy use/consumption (already agreed SDG indicator – ‘green’)
- Share of energy and transport related taxes as percentage of total taxes and social contributions
- (Share of climate change mitigation expenditure to GDP)
- (Total climate change related subsidies and similar transfers / GDP)
- (Mobilized amount of USD per year starting in 2020 accountable towards the USD 100 billion commitment) (already agreed SDG indicator – ‘green’)

Drivers:

- Total primary energy consumption
- Total energy efficiency of the economy (energy consumption of the total economy / GDP) (already agreed SDG indicator – ‘green’)
- Energy consumption by households / capita
- Share of fossil fuels in energy consumption
- (Carbon intensity of energy for the economy)
- (Carbon footprint)

Emissions:

- Greenhouse gas (GHG) emission intensity of the total economy
- Total GHG emissions (open question: territorial principle and/or residence principle)
- CO₂ emissions from fuel combustion

Impacts:

- (Average marine acidity (pH) measured at agreed suite of representative sampling stations) (green SDG indicator)
- *Indicator describing impact on water resources (still to be chosen)*
- (Average drought conditions)
- (Occurrence of extreme weather events)
- (Average absolute sea level change)
- (Number of people killed, injured, displaced, evacuated, relocated or otherwise affected by climatological, hydrological and meteorological disasters) (SDG indicator still under discussion – ‘grey’; proposed Sendai Framework indicator³);
- (Number of housing units damaged and destroyed by climatological, hydrological and meteorological disasters) (proposed Sendai Framework indicator⁴)
- (Direct Economic loss due to hazardous climatological, meteorological and hydrological events in relation to GDP) (proposed Sendai Framework indicator⁴)
- (Number of heat strokes, heat exhaustion and cardio-respiratory diseases)

Adaptation:

- (Share of government adaptation expenditure to GDP)
- *Indicator which shows link between forest cover, sustainable managed forests (and protected natural forests) in relation to climate change (still to be chosen)*
- (Percentage of cities implementing risk reduction and resilience policies that include vulnerable and marginalized groups) (already agreed SDG indicator – ‘green’)

³ These indicators cover all kind of disasters, the TF suggests to use only the climate change related part