

UNECE/IEA/Eurostat Webinar on Administrative Microdata for Climate Change, Energy and Environment Statistics – outcomes and next steps

Malgorzata Cwiek

Statistical Division

United Nations Economic Commission for Europe

Working Party on Transport Statistics

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Conference of European Statisticians



Conference of European Statisticians (CES)

- Main **intergovernmental body on statistics** in the region
- Steered by the **CES Bureau**, composed of Chief Statisticians from 8 countries and 6 international organizations
- In 1991 developed and adopted the **Fundamental Principles of Official Statistics**
- Establishes **teams of specialists** (Task Forces and Steering Groups) and endorses the outcomes of their work

Work on climate change-related statistics

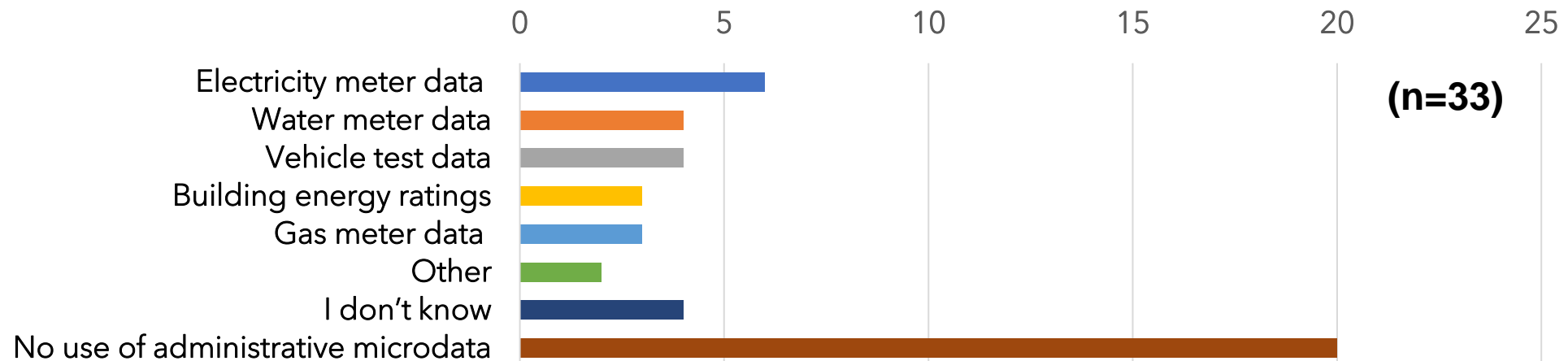
- Guided by a **Steering Group** chaired by the Netherlands
- Aims to make **official statistics more useful for climate change analysis and policy**
- Includes organization of **annual [Expert Fora](#)**



Background



- [2022 Expert Forum for Users and Producers of Climate Change-Related Statistics](#) discussed the use of **administrative microdata** as an innovative way of strengthening primary data collection, based on a [paper](#) and [presentation](#) by Ireland and a questionnaire conducted before the meeting
- In the [questionnaire](#), 9 out of 33 countries reported using at least one type of **administrative microdata for producing climate change-related statistics**



The Expert Forum asked the Steering Group to organize a **webinar** to share the existing experience across countries

Broader relevance of the topic



- **Green transformation** requires a much more disaggregated understanding of final uses of energy, including fuel mix for heating of buildings and road transport; **policymakers** demand not only **more granular** but also **more timely data**
- Use of administrative microdata can help statisticians to **deliver the insights** needed, while **maintaining the quality** and **decreasing response burden**
- **Linking with other data in the statistical system** can greatly enrich the **analytical potential** of the microdata
- Increased use of microdata requires a **sound legal basis**, **partnerships with data providers** and **maintaining the public trust** in how data are collected, processed and used
- Links to ongoing discussions on **data stewardship**, **social acceptability**, **access to privately held data**

The topic was considered of strategic importance and interest of heads of offices and selected for a [CES in-depth review](#) in February 2024

Main questions to investigate



- What are the **user needs** that environment-related administrative microdata can help to address? Which microdata sources have the **highest potential** for environment-related statistical purposes?
- What are **the most important statistical uses** of administrative microdata in energy, climate and environmental statistics? Which administrative microdata would have much greater statistical value if they could be linked at record level with other microdata files?
- What is the **current situation** in countries in relation to access and analysis of these administrative microdata? What have been the **successes, challenges and lessons learnt** by countries that are already using these microdata files?
- What are the **key obstacles** (strategic, legal, operational) preventing NSOs from using such data and how could they be addressed?
- What **common approaches, tools and methodologies** could be developed to support countries interested in using such data?

Joint UNECE/IEA/Eurostat Webinar on 30 March



Organization

- Jointly with Eurostat and IEA, led by the **Central Statistics Office of Ireland**

Objectives

- Provide a **platform to share experience** and **knowledge** about the availability and use of environment-related administrative microdata in energy, climate change and environment domains, and
- **Identify and prioritize the next steps** needed in supporting countries seeking to improve their climate, energy and environment statistics through the use of administrative microdata

Focus on the “Big 5” microdata types

- Metered **electricity** consumption, metered **gas** consumption, metered **water** consumption, **building energy performance** certificates, **vehicle roadworthiness tests**

[Webinar web page](#)

Rationale for selected microdata



Metered electricity consumption

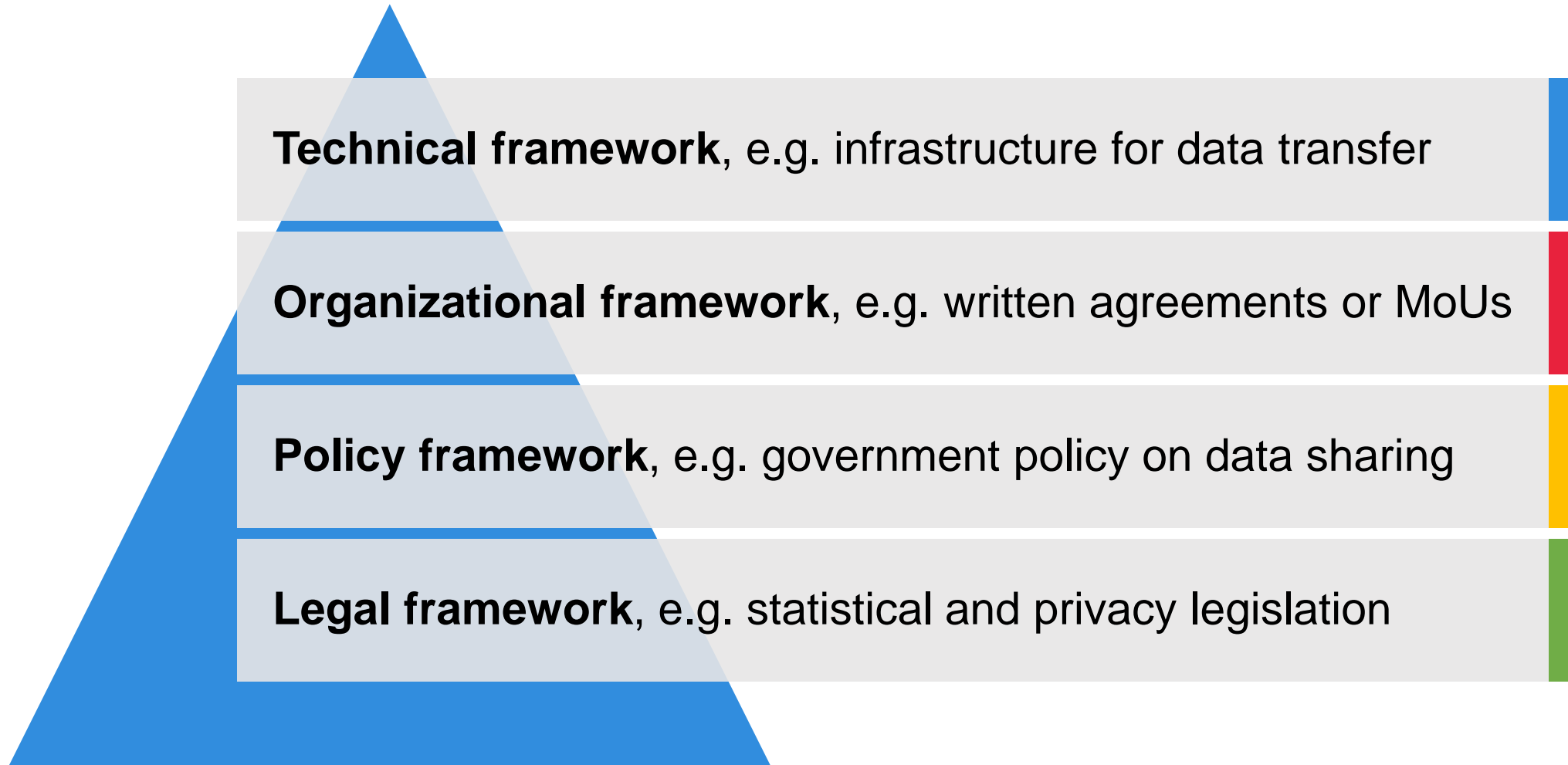
- May be the most **complete** file nationally
- Could be used for many **indirect purposes**, such as a check of **vacant dwellings** from the Census of Population; **construction** of new dwellings and buildings; **electric vehicle public charge point meters**; in conjunction with price data to show customer **responses to energy price changes**; and **thematic reports**, e.g., meters relating to data centres or agriculture.

Vehicle roadworthiness test

- Combining odometer readings with fuel type could provide **statistics on variations in annual vehicle kilometres travelled** by electric and petrol/diesel vehicles etc.
- Odometer data could be used to get a better understanding of **road transport emissions**, especially if linked with vehicle fleet information and driver characteristics

See more in the webinar [background note](#)

Frameworks needed for access



See more in the webinar [background note](#)

Legal framework



- UNECE [Guidance on Modernizing Statistical Legislation](#) (2018) recommends that all national and local authorities and private bodies should provide data needed for statistical purposes (...) free of charge, at the level of detail necessary (including identifiers) and with the necessary metadata
- In the EU, the current **Regulation 223/2009** on European statistics gives the national statistical organizations of Member States **the right of access to the administrative data** needed to meet their obligations under European statistical legislation, but such access is still subject to **national limits and conditions**. The Regulation is currently **under revision**, which is expected to strengthen the basis for access, including to **privately held data**.
- The GDPR anticipates the need for NSOs to make use of administrative microdata and permits such access under strictly defined conditions. **Data Protection Impact Assessments are required** anytime that a new project is started that involves a high risk to personal data, [see description by Ireland](#)

Key variable may be the **status of entities** collecting the considered microdata, which may vary by country and microdata category, e.g., single public authority, multiple public authorities, local or national entities, private entities, etc.

Adding value through microdata linkage



- If the datasets contain **common unique identifiers**, it may be possible to combine related datasets to obtain additional statistical value
- The inclusion of **unique business identifiers** in the utility data could facilitate **NACE** sector analyses and integration with energy surveys
- A **household-level unique identifier** would make it possible to combine the administrative microdata with the census of population to show, e.g., how consumption or energy rating varies by the socio-economic characteristics of a household

Possible only within the NSO (or possibly NSS).
Microdata linkage is likely to require justification and additional approvals.

Examples



Australia	Work underway on access and use of electricity use microdata; planned linkage to other ABS microdata
Denmark	Smart meter data on all electricity consumption in Denmark
Ireland	Electricity, gas and water meter microdata and building energy rating certificates, linked with census data; work in progress on a vehicle test odometer readings dataset
Italy	Statistical Registers of Places
Netherlands	20 energy-related microdata sources
Türkiye	Vehicle register and vehicle inspection microdata for statistics on final consumption of energy in road and rail transport
United Kingdom	Building energy performance ratings, electricity and gas meters link to building stock, used for domestic and non-domestic National Energy Efficiency Data-Framework

All presentations and webinar documents available on the [webinar web page](#)

Outcomes of the webinar



- Confirmed **huge interest** in the topic, both from statistical offices, energy agencies, line ministries – 260 registered participants from 52 countries and 23 international organizations
- **A number of examples have been identified** and more can be collected for a **structured analysis** of mosts succesful approaches, challenges and lessons learnt by microdata type
- Expected **developments in the EU legal framework should strenghten the legal basis**, but **approch based on partnerships is the most promising** and has already been succesful in the current framework
- Maintaining public trust and **social acceptability are key** – NSOs should have well-established internal procedures and safeguards for protecting the microdata
- Obtaining access to and using administrative microdata is also an **important first step towards** future access to **smart meter data**

Next steps



28-30 August 2023

- Report on the outcomes of the webinar to the **2023 Expert Forum for Producers and Users of Climate Change-Related Statistics** in Geneva

Until December 2023

- Input into the work of the **UNECE Task Force on the Role of NSOs in Achieving National Climate Objectives** – how improving the access and use to administrative microdata can enable NSOs to make their statistics more useful and play a bigger role in addressing information needs related to climate change

February 2024

- **A CES in-depth review** led by Ireland with contributions from other interested countries and international organizations – the preparation process will be launched very soon, **including a survey gathering more detailed information** about current practices in access and use of environment-related administrative microdata in all CES countries

**Comments? Questions?
Examples?**

Thank you!

Malgorzata Cwiek
cwiek@un.org

15-17 May 2023

