Economic Commission for Europe

Conference of European Statisticians
Expert Forum for Producers and Users of Climate Change-Related Statistics
29-30 September 2022, Geneva, Switzerland

Conclusions of the 2022 Expert Forum for Producers and Users of Climate Change-Related Statistics

I. Attendance

1.   The 2022 UNECE Expert Forum for Producers and Users of Climate Change-Related Statistics took place from 29 to 30 September 2022. The meeting was attended by the representatives of the following countries: Armenia, Austria, Azerbaijan, Belarus, Bosnia and Herzegovina, Canada, Chile, Croatia, Denmark, Estonia, France, Georgia, Germany, Hungary, Ireland, Italy, Kazakhstan, Kyrgyzstan, Lithuania, Luxembourg, Mexico, Mongolia, Netherlands, New Zealand, Poland, Portugal, Romania, Russian Federation, Samoa, Serbia, South Africa, Spain, Sweden, Switzerland, Tajikistan, Türkiye, United Kingdom of Great Britain and Northern Ireland and Uzbekistan.

2.   The Expert Forum was attended by the representatives of the Economic and Social Commission for Asia and the Pacific (ESCAP); Economic Commission for Latin America and the Caribbean (ECLAC), European Environment Agency (EEA); European Union, Eurostat, International Energy Agency (IEA); International Monetary Fund (IMF); Interstate Statistical Committee of the CIS (CIS-STAT); Organisation for Economic Co-operation and Development (OECD); PARIS21; Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRIC); UN Women; Office of the United Nations High Commissioner for Refugees (UNHCR); United Nations Economic and Social Commission for Western Asia (ESCWA); United Nations Framework Convention on Climate Change (UNFCCC); United Nations Statistics Division (UNSD); and World Meteorological Organization (WMO).

3.   Adaptation Research Alliance, Asia-Pacific Urban Designers (APUD), Geneva Graduate Institute, GIZ, Institute for Development of Environmental-Economic Accounting, Midsummer Analytics, University of Coimbra, Zhytomyr Polytechnic State University, and Ms. J. Tafi also participated in the Expert Forum.

II. Organization of the meeting

4.   Mr. A. Denneman (Netherlands), the Chair of the Steering Group on Climate Change-Related Statistics, chaired the meeting.

5.   The Expert Forum consisted of four sessions:

- Session 1: Setting the scene – Session Chair: Mr. Arthur Denneman (Netherlands)

- Session 2: Progress and challenges in measuring climate change vulnerability and adaptation – Session Co-Chairs: Ms. Giovanna Tagliacozzo (Italy) and Ms. Christiana Photiadou (EEA)
- Session 3: New frontiers in climate change-related statistics – Session Co-Chairs: Mr. Pouya Taghavi and Ms. Roberta Quadrelli (International Energy Agency, IEA) and Mr. Rob Smith (Midsummer Analytics)
- Session 4: Conclusions – Session Chair: Mr. Arthur Denneman (Netherlands)

6.   Summary and conclusions of each session are presented in section III below, and a list of resources related to each session is included in the annex. All meeting documents are available at https://unece.org/statistics/events/EFCCRS2022.

III.   Summary and conclusions

A.   Session 1: Setting the scene

7.   Climate change introduces transition and financial stability risks in the global economy. High-quality, reliable, comparable, disaggregated, and timely climate data are needed for the public and the private sector to efficiently price and manage these risks.

8.   There is a need for the statistical and financial communities to work together on identifying and closing existing data gaps through the development of internationally agreed concepts and methods, for example, on sustainable finance, forward-looking indicators based on sentiment surveys or more detailed statistics on the capital assets of fuel-dependent sectors. The IMF G20 Data Gaps Initiative on Climate Change is an important activity in this context.

9.   To respond to the Paris Agreement data needs under the Enhanced Transparency Framework and to address gaps with regard to adaptation metrics and indicators, sustainable national institutional arrangements should be enhanced, including increased engagement by NSOs.

10.   A Conference of European Statisticians' Task Force was set up in February 2022 to provide more guidance to national statistical offices (NSOs) on topics like the Paris Agreement reporting, meeting information needs of national adaptation and mitigation policies, and informing the broad public. The Guidance report will be finalized and submitted for endorsement by the Conference of European Statisticians (CES) in mid-2024.

11.   The Global Set of climate change statistics and indicators adopted by the United Nations Statistical Commission in March 2022 is a useful resource to guide further improvement of climate change data in the countries. To facilitate this, UNSD will develop Implementation Guidelines and a Climate Self-Assessment Tool (CISAT).

12.   Data needed for climate change policy and analysis are multi-dimensional and highly fragmented, and clear institutional roles and structures are often lacking. A coherent and inclusive climate data ecosystem is needed to better identify data needs, gaps, and key actors. Such an approach may also be needed to address the data needs of broader and more complex environmental policies, such as the European Green Deal.

13.   Some NSOs have started to play a data stewardship role, including establishing partnerships, providing micro-data access for researchers, and assisting in multi-dimensional analysis. These services are particularly relevant to the environment domain, which has a number of strong, well-funded scientific and regulatory bodies (who are also producers of statistics) with whom NSOs can collaborate.

14.   The results of the "Climate Change-Related Statistics in Practice" questionnaire presenting country achievements and plans were very informative for the work Expert Forum.

Action taken by the Expert Forum

15.   The Expert Forum requested that the Climate Change-Related Statistics in Practice questionnaire continue to be conducted annually, and its results are reported to the future Expert Fora.

B.   Session 2: Progress and challenges in measuring climate change vulnerability and adaptation

16.   The session followed up on the related sessions at the 2020 and 2021 Expert Fora and consisted of two parts: the first part on international initiatives and the second one on country case studies.

17.   Understanding climate change vulnerability and resilience and planning climate change adaptation are important elements of climate change response that need to be improved. NSOs are encouraged to strengthen their role in this area by enhancing the knowledge and the production and dissemination of statistical information related to climate change vulnerability, resilience and adaptation; improving the usefulness of relevant existing environmental, social and economic statistics; investing in new data sources to fill data gaps and strengthening collaborations.

18.   The community of producers and users is increasingly aware of how broad, complex and challenging the measurement of hazards, vulnerability and adaptation can be. Ongoing efforts from the international community (such as the Global Set, the OECD hazard indicators, and the EEA work) aim to increase the availability of related knowledge, data and indicators.

19.   Innovative solutions for data collection and capacity development presented by WMO and ECLAC can serve as an inspiration for other countries and regions.

20.   Adaptation activities focused on green infrastructure are relevant in many countries. Associated metrics may cover different concepts (availability, accessibility) and definitions (city, urban/rural, green/blue infrastructure), and be defined and calculated on different levels (national, local). The Steering Group could consider whether a recommended methodology could be added for the CES indicator on green areas in cities, which is currently tier III. At the same time, indicators defined locally by all stakeholders may be more relevant in the local context.

21.   More case studies of measuring climate change adaptation are needed to understand the diversity of adaptation contexts between and within countries. The case studies will provide important input for the Task Force on the role of NSOs in achieving national climate objectives established in February 2022.

Action taken by the Expert Forum

22.   The Expert Forum asked the Steering Group to review the CES indicator on green areas in cities and consider whether a recommended methodology could be proposed.

23.   The Expert Forum invited more case studies of measuring climate change adaptation, ideally at least one from each country.

C.   Session 3: New frontiers in climate change-related statistics

24.   The session consisted of three sub-sessions:

(a)   Innovative approaches for addressing data gaps;

(b)   International frameworks and efforts for enhancing the policy relevance of climate change statistics;

(c)   Enhancing timeliness and granularity of climate change-related statistics.

Innovative approaches for addressing data gaps

25.   Primary data are the foundation of climate change-related statistics, and significant data gaps exist. Developing capacity at the national level is pivotal to improving the quality of climate change-related indicators.

26.   Existing data sources (e.g. administrative) should be leveraged in a cost-effective manner, including linking data from across multiple sources and multiple domains. New data sources (e.g. microdata, geospatial data), emerging technologies (e.g. smart meters) and methods (e.g. machine learning) offer unprecedented opportunities – requiring addressing methodological and quality verification issues, as well as strengthening digitalization (including IT systems) and staff skills. A legal basis to access administrative microdata is needed.

27.   International collaboration on innovative approaches to data gaps would be very useful, as several countries are already accessing and using newly available microdata and linking them with other data. There is also a large potential for research work to exploit better the benefits of the various available microdata. Collaboration with academia and research institutions could be considered.

28.   Energy is central to climate change policy, so energy data should be included in statistical development plans and national statistical programmes. Improved data availability and quality on consumption across all demand sectors (transport, industry, residential and other sectors) through emerging technologies (e.g. smart meters), administrative sources or specialized surveys is key for developing several climate indicators.

International frameworks and efforts for enhancing the policy relevance of climate change statistics

29.   Climate change is complex, multi-domain, and links with multiple policy areas, e.g. multiple SDGs, requiring integrated solutions.

30.   New analysis is being done to integrate data from different domains and analyze relationships (e.g. measuring the combined impact of different types of climate policies, relating climate change with gender and other SDGs and assessing links with economic variables). There is value in exchanging knowledge and sharing methodologies about different metrics.

31.   Harmonized frameworks and methodologies to support national and international policy analyses are being developed (e.g. OECD Climate Action Policy Measurement Framework), but there are data gaps on policy instruments. More granular data on policies at the national and international levels and integration with qualitative policy information are needed. Linking internationally harmonized policy data with emissions and energy data can be very valuable for policy analysis and recommendations.

Enhancing timeliness and granularity of climate change-related statistics

32.   Improving the timeliness and frequency of key climate indicators can bring the following benefits:

        (a)   Allow early monitoring of progress – important especially given the urgency of climate policy needs;

        (b)   Enable better understanding of the impact of various economic and natural shocks on trends (e.g. on GHG emissions), allowing better and earlier response;

        (c)   Allow for comparative analyses with high-frequency economic indicators (e.g. GDP).

33.   Quarterly GHG emission data are currently produced by the Netherlands, New Zealand and Sweden and are considered very relevant. Eurostat have started producing such estimates for all the EU countries based on the SEEA Central Framework, and a coordinated international initiative is in place to produce SEEA-based quarterly estimates also for the non-EU OECD member countries (by OECD) and the rest of the world (by IMF).

Transparency and clear communication on the methodology are needed, as different approaches are adopted for different purposes.

34.	Improving the spatial granularity of information is also important. Opportunities provided by newly available data should be seized, including integrating spatially distributed information with other data sources.

Action taken by the Expert Forum

35.	The Expert Forum asked the Steering Group to organize knowledge sharing across countries about the use of administrative microdata for climate change-related statistics, with a view to identifying synergies and developing common tools and methodologies in the form of a focused webinar.

## D.	Session 4: Conclusions and closing

36.	The 2023 Expert Forum for Producers and Users of Climate Change-Related statistics is planned to take place on 28-29 August 2023 in Geneva as an in-person meeting.

Annex

List of resources

A. Session 1: Setting the scene

CES Steering Group on Climate Change-Related Statistics:

- Report – Climate Change-Related Statistics in Practice 2022
- Presentation – Steering Group on climate change-related statistics and the Task Force on the role of NSOs in achieving national climate objectives
- Presentation – Task Force – Group D: Informing the broad public
- CES Set of Core Climate Change-Related Indicators and Statistics Using SEEA, their Implementation Guidelines and metadata sheets (2021)
- Climate Change-Related Statistics in Practice 2021

UNFCCC:

- Presentation - Data needs relating to the Paris Agreement - Recent developments
- Presentation - Global Goal on Adaption: Progress made so far under the Glasgow-Sharm el-Sheikh work programme
- Handbook on institutional arrangements to support MRV/transparency of climate action and support, 2020, UNFCCC/CGE
- Webinar series organized by the Consultative Group of Experts (CGE)

UNSD:

- Presentation - Global Set of Climate Change Statistics and Indicators
- Report of the Secretary-General on Climate Change Statistics to the Statistical Commission (E/CN.3/2022/17)
- Global Set and metadata
- Implementation support materials
- Background and processes on developing the Global Set of Climate Change Statistics and Indicators

PARIS21

- Working paper No. 1 – Towards integrated, inclusive and sustainable climate change data ecosystems for better climate action – an assessment framework
- Presentation - Climate Change Data Ecosystems for Better Climate Action
- PARIS21's work on better climate change data systems

Netherlands

- Abstract - European Green Deal in the Netherlands
- Presentation - European Green Deal in The Netherlands

Ireland

- Working paper No. 2 – Irish approach to data stewardship in the environment domain
- Presentation - Irish approach to data stewardship in the environment domain

B. Session 2: Progress and challenges in measuring climate change vulnerability and adaptation

UNSD:

- Presentation - Recent methodological developments in measuring climate change vulnerability and adaptation (UNSD)

EEA

- Presentation - <u>Adaptation reporting linked to the Governance Regulation: processes, challenges and future developments (EEA)</u>
- <u>EU Regulation on Governance of the Energy Union and Climate Action</u> and its <u>Implementing Act</u>
- <u>EU Regulation establishing the framework for achieving climate neutrality</u>
- <u>Reportnet 3 - e-Reporting platform for reporting environmental and climate data to EEA</u>
- <u>EEA climate adaptation country profiles</u>

OECD

- Working paper No. 3 - <u>Monitoring exposure to climate-related hazards (OECD)</u>
- Presentation - <u>Monitoring exposure to climate-related hazards (OECD)</u>
- <u>IPAC Climate Action Dashboard</u>

WMO

- Presentation - <u>Extreme Events and SDGs (WMO)</u>

ECLAC

- Presentation - <u>DA12 Project: Climate Change and Disaster Statistics in the Caribbean (ECLAC)</u>
- Working paper No. 4 - <u>DA12 Project: Climate change and disaster statistics in the Caribbean (ECLAC)</u>

Italy

- Presentation - <u>Overview of the country case studies on measuring adaptation</u>
- Case study - <u>Meteoclimatic phenomena, air quality trends and pressure factors in three major cities in Italy</u>
- Case study - <u>Resilience, risk and vulnerability of coastal areas of Italy</u>

Institute of Environmental Protection – National Research Institute, Poland

- Presentation - <u>Methods for assessing adaptation to climate change activities focused on urban infrastructure (IOS-PIB)</u>
- Case study - <u>Methods for assessing adaptation to climate change activities focused on urban green infrastructure in Poland</u>

Belarus

- Case study - <u>Statistical activities related to climate change adaptation in the Republic of Belarus</u>

Federated College of Engineers and Architects, Costa Rica

- Case study - <u>Climate change adaptation for the Nimboyores aquifer: aqueducts in the coastal zone of Guanacaste, Costa Rica</u>

C. Session 3: New frontiers in climate change-related statistics

Ireland

- Presentation - <u>Use of Administrative Microdata for climate-related statistics in Ireland</u>
- Working paper No. 5 - <u>Use of Administrative Microdata for climate-related statistics in Ireland</u>

Georgia

- Abstract – <u>Georgia's 2030 Climate Change Strategy, related indicators and statistics</u>
- Presentation - <u>Climate Change Strategy and Statistics in Georgia</u>
- <u>Annual statistical publication "Natural Resources of Georgia and Environmental Protection"</u>
- <u>Statistical Yearbook of Georgia – Section: Natural Resources and Environmental Protection</u>

- Environment section on the Geostat website: Charts and tables, Regional statistical portal of Geostat, and Regional statistics section
- Separate section for UNECE environmental indicators on the Geostat website:

UN Women

- Abstract - Examining the connections between climate change and gender equality: filling data gaps through geospatial and survey data integration (UN Women)
- Presentation - The gendered impacts of climate change: Evidence from Asia (UN Women)

IEA

- Presentation - Addressing gaps in data for energy-related climate indicators: the IEA's perspective (IEA)
- Abstract - Addressing gaps in data for energy-related climate indicators: experience from IEA's regional programmes (EU4Energy and Africa)
- IEA Energy Efficiency Indicators Data Explorer
- The IEA Energy Data Center global online training programme
- EU4Energy programme and Sub-Saharan Africa capacity reinforcement programme
- The Weather for Energy Tracker database

UNSD

- Presentation - SEEA and Nature-based Solutions (UNSD)

OECD

- Abstract - The Climate Actions and Policies Index: A composite indicator approach to measuring governments' climate action (OECD)
- Presentation - The Climate Actions and Policies Measurement Framework (CAPMF) (OECD)

WMO

- Presentation - Climate Indicators & the Sustainable Development Goals (WMO)

Eurostat

- Presentation - Review on climate change statistics in Europe & quarterly estimates of GHG accounts
- Data: online database: [env_ac_aigg_q]
- Statistics Explained: Quarterly_greenhouse_gas_emissions_in_the_EU
- News article
- Methodological note on quarterly GHG estimates, February 2022

New Zealand

- Presentation - Quarterly Greenhouse Gas Emissions (New Zealand)
- Abstract - Quarterly greenhouse gas emissions in New Zealand
- Quarterly greenhouse gas emissions (industry and household): Sources and methods | Stats NZ
- Approaches to measuring New Zealand's greenhouse gas emissions
- Industry and households (annual) emissions; Industry and households (quarterly) emissions; Consumption-based emissions; Regional emissions

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