

UNECE-CES Steering Group  
on Climate Change-Related Statistics

# CLIMATE CHANGE-RELATED STATISTICS IN PRACTICE 2023



# CONTENT

<b>1. BACKGROUND</b>	<b>3</b>
<b>2. REGIONAL OVERVIEW</b>	<b>4</b>
Introduction .....	4
Areas of climate change-related statistics .....	4
Challenges and obstacles .....	5
Most frequently requested but unavailable data .....	5
Involvement of the national statistical office in producing energy balances .....	6
UNFCCC reviewers .....	7
Climate change-related statistics including a socioeconomic dimension.....	7
Microdata linkage.....	8
Geo-referenced and geospatially enabled data .....	8
Mechanisms for interaction with policymakers and other user representatives.....	9
Dedicated climate change-related web page.....	10
Improving accessibility of climate change-related data .....	10
International work.....	11
<b>3. COUNTRY ACHIEVEMENTS AND PLANS</b>	<b>13</b>
Armenia .....	13
Azerbaijan .....	16
Belarus .....	17
Bosnia and Herzegovina.....	19
Bulgaria .....	24
Canada .....	26
Costa Rica.....	27
Ecuador .....	28
Ireland.....	30
Kazakhstan .....	32
Luxembourg .....	34
Mexico .....	35
Netherlands.....	36
Poland.....	38
Serbia.....	40
Switzerland.....	41
Tajikistan.....	43
United Kingdom .....	45
<b>KEYWORD INDEX</b>	<b>51</b>

# 1. BACKGROUND

This document presents an overview of recent activities, plans and challenges of national and international organizations working on climate change-related statistics.

For the last ten years, the annual UNECE Expert Forum has been the main platform for NSOs from the UNECE region to exchange experience and discuss difficulties encountered in producing climate change-related statistics. Good practices in climate change-related statistics presented at the Expert Fora or submitted by countries and organizations have been published on a [wiki](#) maintained by the UNECE Steering Group on Climate Change-Related Statistics.

In October 2020, the Steering Group started conducting an annual exercise of collecting and sharing information about countries' new achievements and plans to strengthen the exchange of good practices in climate change-related statistics. The reports prepared from the 2021 and 2022 questionnaires can be found under the following links: [Climate Change-Related Statistics in Practice 2021](#) and [Climate Change-Related Statistics in Practice 2022](#).

The 2023 questionnaire was sent in May and included specific questions linked to the current year's Expert Forum topics. The submissions and consent for the responses to be shared were voluntary.

Chapter 2 of this document summarizes the information provided by countries in an aggregated manner. Chapter 3 presents information about activities and achievements by each country, with links to data and pages where more information can be found. The descriptions reflect only the activities that organizations shared in the questionnaire and do not necessarily cover all the activities carried out in each country. **The country descriptions are tagged with keywords, are listed in the index at the end of the document.**

All countries and organizations that would like to share information about their experience and achievements are continuously invited to submit entries to the good practice wiki, offer presentations and papers to the annual Expert Fora and contribute to the next editions of this exercise.

All the resources produced by the Steering Group on Climate Change-Related Statistics can be found at: <https://unece.org/statistics/climate-change>.

## 2. REGIONAL OVERVIEW

### Introduction

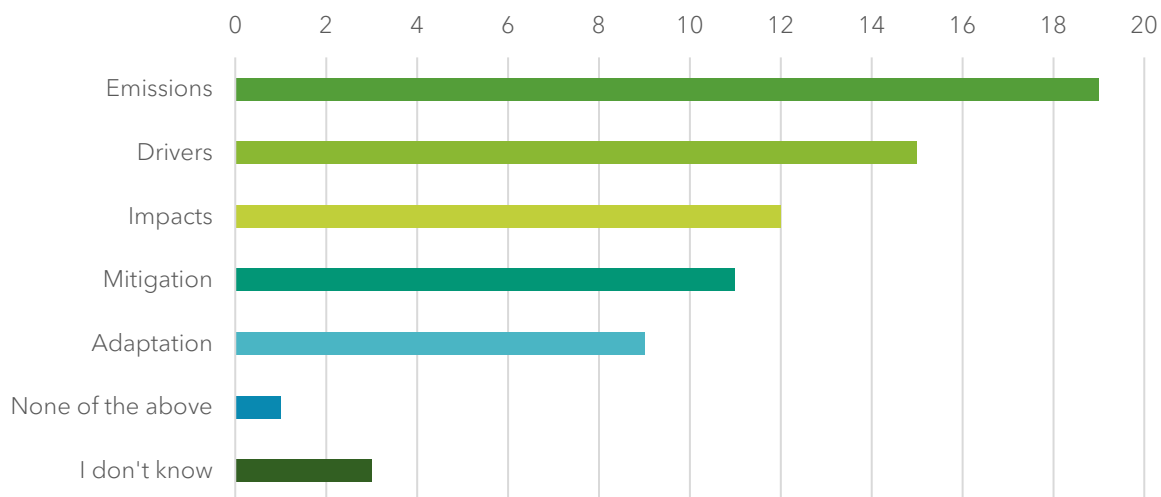
This chapter presents a summary of the information provided by national organizations in an aggregated manner. **Individual information submitted by the countries can be found in chapter 3. "Country achievements and plans".**

**Twenty-two countries** responded to the questionnaire: Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Canada, Costa Rica, Ecuador, Finland, Hungary, Ireland, Japan, Luxembourg, Kazakhstan, Mexico, Netherlands, Poland, Serbia, Switzerland, Tajikistan, Türkiye, United Kingdom.

### Areas of climate change-related statistics

Among the responding countries, 19 countries indicated that they produce statistics or indicators concerning GHG **emissions** and their human causes. Second are most commonly mentioned was **drivers** (15), closely followed by **impacts** (12) and **mitigation** (11). Out of 22, 9 countries reported statistics or indicators on climate change **adaptation**.

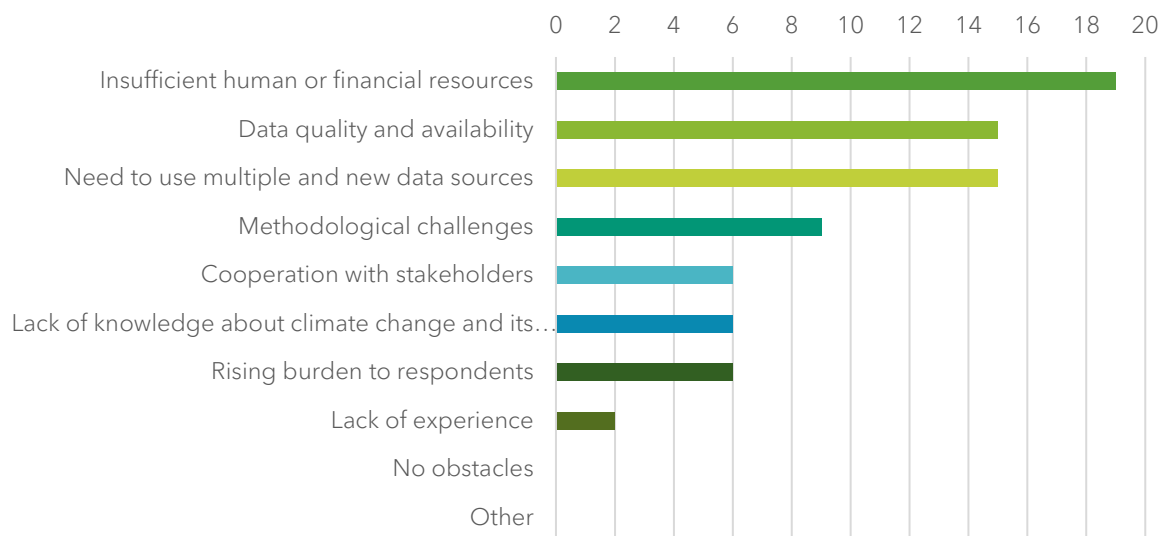
Figure 1. Areas for which statistics or indicators are produced (n=22)



## Challenges and obstacles

Insufficient human or financial resources are the primary obstacle to progressing the development of climate change-related statistics in 19 countries. Second most commonly mentioned were data quality and availability (15) and the need to use multiple and new data sources (15), followed by methodological challenges (9). Cooperation with stakeholders, lack of knowledge about climate change and its interactions with other areas, and rising burden to respondents were each mentioned by 6 countries as challenging. No country indicated that that do not observe any of these obstacles.

Figure 2. What are the primary obstacles to progressing the development of climate change-related statistics in your organization? (n=22)



## Most frequently requested but unavailable data

10 out of 22 countries indicated that the data they are frequently asked about but cannot provide are more granular GHG emissions:

- At the regional, provincial or county level
- For certain industries (e.g. transport), by NACE
- For specific products or production processes required by firms
- By pollutant
- For small, medium and large enterprise category
- For specific activity e.g. heating residential buildings, mobile machinery by type, from manure management
- By income level.

Also mentioned were data on import-related emissions by country and climate/carbon footprint. Another two countries mentioned requests for SEEA-related data on emissions or energy, which they cannot provide because of lack of established accounts.

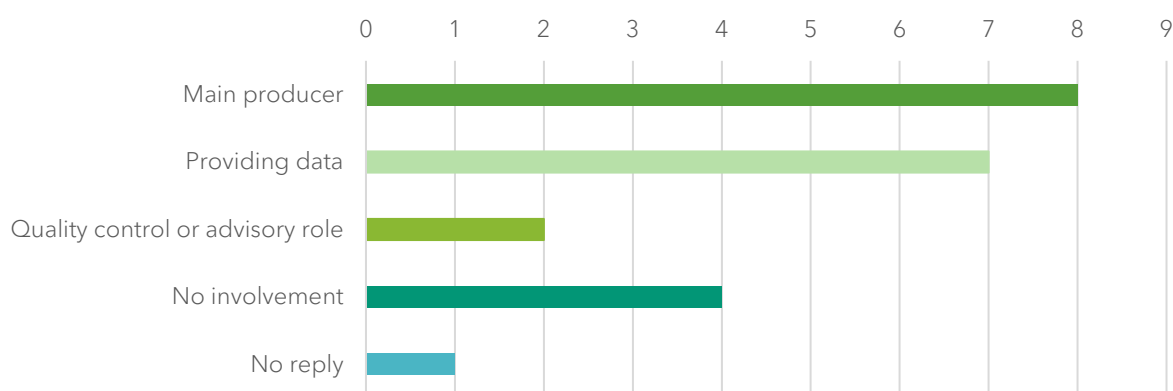
Two countries mentioned not meeting requests for national SDG indicators – partially due to the lack of a methodology for calculating the global indicators at the national level.

Other data mentioned:

- Losses and damages related to emergency situations - not collected or not subject to publication
- Wildfires
- Fertilizers (and pesticides) used in agriculture - not available in registers
- Integrated solid waste management
- Investments in climate change mitigation and their impact on emissions - only modelling can answer in detail to this request
- Adaptation data
- Local data:
  - Fuel sales for road traffic by filling station or geographical area
  - Fast charge locations for electric cars by municipality
  - Generated power from solar panels by zip code
- High frequency data:
  - Hourly data on renewable energy production by energy source
  - Daily energy consumption for heating only
  - Daily household energy consumption
  - Energy consumption at a specific time
  - Daily energy prices
- Official price indices for, e.g., biofuels, LNG, green hydrogen and (bio-)methanol
- Price information on solar panels and its installation
- Number of e-bikes; number of fires caused by battery e-bike
- Data "green" issues, such as green investment or green jobs, which are not well defined

### Involvement of the national statistical office in producing energy balances

Figure 3. Role of NSO in producing energy balances (n=22)

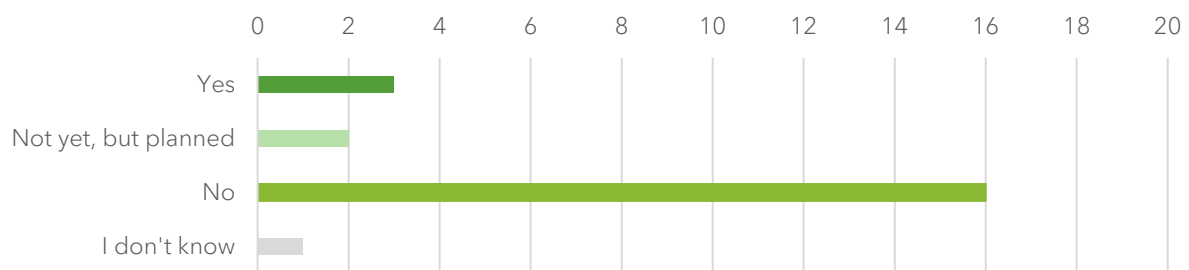


In 8 out of 22 responding countries, the NSO is the main producer of energy balances. In 7 cases, NSO provides various data for producing energy balances, from energy statistics to population data. In two cases an advisory or quality assurance role was indicated. Four countries reported that in their case the NSO is not involved, including two that explained that their statistical system is decentralized and energy statistics is produced by the responsible ministry/government department, which is part of the national statistical system.

## UNFCCC reviewers

In 3 out of 22 countries, NSO staff includes some UNFCCC reviewers, while in 2 it is planned for some NSO staff to become reviewers.

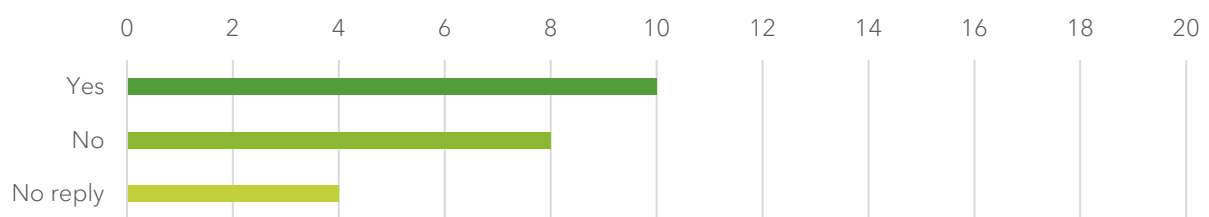
Figure 4. Are there any UNFCCC reviewers among the national statistical office's staff in your country? (n=22)



## Climate change-related statistics including a socioeconomic dimension

Ten countries provided some examples of climate change-related statistical outputs taking into account the social or socioeconomic dimension.

Figure 5. Are there any climate change-related statistical outputs taking into account the social or socioeconomic dimension?<sup>1</sup> (n=22)



Some examples included:

- Number of deaths, missing persons and directly affected persons attributed to emergency situations (Armenia)
- Urban population as a proportion of total population (Armenia)
- Energy prices and electricity prices as indicators for energy poverty assessment (Bosnia and Herzegovina)
- Greenhouse Gas Emissions Attributable to Households (Costa Rica)
- Prevalence of moderate or severe food insecurity among the population, according to the food insecurity experience scale (Costa Rica)
- Coverage of essential health services (Costa Rica)
- Proportion of the population using safely managed drinking water supply services (Costa Rica)
- Proportion of population using: a) safely managed sanitation services and b) handwashing facilities with soap and water (Costa Rica)
- Proportion of the population that has access to electricity (Costa Rica)

<sup>1</sup> Categorized by the secretariat into Yes/No/No reply based on the open answers.



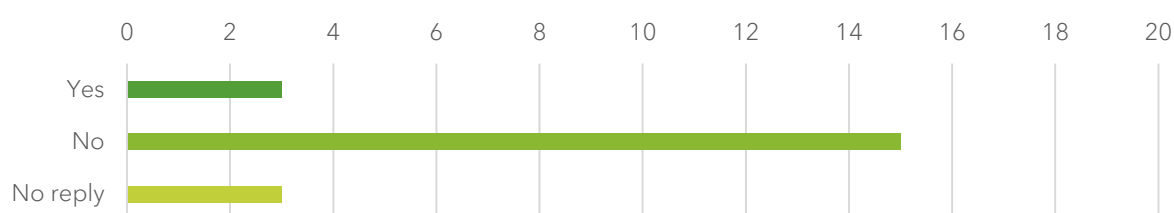
- Proportion of the population whose primary source of energy is clean fuels and technologies (Costa Rica)
- Proportion of the urban population living in slums, informal settlements or inadequate housing (Costa Rica)
- Environmental Information Module in Households National Survey of Employment, Unemployment and Underemployment (Costa Rica)
- Reports based on combining Census of Population, building energy ratings, and utility meter data (Ireland)
- with the quality of drinking water and air quality (Kazakhstan)
- Household energy consumption (Kazakhstan)
- Energy poverty indicators (Netherlands)
- Share of people concerned about the impact of climate change (Netherlands)
- Share drivers who sometimes deliberately leave their car at home (Netherlands)
- Survey on Income and Living Conditions (EU-SILC) (Serbia)
- The survey on "Environmental Quality and Behaviour" (Switzerland)
- Opinions and Lifestyle Survey and Business Insights and Conditions Survey These capturing attitudes and actions on many other topics including climate change (United Kingdom)
- Fuel Poverty statistics (United Kingdom)
- Gas and electricity consumption estimates for different property and household characteristics (household income, adult occupancy) and assessing the impact of installation an energy efficiency measure on energy consumption United Kingdom).

Details of all examples are provided in the section on "Country achievements".

### Microdata linkage

Three out of twenty two responding countries shared some examples of work involving microdata linkage, e.g. Ireland and the Netherlands. A few countries indicated that such work may be possible in the future.

Figure 6. Can you share any examples of work involving microdata linkage in climate change-related statistical domain? (n=22)



### Geo-referenced and geospatially enabled data

Figure 7 presents reported practices in geo-referencing climate change-related data in the NSO. Figure 8 illustrates number of countries in which NSO reported disseminating geospatially enabled climate change-related data by given breakdown.



Figure 7. Does your organization geo-reference climate change-related data using any of the following (n=22)

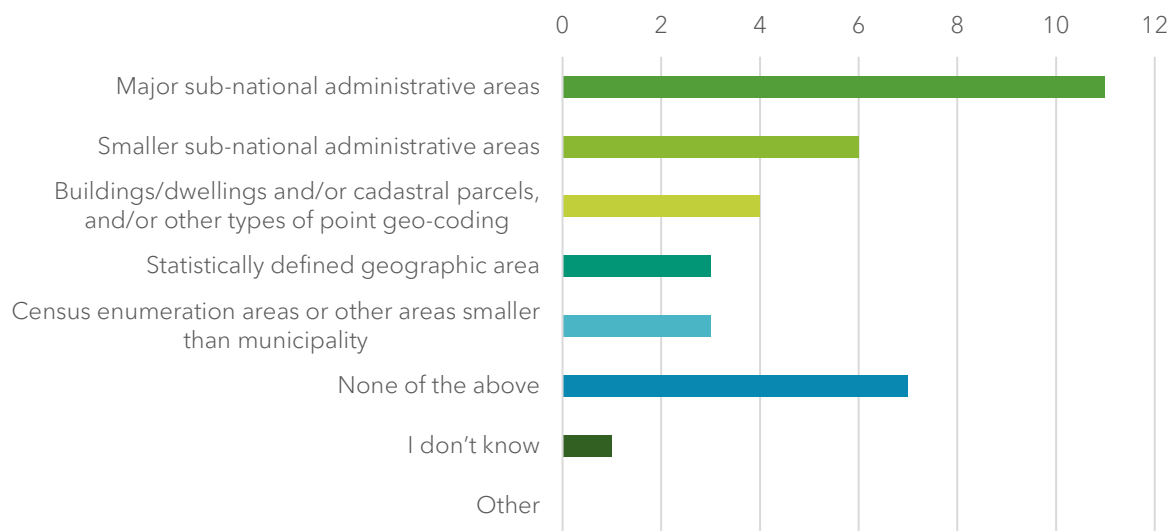
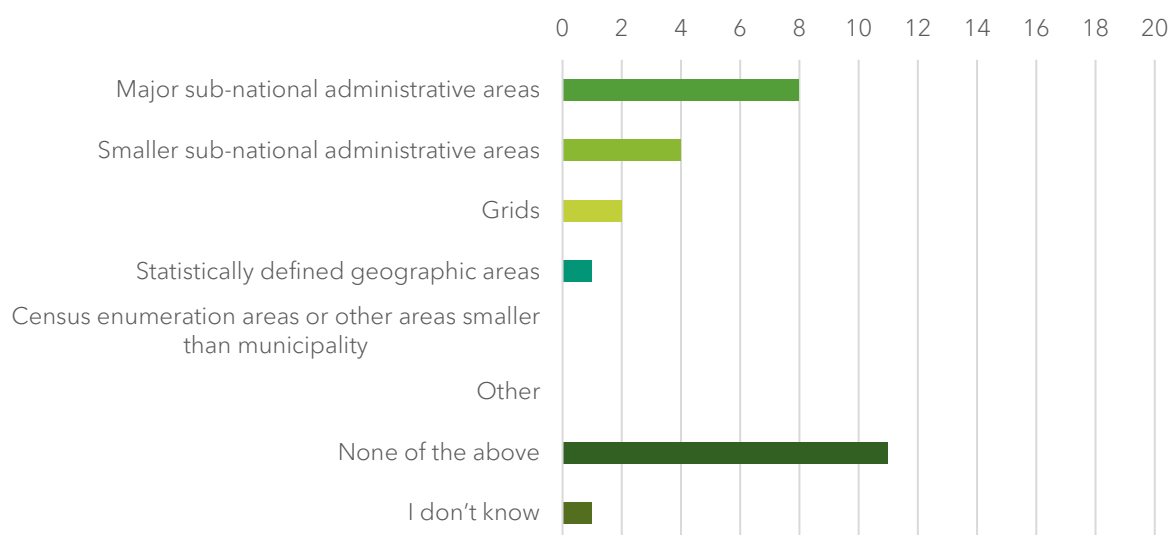


Figure 8. Does your organization disseminate geo-spatially enabled climate change-related data using any of the following (n = 22)



### Mechanisms for interaction with policymakers and other user representatives

A wide array of mechanisms for interaction with policymakers and other representatives was described by the responding national statistical offices:

- Involvement in different climate change statistics related international and intergovernmental task forces and working groups and **the interagency coordination council** (Armenia)
- Membership in the **State Commission** on Climate Change (Azerbaijan)
- **Agreements on information cooperation** between state bodies and the NSO (Belarus)
- **Regulation** on the data exchange of emissions data between NSI and competent government institutions as well as **agreements** between the institutions (Bulgaria)
- Providing the **statistical technical advice** required by the ministries (Costa Rica)

- **Regular meetings** with organizations and associations, e.g. association of municipalities, for the collection and review of information
- **Regular contact** with the Sustainable Energy Authority and with the Environmental Protection Agency, **annual liaison group** meetings and adhoc engagement with government departments in **response to queries** (Ireland)
- **Funding new NSO statisticians** for a three-year period by the Sustainable Energy Authority and with the Environmental Protection Agency (Ireland)
- Interaction with administrative state bodies to generate high-quality statistical data and **active integration of information systems** for data comparison, correlation detection (Kazakhstan)
- An **inter-ministerial commission** with a technical **task force works on statistics** and modelling (Luxembourg)
- **Technical Committee** Specialized on Climate Change, Emissions and Waste confirmed by the ministries responsible of that public policies (Mexico)
- **Active participation in the emission inventory** and many other related **partnerships**; appointment of **account managers** for all relevant stakeholders (e.g., ministries, agencies, and research institutes), who facilitate the process of providing the requested statistical data and expertise to these stakeholders (Netherlands)
- **Regular exchange** with other governmental offices, in particular through the **annual SEEA conference**, which is attended by the concerned offices (environment, agriculture, energy, economy, planning) (Switzerland)
- **Government-wide governance board for the inventory system** made up of key data users, data providers, policy makers and other key stakeholders (United Kingdom)
- **Policy liaison unit, events, advisory boards and steering groups**, strong **interdepartmental relationships, public consultations** and engagement with government departments on output **user groups** (United Kingdom).

### Dedicated climate change-related web page

4 out of 22 national statistical offices reported a website dedicated specifically to climate change-related statistics or indicators overall (including Mexico, Switzerland and United Kingdom). In the Netherlands, there is a dedicated web page on greenhouse gas emissions. Further, four countries reported web pages on environment and climate change together or environment including climate change-related statistics and indicators (including Azerbaijan, Belarus and Ireland). Two countries (e.g. Bosnia and Herzegovina) mentioned their SDG portals. Armenia indicated that relevant data are available in their general database.

11 out of 22 NSOs shared links to other government web pages dedicated to climate change, e.g. national greenhouse gas emissions, climate services, national UNFCCC submissions.

### Improving accessibility of climate change-related data

Various efforts towards **improving accessibility** of climate change-related data were mentioned, such as:

- Climate change-related **websites** and **dashboards** (e.g. United Kingdom)

- Climate change-related **indicator sets** (e.g. Luxembourg and Switzerland)
- Active **coordination, collaboration and data exchange** with other government agencies (e.g. Bulgaria, Poland)
- **Interactive tools and infographics** (Canada)
- **Podcast** (Canada)
- **Publications on social media** (Canada, Netherlands)
- Designing **new dissemination products**, providing active **user support**, **user satisfaction tracking** (Costa Rica)
- **Consulting with research institutes** on their needs (Ireland)
- **Explainer articles** focusing on particular issues (United Kingdom)

### International work

The following **proposals for international work** that would best support the work on climate change-related statistics in the responding organizations organization were provided:

- Technical and methodological support for visualization of climate change related indicators and SDGs; recommendations for including data related tracking climate adaptation.
- Support to develop experts or trainers on climate change-related statistics.
- Seminars, forums, methodological tools.
- Support for establishing Climate Dashboard, tracking climate change and natural variability over time, and for purposes discover, analyze and download data from Climate Change Indicators Dashboard.
- Share of experience with other National Statistical Institutes for data sources and data integration.
- An international document describing the two frameworks to report GHGs, the IPCC and SEEA, including narrative on the benefits, and necessity, of having two sets of data, as well as the uses for both..
- Technical cooperation for the identification of needs and the preparation of a roadmap.
- Training on climate change issues and access to satellite images with adequate resolutions to generate sector indicators, as well as access to new technologies in the environmental sector.
- Harmonization between the different international organizations on a sound methodological background - methodologies can substantially differ in the different international organizations, and often indicators are set without any metadata.
- Further development of the legal basis by which national statistical offices are entitled to access important private data sources.
- Review the international experience of countries that have successfully implemented climate change indicators, get acquainted with the difficulties encountered and ways to solve them.
- Framework and guidelines on the compilation of climate finance.
- The documents as a manuals, metadata, examples and share of the best practices.
- The work of UNECE, like the new Task Force on the role of NSOs in achieving national climate objectives, and the UNSD Global Set activities is appreciated.

- Efficient coordination of various initiatives in the field of climate change statistics and the use of already existing frameworks (eg. SEEA - System of Environmental-Economic Accounting) seems to be crucial in the context of strengthening work on statistics related to climate change in countries.
- Databases with verified emission factors and emission-related parameters.
- UNECE Task Force on the Role of NSOs in achieving national climate objectives
- Methodological support - the CES Implementation Guidelines for Core Set of Climate Change Related Indicators with practical information and UNSD the Implementation Guidelines for Global Set of Climate Change Statistics and Indicators are very helpful for future work.
- The work of the UNECE has facilitated our own work in this area. In this respect, continuation of the efforts is very much welcome.
- Exchange of experiences with other countries.
- A mapping exercise of sustainable development indicators with climate change indicators would be highly useful in increasing efficiency in future work to be undertaken.
- International agreement on definitions and methodologies that NSOs can apply and compare.
- Sharing of methodology, best practice, and innovation.

# 3. COUNTRY ACHIEVEMENTS AND PLANS

## Armenia

**Keywords:** Drivers, Emissions, Impacts, Mitigation, Adaptation, Energy statistics, Socioeconomic dimension, Geo-referenced data, Global Set

*Submitted by Statistical Committee of RA*

### Recent achievements

The [Road map for the development of climate change-related statistics in the Republic of Armenia](#) was developed with the support of the UNECE Statistical Division and based on consultations with the Ministry of Environment was approved by the Armstat Board in 2020. It was published on the Armstat website and serves as reference for planning and implementation of different initiatives.

It further sets priorities on the development of climate change-related statistics like greenhouse gas emissions (and its sources) and mitigation statistics (e.g., installation of solar, wind, and geothermal power). Armenia's roadmap contains recommendations on strengthening cooperation with key ministries involved in Energy Balance and GHG inventory preparation (e.g., active participation in data collection and quality assurance), sufficient capacity building and training of the NSO staff, improving access to (new) administrative data, enhancing use of geographical information systems (GIS), and a further development of SEEA air emission accounts, including review of the pilot air accounts for 2017.

### Key development plans

The NSO statistical program for 2023 supplemented with "Greenhouse gas emissions" and "Land area coverage classification" works (measures) following the proposal of the Ministry of the Environment.

Armstat together with Yerevan Municipality has developed reporting form on urban green areas, which will allow also to improve reporting on sustainable development goals indicators (SDG 11, 13 and 15). The reporting will start from 2024.

### Areas of climate change-related statistics produced and examples

Statistical Committee of RA produces climate change-related statistics on Drivers, Emissions, Impacts, Mitigation, Adaptation.

- Indicators included in the Global Set:
- <https://statbank.armstat.am/pxweb/en/ArmStatBank/?rxid=9ba7b0d1-2ff8-40fa-a309-fae01ea885bb>

- The Third Biennial Update Report of the Republic of Armenia is developed according to the United Nations Framework on Climate Change (UNFCCC) Decisions and provides the updated information on national circumstances, greenhouse gas inventory, progress in mitigation policies and actions, measurement, reporting and verification system as well as on support received and needs.

The key challenge are the indicators for tracking the climate vulnerability and economic, social impacts and losses due to climate change and climate extremes.

There is need for improvement of data on forest cover, fertilizers use, agriculture waste management.

#### **Involvement of the national statistical office in producing energy statistics for the energy balances and emission inventories**

Compilation of energy balance is done mostly based on data provided by Armstat. Some of indicators are estimated by energy experts. The NSO specialists provide the quality control and quality assurance for final energy balance before publication.

The totals of emissions from mobile sources are received from the Ministry of Environment. The emissions from stationary sources are included in the administrative register managed by the Environmental Protection and Mining Inspection Body. Based on this dataset Armstat verifies, sums up and publishes the emissions from mobile and stationary sources on the website. The emissions from stationary sources reporting formats and procedures need improvement for GHG inventory as well as for Air account

#### **Climate change-related statistical outputs taking into account the social or socioeconomic dimension**

- Number of deaths, missing persons and directly affected persons attributed to emergency situations
- Population (growth and vulnerability)
- Gender related data.
- n as a proportion of total population.
- Proportion of abstracted freshwater in renewable freshwater resources.
- Proportion of forest area affected by forest fires.
- Proportion of land that is degraded over total land
- Greenhouse gas emissions by sources and types
- Energy production, supply and consumption, renewable energy
- Temperature and precipitation records
- Energy balance
- Agriculture data (number of cattle, cultivated land, fertilisers used)

#### **Geo-referenced and geospatially enabled data**

Armstat uses major sub-national administrative areas, e.g. states or provinces, levels 1 or 2 in the EU nomenclature of territorial units for statistics (NUTS 1 or 2) for georeferencing and disseminating statistical data.

Though there is no geo reference platform in Armstat, but for some publications GIS is used for the following maps: statistics on water, waste and air emissions from stationary sources, current expenditure for nature protection, environmental taxes and payments for nature use, by regions (see maps in "Environment and Natural Resources in the Republic of Armenia for 2021", Atlas of RA by the regions and Yerevan city, 2022).

See also:

- <https://www.armstat.am/en/?nid=82&id=2516>
- <https://www.armstat.am/en/?nid=893v>

### **Mechanisms for interaction with policymakers and other user representatives**

Representatives from Armstat are involved in different climate change statistics related international and intergovernmental task forces and working groups. By the Decision of the president of the Republic of Armenia an Inter-agency Coordination Council was established for the implementation of the requirements and provisions of the United Nations Framework Convention on Climate Change and the Paris Agreement, and in order to ensure the professional and expert work of the council, permanent interdepartmental working groups were established, and their composition and working procedures were approved. NSO is represented as member in coordination council and in 2 working groups.

### **Dedicated climate change-related statistics web page**

There is no special domain with "Climate change" title, but most of indicators related to environment and climate change are available in Armstatbank.

### **Dedicated government web page with main climate change-related data**

CC Armenia - UNDP Climate Change Program was shaped and initiated its support to the Government of Armenia starting from 1997 in the frames of the UNDP-GEF Projects. The Program along with other goals is aimed at strengthening the climate change related information exchange and ensuring transparency in the context of obligations of the Ministry of Environment as a UNFCCC coordinating entity in Armenia and NSO.

### **Improving accessibility of climate change-related data**

The GHG inventory data is published by sectors and reporting years. The consultations between NSO specialists and experts involved in energy balance development and GHG inventory conducted, which helped to improve the accuracy and completeness of reported data.

### **Other developments**

158 indicators of the Global Set were translated into Armenian and provided to interested ministries and agencies by the UNDP Climate Change Program and Armstat. A workshop on "Issues of access and quality assurance of statistical data necessary for national reports on climate change" was organized to discuss with stakeholders and the expert community the Armenia's obligations on reporting on progress with climate mitigation and adaptation policies monitoring results under UN Convention on Climate Change and Paris Agreement. List of indicators that need improvement was identified and the scope of further work in that direction was outlined.



## Azerbaijan

**Keywords:** Emissions, SEEA, Energy statistics, Geo-referenced data, Interacting with users, Improving accessibility

*Submitted by State Statistical Committee of Azerbaijan*

### Recent achievements

The coordination with Ministry of Ecology and Natural Resources to increase climate change-related data quality is improving. In-depth monitoring of Emissions from stationary sources and discrepancies/recommendations were discussed with representatives of Ministry of Ecology and Natural Resources from October 2022 to January 2023.

### Key development plans

State Statistical Committee of Azerbaijan plans to:

- Further improve coordination with Ministry of Ecology and Natural Resources to increase data quality
- Prepare the pilot of SEEA Air Emissions Account

### Areas of climate change-related statistics produced and examples

State Statistical Committee produces climate change-related statistics on emissions, see:

- <https://www.stat.gov.az/source/environment/>

### Involvement of the national statistical office in producing energy statistics for the energy balances and emission inventories

The State Statistical Committee produces energy statistics and compiles energy balances annually.

### Geo-referenced and geospatially enabled data

The State Statistical Committee uses major sub-national administrative areas, e.g. states or provinces, levels 1 or 2 in the EU nomenclature of territorial units for statistics (NUTS 1 or 2) for georeferencing and disseminating statistical data. See example:

- <https://www.azstat.org/webmap/?lang=az#2022>

### Mechanisms for interaction with policymakers and other user representatives

As institutional framework towards development of the climate-related statistics in Azerbaijan, on March 11, 2020 the State Commission on Climate Change was formed by the Decree of the President of Azerbaijan Republic No. 1920 dated, in order to intensify activities to fulfil relevant commitments of the Republic Azerbaijan under UNFCCC as well as Paris Agreement. The State Statistical Committee is among the member of the Commission and takes part in the meetings organized by the Commission regularly.

### Dedicated climate change-related statistics web page

Climate change-related statistics are published on the webpage of the State Statistical Committee's <https://www.stat.gov.az/source/environment/>.

### Improving accessibility of climate change-related data

All the data produced and achieved as an administrative data is disseminated in the official web page of the State Statistical Committee. All data are open and free.

## Belarus

**Keywords:** Drivers, Emissions, Impacts, Mitigation, Adaptation, Energy statistics, Interacting with users, Improving accessibility, SDGs

*Submitted by National Statistical Committee of the Republic of Belarus*

### Recent achievements

Over the past few years, Belstat has developed:

- System of statistical indicators of «Green Growth»:
- <https://www.belstat.gov.by/en/ofitsialnaya-statistika/macroeconomy-and-environment/okruzhayuschaya-sreda/green-growth-indicators/>
- Shared Environmental Information System;
- <https://www.belstat.gov.by/en/ofitsialnaya-statistika/macroeconomy-and-environment/okruzhayuschaya-sreda/the-shared-environmental-information-system/>
- SDG indicators on climate change;
- <http://sdgplatform.belstat.gov.by/en/sites/belstatfront/home.html>
- System of Environmental-Economic Accounting;
- <https://www.belstat.gov.by/en/ofitsialnaya-statistika/macroeconomy-and-environment/okruzhayuschaya-sreda/system-of-environmental-economic-accounting/>
- Statistical classifier «Types of Environmental Protection Activities», developed on the basis of the International Classification of Environmental Protection Activities and Expenditures (CEPA 2000).
- [https://www.belstat.gov.by/upload-belstat/upload-belstat-word/klassifikator/sk\\_55.011\\_2021.doc](https://www.belstat.gov.by/upload-belstat/upload-belstat-word/klassifikator/sk_55.011_2021.doc)

### Key development plans

According to the Strategy for the Development of State Statistics, approved by Belstat Order 178 of November 15, 2017, development of the National List of Climate Change Related Indicators is planned for 2023-2025, see:

- [https://www.belstat.gov.by/upload-belstat/upload-belstat-pdf/o-belstate/Strategija\\_2025\\_2022-11-30\\_EN.pdf](https://www.belstat.gov.by/upload-belstat/upload-belstat-pdf/o-belstate/Strategija_2025_2022-11-30_EN.pdf)

### Areas of climate change-related statistics produced and examples

National Statistical Committee of the Republic of Belarus produces climate change-related statistics on Drivers, Emissions, Impacts, Mitigation, Adaptation:

- System of statistical indicators of «Green Growth»;
- <https://www.belstat.gov.by/en/ofitsialnaya-statistika/macroeconomy-and-environment/okruzhayuschaya-sreda/green-growth-indicators/>
- Shared Environmental Information System;
- <https://www.belstat.gov.by/en/ofitsialnaya-statistika/macroeconomy-and-environment/okruzhayuschaya-sreda/the-shared-environmental-information-system/>
- SDG indicators on climate change;
- <http://sdgplatform.belstat.gov.by/en/sites/belstatfront/home.html>
- Statistical book «Environmental protection in the Republic of Belarus»;

- [https://www.belstat.gov.by/en/ofitsialnaya-statistika/macroeconomy-and-environment/okruzhayuschaya-sreda/publications\\_2/index\\_56010/](https://www.belstat.gov.by/en/ofitsialnaya-statistika/macroeconomy-and-environment/okruzhayuschaya-sreda/publications_2/index_56010/)
- System of Environmental-Economic Accounting;
- <https://www.belstat.gov.by/en/ofitsialnaya-statistika/macroeconomy-and-environment/okruzhayuschaya-sreda/system-of-environmental-economic-accounting/>

#### **Involvement of the national statistical office in producing energy statistics for the energy balances and emission inventories**

Energy balances are produced by the National Statistical Committee of the Republic of Belarus according to the methodology approved in accordance with the Energy Statistics Manual (OECD/IEA/Eurostat, 2007) developed by the International Energy Agency. Emission inventories are established by the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus, following the recommendations of the International Panel on Climate Change (IPCC 2006), using official statistical information.

#### **Climate change-related statistical outputs taking into account the social or socioeconomic dimension**

Belstat produces selected indicators related to climate change are defined by economic activity (NACE 2.0).

#### **Geo-referenced and geospatially enabled data**

Some SDG indicators related to climate change are generated using GIS technologies.

Data on climate change related statistics are published by country, as well as by regions and the city of Minsk, districts and individual cities.

#### **Mechanisms for interaction with policymakers and other user representatives**

The statistical work programme is approved by the Resolution of the Council of Ministers of the Republic of Belarus of 15.12.2022 No. 867 [https://www.belstat.gov.by/upload-belstat/upload-belstat-pdf/o-belstate/Programma\\_2023.pdf](https://www.belstat.gov.by/upload-belstat/upload-belstat-pdf/o-belstate/Programma_2023.pdf)

Strategy for the Development of State Statistics is approved by the Order of the National Statistical Committee of the Republic of Belarus of 15.11.2017 No: 178 [https://www.belstat.gov.by/upload-belstat/upload-belstat-pdf/o-belstate/Strategija\\_2025\\_2022-11-30\\_EN.pdf](https://www.belstat.gov.by/upload-belstat/upload-belstat-pdf/o-belstate/Strategija_2025_2022-11-30_EN.pdf)

There are agreements on information cooperation between State bodies and the National Statistical Committee of the Republic of Belarus.

#### **Dedicated climate change-related statistics web page**

There is no dedicated website, but a separate list of indicators related to climate change statistics is provided under:

- <https://www.belstat.gov.by/en/ofitsialnaya-statistika/macroeconomy-and-environment/okruzhayuschaya-sreda/>

#### **Improving accessibility of climate change-related data**

In Belarus, the following portals facilitate access to climate change-related data:

- <http://sdgplatform.belstat.gov.by/en/sites/belstatfront/home.html>
- <https://census.belstat.gov.by/>
- <http://dataportal.belstat.gov.by/>

### Other developments

In 2023, Belstat specialists successfully completed the e-learning course of SIAP UN «Compilation of climate change indicators: an accounting approach».

## Bosnia and Herzegovina

**Keywords:** Energy statistics, Emission inventories, Socioeconomic dimension, Microdata linkage, Interacting with users, Improving accessibility, National Adaptation Plan, SDGs

*Submitted by Agency for Statistics of Bosnia and Herzegovina*

### Recent achievements

Regulation (EU) no. 691/2011 of the European Parliament and the Council on European environmental economic accounts established a framework for the collection, preparation, sending and evaluation of European environmental economic accounts. Environmental Accounts of this Regulation are important for the climate change-related statistics and are used to calculate indicators .

The Agency for Statistics of Bosnia and Herzegovina implements the IPA 2019 MBP statistical cooperation program - pilot project Environmental Accounts (Statistical Project 5.5 Environmental Accounts).

- One of the specific goals of the IPA 2019 MBP statistical cooperation program is to develop Air Emission Accounts (AEA) for Bosnia and Herzegovina for the first time. An Action Plan has been established that defines the content and goals of the "Air Emissions Accounts" account. The Eurostat Methodological Manual , 2015 has been translated (Compilation Guide [2015] for Eurostat's Air Emissions Accounts), which is based on the principles and definitions of the European system of accounts (European System of Accounts 2010 - ESA 2010). The Agency for Statistics of Bosnia and Herzegovina, for the first time established AEA 2017-2022, using the principle of statistical energy balance.
- One of the specific goals of the IPA 2019 MBP statistical cooperation program was improving Material flow account (EW-MFA). Data from the Material Flow Account (EW-MFA) are regularly submitted to Eurostat via the EW-MFA Questionnaire: [https://bhas.gov.ba/data/Publikacije/Saopštenja/2023/ENV\\_10\\_2021\\_Y1\\_1\\_BS.pdf](https://bhas.gov.ba/data/Publikacije/Saopštenja/2023/ENV_10_2021_Y1_1_BS.pdf)
- One of the specific goals of the IPA 2019 MBP statistical cooperation program is to develop economic account - Environmental Taxes (ETEA). An Action Plan was established that defines the content and goals of the account "Taxes and fees for the environment". The sources of data that are required for the creation of each phase of the calculation, the need for new data sources, and the application of the methodology are defined. It also includes interested parties whose input should be taken into account when planning and creating the Environmental Taxes.
- The annual thematic newsletter "Statistics for indicators of sustainable development" is published regularly, with the aim of providing users with the simplest possible way of getting to know the indicators of sustainable development for Bosnia and Herzegovina. The indicators are divided according to the topics of the Sustainable Development Program until 2030 (Agenda 2030), which defines 17 sustainable development goals. <https://bhas.gov.ba/Calendar/Category/33?lang=en>

#### **Key development plans**

The Agency for statistics of BiH has established an SDG portal for Bosnia and Herzegovina. The Sustainable Development Goals portal provides users with continuously updated data on the status of UN SDG indicators for Bosnia and Herzegovina and detailed methodological information. The portal is regularly maintained by the BiH Statistics Agency. (<https://sdg.bhas.gov.ba>).

Continuous work is being done on the production, dissemination and improvement of the official statistics of Bosnia and Herzegovina for the development of indicators of sustainable development, as well as on the research of other data sources for SDG indicators.

These facts represent a good basis for further work and planning activities on providing new climate change-related indicators and finding the best options for their presentation and publication

#### **Areas of climate change-related statistics produced and examples**

Some indicators from five areas can be calculated, which are collected and calculated in statistical institutions, such as TPES:

- <https://ec.europa.eu/eurostat/web/energy/database/additional-data#Energy%20balances>

The general problem is the availability of data at a more detailed levels and related lack of knowledge about climate change interactions with other areas. Also, most indicators for climate change are not collected through a statistical institution and this causes additional efforts for statistics in the development of these indicators (such as emissions: GHG emissions and their human causes).

There is no nominated specific statistical activity in the BiH annual Plan of statistical activities 2023 producing climate change-related statistics and indicators.

#### **Involvement of the national statistical office in producing energy statistics for the energy balances and emission inventories**

##### *Energy statistics*

The new Regulation (EU) 2022/132 on the amendment of Regulation 1099/2008 of the European Parliament and the Council on energy statistics regarding the implementation of the update of annual, monthly and short-term monthly energy statistics is in force. The regulation consists of a series of changes related to the annual and monthly reporting deadlines, provision of more detailed data on final consumption in the industry, transport and services sector, provision of new data on electricity production, more detailed data on renewable energy sources. Research work was carried out on the possibilities of implementing new requirements for energy statistics in order to ensure data according to the requirements of Regulation (EU) 2022/132, due to reporting for the reference year 2022.

The Agency for Statistics of Bosnia and Herzegovina prepared the data and submitted to Eurostat and the IEA a complete set of annual energy statistics questionnaires IEA/Eurostat/UNECE Annual Questionnaires for the reference year 2020, which is required for the preparation of the overall energy balance of Bosnia and Herzegovina.

The Agency for Statistics of Bosnia and Herzegovina has prepared and submitted to Eurostat data on the final consumption of energy in households according to the type of consumption for the reference year 2020.

*National Integrated Energy and Climate Plan (NECP BiH)*

The goals of the National Integrated Energy and Climate Plan (NECP BiH) until 2030 have been set for Bosnia and Herzegovina, in accordance with the framework of the Paris Agreement on climate change and the guidelines of the Secretariat of the Energy Community. Representatives of the Agency for Statistics of Bosnia and Herzegovina actively participated in the process of developing the Integrated Energy and Climate Plan.

Currently, the GIZ project "Decarbonization of the energy sector in Bosnia and Herzegovina" is being implemented with the aim of establishing a system for reporting, monitoring and verification of the Integrated Energy and Climate Plan of Bosnia and Herzegovina (MVR system). The initial meeting discussed the following:

- Assessment of interested parties involved in the operation of the MVR system
- Indicators for monitoring the implementation of the NECP in Bosnia and Herzegovina
  - Energy efficiency and renewable energy sources
- Indicators for monitoring the implementation of the NECP in Bosnia and Herzegovina
  - Other dimensions.

*Emission inventories*

Agency for Statistics of BiH did not participate in the preparation of national reports in accordance with the UN Framework Convention on Climate Change.

**Climate change-related statistical outputs taking into account the social or socioeconomic dimension**

Energy prices in general, and electricity prices particular are important indicators for energy poverty assessment. Energy poverty definitions point at access to "necessary domestic energy services needed to guarantee basic standards of living" or simply "ability to keep home adequately warm or cool". Bridging energy needs with basic standards of living, energy poverty lies at the intersection of climate and social issues.

Regulation (EU) 2016/1952 establishes a common framework for the development, production and dissemination of comparable European statistics on natural gas and electricity prices for household and final non-household customers in the Union. Agency for Statistics of BiH reported Eurostat with energy prices for Bosnia and Herzegovina, according to common framework, in national currency per kWh.

These prices are reported once a year together with the data for the second semester and are divided into the following components and taxes:

- Energy and supply: generation, aggregation, balancing energy, supplied energy costs, customer services, after-sales management and other supply costs.
- Network cost: transmission and distribution tariffs, transmission and distribution losses, network costs, after-sale service costs, system service costs, and meter rental and metering costs.
- Value added taxes (VAT): as defined in Council Directive 2006/112/EC.
- Renewable taxes: taxes, fees, levies or charges relating to the promotion of renewable energy sources, energy efficiency and CHP generation.
- Capacity taxes: Taxes, fees, levies or charges relating to capacity payments, energy security and generation adequacy; taxes on coal industry restructuring; taxes on electricity distribution; stranded costs and levies on financing energy regulatory authorities or market and system operators.

- Environmental taxes: taxes, fees, levies or charges relating to air quality and for other environmental purposes; taxes on emissions of CO<sub>2</sub> or other greenhouse gases.

The household electricity prices indicator represents the electricity prices for household consumers, band DC 2500-5000 eur/kwh consumption, all taxes and levies included.

The household natural gas prices indicator represents the natural gas prices for household consumers, band 20-200 GJ consumption, all taxes and levies included.

#### **Microdata linkage**

The EU statistics on income and living conditions (EU-SILC), aim to collect timely and comparable cross-sectional and longitudinal data on income, poverty, social exclusion, and living conditions.

EU-SILC files contain partially anonymised microdata: cross-sectional and longitudinal. Methodological guidelines describe EU-SILC variables as being transmitted to Eurostat.

Household Budget Surveys (HBS) are conducted in EU Member States (MS), some EU candidate and EFTA countries. Measuring consumption expenditure is a way of measuring economic well-being, as a household's economic well-being can be expressed in terms of its access to goods and services.

Both of these surveys have in common that they do not survey structure related to climate change, there is still room for improvement. From 2026, HBS will be implemented under a legal basis, and this is an opportunity to connect through specific modules related to climate change with other statistical domains on the microdata level.

#### **Mechanisms for interaction with policymakers and other user representatives**

Bosnia and Herzegovina is committed, including in the Sofia Declaration on the Green Agenda (2020), to align with the EU emissions trading system and introduce other carbon pricing instruments to promote decarbonisation.

With the support of the Energy Community, Bosnia and Herzegovina created a road map for introducing a carbon price until 2026. For the implementation of the road map, representatives of the BiH authorities requested support from development partners for four issues:

- (1) monitoring, reporting and verification;
- (2) economic impact analysis;
- (3) the infrastructure and platform of the emissions trading system;
- (4) legal and regulatory aspects.

The World Bank, as part of its support to the authorities in BiH, together with the Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina (MVTEO), was invited to help with the infrastructure and platform of the emissions trading system. Together with the World Bank and representatives of the authorities in Bosnia and Herzegovina, the consulting team will evaluate possible options for scope (coverage) and limitations (ambition) for a potential national emissions trading system. As part of work, a series of workshops will be held for input on the report.



### **Dedicated climate change-related statistics web page**

There is no dedicated national climate change-related statistics web page. However, the agency for Statistics of BiH has established an SDG reporting portal for Bosnia and Herzegovina. The Sustainable Development Goals portal provides users with continuously updated data on the status of UN SDG indicators for Bosnia and Herzegovina and detailed methodological information. The portal is regularly maintained by the Agency for Statistics of BiH. See:

- <https://sdg.bhas.gov.ba>

### **Improving accessibility of climate change-related data**

The Federal Ministry of Environment and Tourism and the Environmental Protection Fund of the BiH entity Federation of Bosnia and Herzegovina have started the preparation of the List of Indicators (only for this entity, it is not state List of indicators).

In the past period, a proposal for a list of indicators (working version) was prepared, which contains:

- Indicators listed on the List of selected indicators for the environment/environment in Bosnia and Herzegovina, which was adopted by the Council of Ministers on 09/19/2019, and a representative of the Agency for Statistics of Bosnia and Herzegovina participated in its development.
- Acertain number of indicators from the list of indicators of the European Environment Agency for which data is being collected and that reporting could be done.
- Part of the indicators proposed in the BiH Climate Change Adaptation Plan - NAP for which there are data or it is assumed that data is collected to a certain extent.

The Federal list of indicators has been submitted to the Agency for Statistics of BiH for consider the proposed indicators and think about additional indicators that believe should be included in the list, especially in statistical area of activity. The process is ongoing.

### **Other developments**

Bosnia and Herzegovina is one of 41 countries in the world, and the second in the Western Balkans, which has completed and submitted its Climate Change Adaptation Plan (NAP) to the United Nations Framework Convention on Climate Change (UNFCCC).

The plan was officially published on December 21, 2022, see:

- <https://unfccc.int/sites/default/files/resource/NAP-Bosnia-and-Herzegovina%20.pdf>

This document is the result of long and intensive work and coordination of more than 1,300 representatives of institutions from all levels of government in the country, with the support of the United Nations Development Program in BiH (UNDP) within the project "Improving the process of the National Adaptation Plan in BiH" financed by the Green Climate Fund (GCF).

The Council of Ministers of BiH adopted this document at the session held on October 26, 2022, and it was previously supported by the Government of the Republika Srpska, the competent ministries of the Federation of BiH and the Brčko District of BiH, thus showing the readiness to improve planning for adaptation to climate change in the country, with the aim of reducing negative climate consequences on all aspects of the environment and economy.

It is a comprehensive document that was prepared on the recommendation and in accordance with the guidelines of the UNFCCC, which provides an analysis and assessment of climate vulnerability and risk.

This Plan contains an analysis of the current regulatory framework and technical studies in BiH, climate change trends, future climate projections, an overview of the impact of climate change by sector, and proposals for medium-term measures to reduce the negative consequences of climate change on the most vulnerable sectors, including agriculture, water and forest resources, biodiversity and tourism.

The NAP process in BiH aims to improve existing reporting on climate trends, development and implementation of adaptation measures, and to contribute to the integration of climate change adaptation into relevant social, economic and environmental policies and activities. With this goal, the project, in cooperation with the institutions of BiH, developed Standard Operating Procedures (SOP) for horizontal and vertical institutional cooperation on the exchange of climate data, as well as an appropriate framework for monitoring and evaluation, as part of the NAP document, which will enable regular updating of the NAP.

## Bulgaria

**Keywords:** Drivers, Emissions, Energy statistics, Geo-referenced data, Interacting with users

*Submitted by National Statistical Institute of Bulgaria*

### Key development plans

National Statistical institute (NSI) is planning to:

- Improve the quality of the data provided to the Executive environment agency in relation to emissions inventories. Improvement of communication with Executive environment agency/Ministry of environment and water regarding the exchange of data.
- Continue working towards monetary valuation of the services provided by the ecosystems and spatial presentation and analysis of the data collected by the Environmental statistics.
- Prepare for reporting under the future modules of REGULATION (EU) No 691/2011 on the European Economic Accounts for the Environment, namely Forests and Ecosystems.

### Areas of climate change-related statistics produced and examples

National statistical institute produces climate change-related statistics on Drivers and Emissions.

Reporting Air Emission Accounts to Eurostat. Reports are published at Eurostat data base: [https://ec.europa.eu/eurostat/databrowser/view/env\\_ac\\_ainah\\_r2/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/env_ac_ainah_r2/default/table?lang=en)

The results of the statistical survey about sources of emissions are published once a year on the website of NSI:

- <https://www.nsi.bg/en/content/2550/sources-emissions>
- <https://www.nsi.bg/en/content/2552/emissions-pollutants-air>

### **Involvement of the national statistical office in producing energy statistics for the energy balances and emission inventories**

Energy balances are compiled by the National Statistical Institute of Bulgaria.

### **Geo-referenced and geospatially enabled data**

For now, NSI doesn't disseminate climate change-related geo-spatial data. The geospatial data which has been developed is related to geo-location of ecosystem assets and environmental protection facilities.

For example the work on ecosystem accounts is on extent account and services account based on national data geospatial sources like state cadastre – cadastre parcels, Corine landcover data, LPIS agricultural parcels (blocks) and forest parcels from Forest Management Projects. The aim is to prepare for the mandatory transmission of data for ecosystem accounts module.

For pollution, NSO works on allocation of greenhouse gases emissions on the EMEP 0.1x0.1 longitude-latitude grid and EEA national reference grid 1x1 km<sup>2</sup> from big point sources of emissions, based on cadastre parcels and their owners and point data from Executive Environmental Agency – EPTR database. Renewable energy facilities by their type and capacity in MWe are aggregated within the grid.

### **Mechanisms for interaction with policymakers and other user representatives**

The exchange of emissions data between NSI and competent government institutions – Ministry of Environment and Waters, Executive Environmental Agency is regulated by the Ordinance on the order and manner of organizing the national inventories of emissions of harmful substances and greenhouse gases into the atmosphere, as well as Agreements between the institutions.

### **Dedicated government web page with main climate change-related data**

The Executive Environmental Agency website: [National Report on Greenhouse Gas Inventory for Bulgaria](#).

### **Improving accessibility of climate change-related data**

Climate change related data are published on NSI web site and the specialized information system INFOSTAT. NSI publishes yearly Statistical Reference Book, Statistical Yearbook as well as specialized publications Environment and Energy balances.

NSI has also established good coordination and data exchange with competent government institutions – Ministry of Environment and Waters, Executive Environmental Agency, State Cadastre, etc.

## Canada

**Keywords:** Drivers, Emissions, Impacts, Mitigation, Adaptation, Socioeconomic dimension, Improving accessibility

*Submitted by Statistics Canada*

### Recent achievements

New this year:

- The dissemination of the energy use and greenhouse gas emissions associated with the production of environmental and clean technology products - [table](#) and [article](#)
- The dissemination of the energy use and greenhouse gas emissions associated with tourism, by product - [table](#) and [article](#)
- The dissemination of the Infrastructure Economic Accounts, Environmental Perspective - [table](#)
- Release of the Energy and the Environment section on the [Canadian Centre for Energy Information portal](#), with a [new page](#) specifically dedicated to the differences between the SEEA-based GHG emissions estimates and the National Inventory Report estimates
- Publication of a [new infographic](#) highlighting Statistics Canada's climate change statistics

Mentioned last year:

- [The dissemination of regional SEEA-based GHG emissions estimates.](#)
- [The release of an interactive tool for our air emission account](#)
- [The release of an interactive tool for our energy use account.](#)
- [The publication of an infographic on emissions attributable to households.](#)

### Areas of climate change-related statistics produced and examples

Statistics Canada produces climate change-related statistics on Drivers, Emissions, Impacts, Mitigation, Adaptation.

*Drivers:*

- [Physical Flows by Final Demand Category](#)
- [Greenhouse Gas Emissions Attributable to Households](#)

*Emissions:*

- [Physical Flow Account for Greenhouse Gas Emissions](#)

*Impacts:*

- [Data on the impacts of climate change on human and natural systems](#)

*Mitigation:*

- [Environmental and Clean Technology Products Economic Account](#)
- [Data on efforts to avoid the consequences of climate change](#)

*Adaptation:*

- [Percentage of Canadian towns and cities classed as green,\\* by province](#)
- [Preparing for weather-related emergencies in Canada](#)

### Climate change-related statistical outputs taking into account the social or socioeconomic dimension

StatCan has produced data visualization on "[Greenhouse Gas Emissions Attributable to Households](#)".

#### Improving accessibility of climate change-related data

- [Canadian Center for Energy Information](#) is a convenient one-stop virtual shop for independent and trusted information on energy in Canada. There is a table explaining the difference between the GHG emissions dataset of the national inventory and the physical flow account for GHG emissions.
- <https://energy-information.canada.ca/en>
- [Interactive tool for our air emission account](#)
- [Interactive tool for our energy use account](#).
- [Infographic on emissions attributable to households](#)
- Publication on social media when publishing new data (Twitter, Facebook, Reddit, LinkedIn, YouTube, Instagram).
- [Podcast on "Green Houses, Not Gases"](#)

## Costa Rica

Keywords: [Coordination](#), [Socioeconomic dimension](#), [Improving accessibility](#)

*Submitted by Instituto Nacional de Estadística y Censos of Costa Rica*

#### Recent achievements

Recent achievements of Instituto Nacional de Estadística y Censos (INEC) include:

- Being as a statistical technical advisor to the committee of the National Climate Change Metrics System.
- Partnership with Ministry of Environment and Energy (MINAE) (the main institution that produces environmental information) is in the process of developing the National Report on the State of the Environment, for which it has scheduled a series of consultations and exchanges with the institutions that generate all types of environmental information, including information on climate change.
- Participate in the working group on the role of national statistical offices in achieving national climate objectives of the United Nations Economic Commission for Europe (UNECE).

#### Key development plans

In the future, INEC plans to provide the statistical technical advice required by the MINAE Climate Change Directorate, for the strengthening of statistics related to climate change

#### Involvement of the national statistical office in producing energy statistics for the energy balances and emission inventories

INEC provides the statistical technical advice required by the MINAE.

#### **Climate change-related statistical outputs taking into account the social or socioeconomic dimension**

- 1.1.1 Proportion of the population living below the international poverty line, disaggregated by sex, age, employment status, and geographic location (urban or rural)
- 2.1.2 Prevalence of moderate or severe food insecurity among the population, according to the food insecurity experience scale
- 3.8.1 Coverage of essential health services
- 5.5.2 Proportion of women in management positions
- 6.1.1 Proportion of the population using safely managed drinking water supply services
- 6.2.1 Proportion of population using: a) safely managed sanitation services and b) handwashing facilities with soap and water
- 7.1.1 Proportion of the population that has access to electricity
- 7.1.2 Proportion of the population whose primary source of energy is clean fuels and technologies
- 11.1.1 Proportion of the urban population living in slums, informal settlements or inadequate housing

#### **Dedicated government web page with main climate change-related data**

The National System of Climate Change Metrics (SINAMECC) is the official platform for coordination and institutional and sectoral linkage of Costa Rica to facilitate the management and distribution of information on climate change: <http://www.sinamecc.go.cr/>

#### **Improving accessibility of climate change-related data**

INEC improves accessibility of statistical data through:

- Designing new dissemination products
- Providing active user support
- User satisfaction tracking.

## Ecuador

**Keywords:** Climate change-related indicators, Drivers, Emissions, Impacts, Adaptation, Energy statistics, Socioeconomic dimension, Geo-referenced data, Interacting with users, Improving accessibility

*Submitted by Instituto Nacional de Estadística y Censos of Ecuador*

#### **Recent achievements**

In 2022, the National Institute of Statistics and Census (Instituto Nacional de Estadística y Censos - INEC) received technical assistance from the Economic Commission for Latin America and the Caribbean (ECLAC), through an introductory course on environmental indicators and a workshop for the construction of Climate Change and Disaster indicators; as a result, there are six indicators generated and calculated.

### **Key development plans**

INEC prepared the National Statistics Program, which contains guidelines for the country's statistical production, in accordance with national planning. In the National Statistics Program 2021-2025, the topic of climate change was included through the strategic objective: "To be innovative, taking advantage of non-traditional sources of information and implementing methodologies and new metrics that guide the generation and analysis of statistical information, and the development of studies and research" and the line of action: "Strengthen statistics and indicators on environmental issues"; in order to have standardized indicators and updated data series.

For the last quarter of 2023, the publication of the dashboard of environmental statistics is planned, which will include the climate change indicators available in the institution. The dashboard will be available, for external users, on the INEC's web page.

### **Areas of climate change-related statistics produced and examples**

INEC produces climate change-related statistics on Drivers, Emissions, Impacts, Adaptation.

The indicators constructed with the support of ECLAC have updated methodological sheets and their data series have been calculated; it is expected that the updated versions will be available and published in the institutional web page by the end of 2023.

### **Involvement of the national statistical office in producing energy statistics for the energy balances and emission inventories**

INEC participates annually in the construction of the National Energy Balance, providing demographic statistical information.

Emission inventories, such as Ecuador's National Communication to the United Nations Framework Convention on Climate Change, provide information on agricultural production, demographics, health, solid waste management, and others.

### **Climate change-related statistical outputs taking into account the social or socioeconomic dimension**

Statistical outputs including socioeconomic dimension include:

- National Population and Housing Census
- Environmental Information Module in Households (National Survey of Employment, Unemployment and Underemployment)

### **Geo-referenced and geospatially enabled data**

INEC uses major sub-national administrative areas, e.g. states or provinces; and smaller sub-national administrative areas, e.g. municipalities to georeference statistical data.

There are not enough personnel or technological equipment to validate georeferenced information. However, there are plans to publish an atlas of solid waste management, developed through inter-institutional cooperation and academia; this interaction could be used as a reference for future work related to climate change.



#### **Mechanisms for interaction with policymakers and other user representatives**

National statistical information is open to researchers, decision makers and users in general. The results of statistical operations are published on INEC's website, and requests for information are handled through a ticketing system or by receiving official letters. In the case of generating statistics on climate change, the information dissemination mechanisms would be maintained, aligned with the statistical production model.

It is important to mention that INEC works directly with organizations and associations, such as the Association of Ecuadorian Municipalities, which groups the 221 mayors of Ecuador, with whom regular meetings are held for the collection and review of information.

#### **Dedicated climate change-related statistics web page**

There is no specific classification of Climate Change statistics; however, it is planned to include them in the institutional web page through the [integrated system of environmental statistics \(VDatos ambientales\)](#), which is organized based on the Framework for the Development of Environmental Statistics (FDES), provided by the United Nations Statistical Commission.

#### **Dedicated government web page with main climate change-related data**

There is a government [web page](#) administered by the Ministry of Environment, Water and Ecological Transition (Ministerio de Ambiente, Agua y Transición Ecológica - MAATE).

#### **Improving accessibility of climate change-related data**

All statistics generated by INEC are based on the Statistical Production Model, in addition to an internal certification process to ensure the quality and timeliness of the data published. In the case of having information on climate change, the Statistical Production Model will be applied, either for information gathering or for the analysis of administrative records, see:

- <https://www.ecuadorencifras.gob.ec/ambiente-y-agropecuaria-2/>

#### **Any other comments**

In December 2023, INEC plans to publish the results of the climate change statistics, built with the support of ECLAC and information generating institutions. The publication is scheduled to be made in the new environmental statistics dashboard.

## Ireland

**Keywords:** Drivers, Emissions, Mitigation, Energy statistics, Socioeconomic dimension, Microdata Linkage, Geo-referenced data, Interacting with users, Improving accessibility

*Submitted by Central Statistics Office*

#### **Recent achievements**

The Central Statistics Office:

- Publishes a broad range of environment accounts modules as well as statistics on energy, agri-environment, and forestry
- Has access to electricity, gas, and water meter data which enables us to examine trends in consumption at meter level and by sector
- Has developed a new report examining trends in economic activity and emissions for the NACE sectors with high emissions.

- Is developing a new report analysing trends in the fuels used to generate electricity - tThe new statistical release will be published around eight weeks after the end of a month. The release will show trends in the use of fossil fuels and renewables to generate electricity. It will be possible to link the microdata with corresponding meteorological microdata to examine the impact of wind, rainfall, and sunshine on the fuels used to generate electricity e.g. less wind means more use of gas.

### **Key development plans**

CSO is planning to finish work on electricity generation, vehicle odometers, and a historical climate data capture project. The vehicle odometer work will allow CSO to publish annual vehicle kilometres by fuel type etc.

The climate data rescue comprises daily meteorological data for around 1870 to 1959 with one station's records going back to 1829.

CSO is also working on a new electricity generation report using the microdata underlying the power grid electricity generation data:

- <https://www.smartgriddashboard.com/#all/generation>

### **Areas of climate change-related statistics produced and examples**

Central Statistics Office produces climate change-related statistics on Drivers, Emissions, Mitigation.

CSO publishes:

- Annual business energy use survey that integrates a wide range of other survey and administrative data
- Annual reports on electricity, gas, and water consumption using utility meter microdata
- Trends in the energy ratings of new buildings and on the impact of retrofits

CSO has also developed [a report examining trends in economic activity and emissions](#) which is designed to monitor progress on achieving climate action plan targets.

### **Involvement of the national statistical office in producing energy statistics for the energy balances and emission inventories**

CSO conducts an annual business energy use survey and integrate the survey returns with Emissions Trading Scheme and other survey and administrative microdata. The energy agency that compiles the energy balances uses the survey results to distribute top-down fuel aggregates by NACE sector and to fill gaps in their data. The energy balances are a key input into the national emission inventories.

### **Climate change-related statistical outputs taking into account the social or socioeconomic dimension**

CSO publishes reports based on combining Census of Population, building energy ratings, and utility meter data. The Census data allow to show how the demographic and socio-economic characteristics of households vary by energy efficiency rating. For example, a higher proportion of older persons living alone live in less energy efficient buildings even though they probably spend more time at home.

### **Microdata linkage**

- <https://www.cso.ie/en/statistics/social/domesticbuildingenergyratingsfromasocialperspective/>

- <https://www.cso.ie/en/statistics/energy/trendsinmeteredelectricityandgasbills/>
- <https://www.cso.ie/en/statistics/energy/businessenergyuse/>

#### **Geo-referenced and geospatially enabled data**

CSO publishes various reports at county level using a mixture of geographical variables and by county coding detailed addresses. Matching Census of Population microdata with utility meter data allows for producing anonymized outputs at a more disaggregated level for researchers

#### **Mechanisms for interaction with policymakers and other user representatives**

CSO has regular contacts with the Sustainable Energy Authority (SEAI) and with the Environmental Protection Agency (EPA) and holds annual liaison group meetings with both organisations. CSO also engage with government departments on an adhoc basis in response to queries. Both SEAI and EPA are funding new CSO statisticians to work in CSO for a three-year period to work on energy and waste statistics respectively.

#### **Dedicated climate change-related statistics web page**

There is a climate page but other relevant statistics are on the energy, environment accounts, and forestry pages. See Environment and Climate sub-categories under <https://www.cso.ie/en/statistics/>

#### **Dedicated government web page with main climate change-related data**

- <https://www.epa.ie/our-services/monitoring--assessment/climate-change/ghg/latest-emissions-data/>
- <https://www.seai.ie/data-and-insights/seai-statistics/key-statistics/co2/>

#### **Improving accessibility of climate change-related data**

CSO asked the energy agency to consult with energy research institutes to propose an anonymised research microdata file that would meet many of their needs. The plan is to create a file based on linking Census of Population, building energy ratings, and electricity and gas meter data.

## Kazakhstan

**Keywords:** Drivers, Emissions, Impacts, Global set, Climate change-related indicators, Environmental indicators, UNFCCC reviewers, Energy statistics, Geo-referenced data, Interacting with users, Improving accessibility

*Submitted by Bureau of National Statistics of the Agency for Strategic planning and Reforms of the Republic of Kazakhstan*

#### **Recent achievements**

In order to achieve the goals in the field of reducing the carbon intensity of the economy and creating conditions for the introduction of alternative and renewable energy sources in Kazakhstan, the authorized body in the field of environmental protection is working on the development of a Strategy to achieve carbon neutrality of the Republic of Kazakhstan until 2060. The doctrine defines the general views of the state policy on the consistent transformation of the economy of Kazakhstan. Medium-term development plans of sectoral state bodies will include indicators on the share of greenhouse gas emissions reduction,

abandonment of coal, expansion of "clean" types of energy, their cost and implementation period.

As part of the work on updating the commitments made under the Paris Agreement, a Roadmap of Measures was developed, which includes sectoral and cross-sectoral measures to reduce greenhouse gas emissions, as well as issues of adaptation to climate change to increase the resilience of vulnerable sectors of the economy and the population to the already observed and expected consequences of climate change.

The implementation of the Roadmap will lay the foundation for a deep decarbonization of the national economy for the period from 2021 to 2025, in order to fulfill the international obligations assumed by 2030 and achieve a zero carbon balance by 2060.

The authorized body in the field of environmental protection approved the national project "[Green Kazakhstan](#)", the purpose of which is to create a favorable living environment for the population and improve the environmental situation, including: improving the quality of atmospheric air, efficient management of production and consumption waste, efficient and careful use of water, preservation of the ecosystems of Lake Balkhash and the Northern Aral Sea, conservation of biological diversity by increasing the number of rare and endangered species of animals and ichthyofauna, as well as the creation of specially protected natural territories, increasing the area of green spaces, instilling a careful attitude to nature and wildlife, as well as the modernization of the ecological consciousness of the population.

The Bureau of National Statistics of the Agency for Strategic Planning and Reforms (hereinafter - the Bureau) this year started work on the formation of a national set of indicators on climate change. In general, the Bureau continuously develops [Environmental Monitoring and Assessment Indicators in accordance with the UNECE methodology](#)) and [OECD Green Growth Indicators](#), published on the official website of the Bureau.

### **Key development plans**

The Bureau of National Statistics, in order to introduce climate change indicators into national statistical practice, is working to study the Global Set of Statistics and Indicators on Climate Change developed by the Conference of European Statisticians (CES), as well as studying the international experience of countries successfully working in this direction. This is a new direction in the work, which requires certain costs.

The task of the Bureau is to determine the list of indicators relevant to the country from the Global Set. Due to the fact that most of the indicators are formed within the framework of administrative accounting, it is necessary to discuss and develop a joint action plan with interested state bodies. For this purpose, it is planned to hold a meeting of the Interdepartmental Working Group on the development and formation of environmental statistics, ensuring the quality and reliability of data.

At the same time, in order to form a high-quality national set of climate change indicators corresponding to the Global Set and taking into account the needs of government agencies, the Bureau needs methodological and practical support from international organizations, statistical office with experience in this area and who have successfully implemented monitoring of climate change indicators in their country.

#### **Areas of climate change-related statistics produced and examples**

Bureau of National Statistics of the Agency for Strategic planning and Reforms of the Republic of Kazakhstan produces climate change-related statistics on Drivers, Emissions, Impacts.

#### **Involvement of the national statistical office in producing energy statistics for the energy balances and emission inventories**

The Bureau's Department of Services and Energy Statistics generates data on energy statistics in accordance with the requirements of the International Energy Agency, including information on the Fuel and Energy Balance. In addition, the Bureau, within its competence, annually sends statistical data for the formation of a Report on greenhouse gases.

#### **UNFCCC reviewers**

There are plans for some Bureau staff to become UNFCCC reviewers in nearby future.

#### **Climate change-related statistical outputs taking into account the social or socioeconomic dimension**

As part of the annual household survey, information is generated on the satisfaction of the population with the quality of drinking water and air quality. In addition, a survey on household energy consumption is conducted every 5 years.

#### **Geo-referenced and geospatially enabled data**

The Bureau generates and publishes statistical data at the level of the Republic, areas, as well as regions.

#### **Mechanisms for interaction with policymakers and other user representatives**

The Bureau interacts with administrative state bodies to generate high-quality statistical data. Integration of information systems for data comparison, correlation detection and so on is actively carried out.

#### **Improving accessibility of climate change-related data**

All available statistical data are published in open access on the Bureau's website (<https://taldau.stat.gov.kz/>), in addition, users can independently upload information in the required section.

Also, the Bureau on an ongoing basis carries out the formation of [Environmental Indicators for Monitoring and assessment of the environment](#) in accordance with the UNECE methodology and [OECD Green Growth Indicators](#) published on the official website of the Bureau.

## Luxembourg

**Keywords:** Drivers, Emissions, Impacts, Mitigation, Climate finance, Microdata linkage, Climate change-related indicators, Interacting with users

*Submitted by STATEC Luxembourg*

#### **Recent achievements**

The main achievement has been the development of a national list of climate change related indicators. These indicators have been the subject of dedicated publications.

**Key development plans**

Two projects are on going: compiling accounts on goods and services related to climate change and developing statistics on climate finance.

**Areas of climate change-related statistics produced and examples**

STATEC produces climate change-related statistics on Drivers, Emissions, Impacts, Mitigation.

Our first publication in 2019 (in french):

- <https://statistiques.public.lu/fr/publications/series/regards/2019/regards-20-19.html>

The second publication in 2021 (infographic):

- <https://statistiques.public.lu/fr/publications/series/regards/2021/regards-18-21.html>

**Involvement of the national statistical office in producing energy statistics for the energy balances and emission inventories**

In Luxembourg, the NSO is in charge to produce energy statistics and balances. These statistics are shared with Environment agency who is in charge to produce GHG inventories. During compilation of energy balance and GHG inventories, there are many exchanges between these two institutions

**Microdata linkage**

Although at the moment microdata on energy consumption are not available for statistical purposes, a first pilot project could start at the end of 2023.

**Mechanisms for interaction with policymakers and other user representatives**

In Luxembourg, the government instituted a inter-ministerial commission to follow the topic of climate change. Under this commission, a technical task force works on statistics and modelling.

## Mexico

**Keywords:** Drivers, Emissions, Impacts, Mitigation, Adaptation, Energy statistics, Socioeconomic dimension, Geo-referenced data, Interacting with users

*Submitted by INEGI*

**Recent achievements**

INEGI has been working on the compilation of indicators and statistics (international proposals) regarding with climate change, to analyze and identify those that could be adopted in Mexico.

**Key development plans**

The key plan is to establish a list of official indicators and statistics to support the decision makers and disseminate through a public portal.

**Areas of climate change-related statistics produced and examples**

INEGI produces climate change-related statistics on Drivers, Emissions, Impacts, Mitigation, Adaptation, see:

- <http://gaia.inegi.org.mx/sicc/>

#### **Involvement of the national statistical office in producing energy statistics for the energy balances and emission inventories**

INEGI provides the following data for the energy balances:

- Information of the Trade Balance of Merchandise of Mexico related to electric power, mineral coal and coal coke
- Coal Production, Inventories and Sales
- GDP

#### **Climate change-related statistical outputs taking into account the social or socioeconomic dimension**

In Mexico, there are many climate change (and disasters) statistics that is taking into account the social and geographic dimension , which can be found on: <http://gaia.inegi.org.mx/sicc/>

#### **Mechanisms for interaction with policymakers and other user representatives**

The National Information Statistic and Geographic System (SNIEG, acronym in spanish) has a Technical Committee Specialized on Climate Change, Emissions and Waste (CTEICCER) conformed by the ministries responsible of that public policies.

#### **Dedicated government web page with main climate change-related data**

There is a dedicated government web page: <http://gaia.inegi.org.mx/sicc/>

## Netherlands

Keywords: SEEA, Drivers, Emissions, Impacts, Mitigation, Adaptation, UNFCCC reviewers, Energy statistics, Socioeconomic dimension, Perceptions and behaviours, Microdata linkage, Geo-referenced data, Interacting with users, Improving accessibility

*Submitted by Statistics Netherlands*

#### **Recent achievements**

Recent achievements of Statistics Netherlands include:

- A [news release](#) (March 15, 2023) on Dutch greenhouse gas emissions in 2022 and a [news release](#) (June 14, 2023) on Dutch greenhouse gas emissions in first quarter of 2023. Both contain quarterly IPCC and SEEA data (75 days after reference quarter).
- A [news release](#) (December 14, 2022; in Dutch) on the greenhouse gas emission intensity of the Dutch economy, including a [paper](#) (also in Dutch) in which the SEEA emissions are presented in both a production and consumption perspective.
- A [news release](#) (July 11, 2022) on the share of the environmental sector in the Dutch economy, including a strong increase of employment in renewable energy (particularly installation of solar panels).

Another [example of using SEEA data](#) (2023) lies in decomposition analysis, which is useful to gain insight in the underlying drivers of the development of greenhouse gases emitted by national economies, i.e., to quantify effects of economic growth (including shifts), changes in material use (circularity), and changes in energy use/mix.

#### **Key development plans**

A news release (April 19, 2023) on [Cooperation is crucial to understanding Green Deal data.](#)



- Launching annually a Dutch statistical Green Deal Action Plan on developing new statistical information, demand driven and taking into account also Eurostat's European Green Deal Action Plan.
- Developing a Green Deal dashboard which provides a broader storyline covering climate and weather changes; the impact on humans, economy and businesses; emissions and targets; and drivers and actions (mitigation/adaptation).

### **Areas of climate change-related statistics produced and examples**

Statistics Netherlands produces climate change-related statistics on Drivers, Emissions, Impacts, Mitigation, Adaptation.

Some relevant reports:

- [Monitor of Well-being and the Sustainable Development Goals 2023 \(NL\)](#) (annual update in May)
- [Climate and Energy Outlook of the Netherlands 2022](#) (annual update in October)
- [Natural Capital Accounting in the Netherlands \(May 2022\)](#)

### **Involvement of the national statistical office in producing energy statistics for the energy balances and emission inventories**

Statistics Netherlands compiles the energy balances, which is a primary data source for the Dutch emission inventory, in which Statistics Netherlands participates actively.

One minor issue, which happened in the Netherlands almost 10 years ago, was the revision of the time series of the energy balances, whereby the starting year of the new time series (1995) fell after 1990 (IPCC base year). Additional efforts were required for the missing years (1990-1995). In the Netherlands this was solved by providing Statistics Netherlands some extra budget for the extra IPCC work (revision of 1990-1995). Such IPCC work was not originally included in the regular statistical program for energy statistics.

### **UNFCCC reviewers**

There are plans for some Statistics Netherlands staff to become reviewers in nearby future.

### **Climate change-related statistical outputs taking into account the social or socioeconomic dimension**

- [News release](#) (February 6, 2023) on energy poverty.
- [News release](#) (June 9, 2021) on the share of Dutch people who are concerned about the impact of climate change.
- [News release](#) (June 9, 2021) on the share of Dutch drivers who sometimes deliberately leave their car at home.

### **Microdata linkage**

As presented at the [joint UNECE/IEA/Eurostat webinar](#) on administrative microdata for climate change, energy and environment statistics (March 30, 2023): [Use of registers for energy statistics in the Netherlands](#).

### **Geo-referenced and geospatially enabled data**

Statistics Netherlands uses a major sub-national administrative areas, smaller sub-national administrative areas for georeferencing statistical data both for internal use and dissemination. For example, see: Greenhouse gas emissions (Total, CO<sub>2</sub>, N<sub>2</sub>O and CH<sub>4</sub>) by municipality; see [NL-maps](#).

#### **Mechanisms for interaction with policymakers and other user representatives**

Statistics Netherlands actively participates in the Dutch emission inventory and many other related partnerships. Statistics Netherlands has appointed account managers for all relevant stakeholders (e.g., Ministries, agencies, and research institutes), who facilitate the process of providing the requested statistical data and expertise to these stakeholders.

#### **Dedicated climate change-related statistics web page**

Statistics Netherlands maintains a website with [Information on greenhouse gas emissions](#) (in Dutch; annual updates). It contains IPCC and SEEA information on national emission targets, sectoral emissions, emissions by municipality, footprints, emission intensities and emissions from (inter)national transport.

#### **Dedicated government web page with main climate change-related data**

[Core tasks of knowledge and data institutes | Climate change | Government.nl](#)

#### **Improving accessibility of climate change-related data**

[YouTube video on NL greenhouse gas emission 2020](#) and [You tube video on GHG emissions of transport sector 2018](#) (English subtitles available; if you do not see them, click on the cogwheel and choose the option 'Engels'). At the bottom of [CBS - Statistics Netherlands](#) you can click on 'YouTube' to find other videos from Statistics Netherlands, subtitles in English.

Statistics Netherlands also uses Twitter extensively to send tweets with statistical updates (graphs and figures) and to answer questions, asked in (reply) tweets, about our data dissemination.

## Poland

**Keywords:** Emissions, Energy statistics, Air emissions, UNFCCC reviewers, Geo-referenced data, SDGs, Improving accessibility

*Submitted by Statistics Poland*

#### **Recent achievements**

In Poland, the inventory of greenhouse gases and other substances, is made by the National Center for Emissions Management (KOBiZE-IOŚ), operating in frames of the Institute for Environmental Protection – National Research Institute (IEP-NRI).

Role of The National Centre for Emissions Management (KOBiZE) as GHG inventory compiler involves continuous improvement of time series consistency and transparency of GHG emission inventories, increasing accuracy of activity data, emission factors and emissions used for estimates submitted to UNFCCC and EU.

Recently Statistics Poland enlarged area of cooperation with National Centre for Emissions Management (KOBiZE), with collecting additional data prepared exclusively for KOBiZE. The examples are:

- [Preparation of energy balances with details necessary for elaboration Air Emissions Accounts \(AEA\) reported in Eurostat](#)
- Preparation of additional statistical data improving national methodology of distribution of emissions from road transport within Air Emissions Accounts NACE categories;

- Cooperation with preparation of data for distribution of emissions at NUTS2 level which are published by Statistics Poland in the yearbook „Environment“ (Statistics Poland / Topics / Environment. Energy / Environment / Environment 2021).

### Key development plans

Due to the fact that the issue of climate change is complex, concerning mutually influencing aspects: environmental, social and economic, its measurement is still a challenge for statistics, especially in the context of financial aspects.

The key plan for the coming years is:

- Improvement of reporting for non-ETS GHG emissions and f-gases,
- Development of current environmental economic accounts (including air emissions accounts, physical energy flow accounts),
- Development of new environmental accounts planned for inclusion in the legal base (subsidies and similar transfers, forest, ecosystem accounts).

### Areas of climate change-related statistics produced and examples

Statistics Poland produces statistics on Emissions.

Statistics Poland does not directly maintain a database on Climate Change-related statistics. Some indicators are presented in other sources.

GHG emission changes at the national level as the one of the indicators describing Country Development Strategy are published by The National Centre for Emissions Management (KOBiZE) on [their website](#). More information can be found:

- [GHG inventory results](#)
- [Air pollutant inventory results](#)

Some of the Climate Change-related indicators are identical to the global sustainable development indicators for which the Statistics Poland maintains a special database (<https://sdg.gov.pl/en/>)

### Involvement of the national statistical office in producing energy statistics for the energy balances and emission inventories

Statistics Poland works closely with KOBiZE – the unit responsible for preparation of the national emissions of GHG and air pollutants in Poland. Statistics Poland is responsible for providing part of the input data from statistical surveys as well as for the annual publication of result data on greenhouse gas emissions and other pollutants.

### UNFCCC reviewers

There are UNFCCC reviewers among the NSO staff.

### Geo-referenced and geospatially enabled data

Available sub-national climate change-related statistics concern:

- Compiling sub-national GHG emission inventory for 16 voivodships consistent with national level inventory.
- Compiling inventory for environmental accounting project transforming GHG emission data from IPCC to NACE categories (Eurostat NAMEA project).

#### **Dedicated government web page with main climate change-related data**

National Centre for Climate Change - Instytut Ochrony Środowiska (ios.edu.pl) and <https://www.kobize.pl/en/article/national-emission-inventories/id/382/general-overview>

#### **Improving accessibility of climate change-related data**

Statistics Poland publishes data and indicators related to climate change - both in publications and databases. These are data on air pollutant and greenhouse gas emissions, air emissions accounts, meteorological data and indicators of sustainable development.

These data are available, among others in the publication "[Environment](#)" and the [SDG database](#). Data on air emissions accounts are available in the publication "[Economic aspects of environmental protection](#)".

Statistics Poland increased cooperation with National Centre for Emissions Management (KOBiZE). The cooperation consists in preparing data for emission distribution at the NUTS2 level and publishing by the Statistics Poland in the yearbook "Environment".

National Centre for Climate Change created in 2020 as a part of IOŚ-PIB to provide knowledge and solutions in the area of climate policies and support administration and local governments, cooperate with universities, research institutes and research centres in Poland and abroad.

## Serbia

**Keywords:** [SEEA](#), [Climate change-related indicators](#), [Energy statistics](#), [Socioeconomic dimension](#), [Microdata linkage](#)

*Submitted by Statistical Office of the Republic of Serbia*

#### **Recent achievements**

The main achievements of the Statistical Office of the Republic of Serbia regarding climate change-related statistics in the last few years is reflected in the provision of internationally comparable official statistics and their dissemination in area of environmental statistics, European environmental economic accounts as well as energy statistics, in line with EU Regulation.

In 2023 SORS published Physical Energy Flows Accounts (PEFA) from reference year 2016 onwards, Air Emission Accounts (AEA) for air pollutants, is available from 2008-2020, and Environmental taxes (ETEA) is available for the period 2008-2021. All three accounts are part of EU Regulation 691/2011 on European economic environmental accounts. SORS also, regularly publishing Water statistics and indicators and Annual Energy Statistics and Energy balances for which is responsible. For production, climate change-related indicators all mentioned data sources are represent the basis for further work.

#### **Key development plans**

Within the new IPA 2022 framework (The Instrument for Pre-accession Assistance) supported by European Commission, in cooperation with Eurostat, which will start in May 2024, SORS plans do an analysis of the available climate change-related statistics and start calculation of climate change indicators from statistical sources, and their preparation for publishing on the website.

### **Involvement of the national statistical office in producing energy statistics for the energy balances and emission inventories**

Statistical Office of the Republic of Serbia is responsible institutions for producing energy statistics and energy balances in close cooperation with Ministry of Mining and Energy.

Based on the requirements of EU Regulation 1099/2008 and all its amendments, the SORS prepares Annual Energy Balances (Annex B of the mention Regulation) and fills in five Joint Questionnaires (IEA/Eurostat/UNCE). For this purpose, SORS conducts more than twenty energy statistics surveys and used additional statistical data in calculations.

The energy balances and five Annual Joint Questionnaires (Coal; Natural gas; Oil; Electricity & Heat; Renewables and Wastes) are the main sources, which SORS used for the compilation of the Physical Energy Flows Accounts (PEFA).

The energy balances is a main data source for calculation GHG in emission inventories, which is under responsibility of Serbian Environmental Protection Agency (SEPA).

Good energy statistics is of key importance for all users in the country because they are the basis for all other calculations and estimations. SORS annually submits energy statistics data to the Serbian Environmental Protection Agency, and on the other hand, SORS needs data on GHG emissions from the Agency, for further calculations in Air Emissions Accounts.

### **Climate change-related statistical outputs taking into account the social or socioeconomic dimension**

Statistical Office of the Republic of Serbia conducting regular Survey on Income and Living Conditions (EU-SILC). The aim of the survey is to collect comparable data on people at risk of poverty or social exclusion, income distribution and monetary poverty, living conditions and material deprivation. Data are used to obtain structural social indicators at the level of the Republic of Serbia and are internationally comparable.

### **Microdata linkage**

Spatial presentation of environmental data SORS use occasionally in special publications. The methodology of surveys (a sample for the national level), the use of estimation and calculation methods, the lack of human resources and equipment as well as the protection of individual data in line with Law of official statistics, are some of the main reasons for the low use of GIS tools in environmental statistics. Only water statistics data which SORS produced by municipality can be disseminated geo-spatially.

## **Switzerland**

**Keywords:** Climate change-related indicators, SEEA, Drivers, Emissions, Impacts, Mitigation, Energy statistics, Socioeconomic dimension, Interacting with users

*Submitted by Swiss Federal Statistical Office FSO*

### **Recent achievements**

In July 2019, the Swiss Federal Statistical Office FSO published a set of around 20 climate-related indicators on its website. The indicators are available in French and German and can be viewed under <https://www.bfs.admin.ch/bfs/fr/home/statistiques/espace-environnement/indicateurs-lies-au-climat.html>

The aim of this project is to provide a simple and rapid overview of the topic, based on reliable statistical information, and moreover to provide an entry point to access further information and data on the subject. The indicators are divided into three domains, which also determine the storytelling: Human impacts > Observed changes > Reactions from Society

Some of the information found in the climate-related indicators originates from the [environmental accounting](#), which is compiled by the FSO according to Eurostat guidelines.

#### **Key development plans**

At least at three different times during the year, FSO updates the climate related indicators with new data that has become available. Moreover, FSO follows the current developments in this area: for example, if new statistics or indicators emerge, they will be considered for the set.

The environmental accounting is also being further developed and refined. For example, FSO is working on a new methodology for calculating the greenhouse gas footprint using the Inter-Country Input-Output Table of the OECD.

In the context of ecosystem accounting, FSO is conducting a feasibility study investigating the ecosystem service carbon sequestration for all Swiss ecosystems as well as forest ecosystem services of Swiss forests starting this year up to 2024.

A feasibility study as well as a pilot calculation for simplified water accounts as proposed by Eurostat based on SEEA-Water will be carried out in 2023-2024.

#### **Areas of climate change-related statistics produced and examples**

Swiss Federal Statistical Office FSO produces climate change-related statistics on Drivers, Emissions, Impacts, Mitigation. (see under 1 & 2)

#### **Involvement of the national statistical office in producing energy statistics for the energy balances and emission inventories**

FSO is not directly involved in the production of these statistics, but some of the FSO data is used for these purposes.

#### **Climate change-related statistical outputs taking into account the social or socioeconomic dimension**

The survey on "Environmental Quality and Behaviour" within the Swiss population census contains some questions on climate change, which can be disaggregated e.g., by social or socio-economic characteristics. This survey has been conducted every 4 years since 2011, with a new one currently being carried out.

#### **Microdata linkage**

The Federal Register of Buildings and Dwellings (RBD) contains some energy-related attributes.

#### **Geo-referenced and geospatially enabled data**

Some geo-spatially enabled climate change-related data are available and provided by other offices. They are not presented by the Swiss FSO as the aim of our climate-related indicators is to provide a simple and rapid overview of the topic.

**Mechanisms for interaction with policymakers and other user representatives**

The Swiss FSO is in regular exchange with other governmental offices, in particular through the annual SEEA conference, which is attended by the concerned offices (environment, agriculture, energy, economy, planning).

**Dedicated climate change-related statistics web page**

<https://www.bfs.admin.ch/bfs/fr/home/statistiques/espace-environnement/indicateurs-lies-au-climat.html> (webpage only available in French and German)

**Dedicated government web page with main climate change-related data**

- [Swiss Federal Statistical Office FSO](#)
- [Federal Office for the Environment FOEN](#)
- [Federal Office of Meteorology and Climatology MeteoSwiss](#)

## Tajikistan

Keywords: [Climate change-related indicators](#), [Emissions](#), [Energy statistics](#), [Interacting with users](#)

*Submitted by the Agency on Statistics under President of the Republic of Tajikistan<sup>2</sup>*

**Recent achievements**

In the plan of implementation of the Strategy for Development of Statistics until 2030 within the framework of the Project "Modernisation of National Statistics" international experts were involved for the inventory of statistical form of reports on environmental protection and on climate change indicators and the list of all necessary indicators was compiled.

New tables with indicators on climate change have been developed in the statistical compendium on environmental protection.

**Key development plans**

In Tajikistan, the frequency and intensity of extreme weather events and natural disasters have recently been increasing, and new data are needed. More data is also needed for the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030. Collectively, climate change, rainfall, ice cover, drought frequency and sea level changes are already impacting agriculture, health, water availability, human settlements and natural resources, among others. Adaptation and mitigation measures are needed and are now becoming key aspects of national policies.

Thus, on these aspects, the Statistics Agency needs to generate basic statistics to inform stakeholders.

- Integrate the information system of the Statistics Agency with the existing databases of other information holders - state bodies. The proposed additions to the scheme of interaction of information holders and users will contribute to the improvement of databases of information holders, their integration between each other, as well as timely and unhindered access to data of different agencies.

<sup>2</sup> Submitted in Russian, automated translation by the Secretariat



- Simplify the exchange of information between information holders and open access to certain data online. This will significantly reduce requests from interested parties to public authorities.

#### **Mechanisms for interaction with policymakers and other user representatives**

Today, the demand for climate change data exceeds the supply, especially for the environment. Unless decisive measures are taken by the statistical community, this gap will only widen.

In Tajikistan, the following organisations and institutions are involved in the process of recording climate change indicators:

- The Committee on Environmental Protection is responsible for air protection policy, air pollution monitoring and information system, as well as for participation in international projects and programmes on climate and ozone layer of the Earth. The Analytical Control Centre measures pollution from stationary sources. The Department of State Control of Atmospheric Air Protection is responsible for issuing permits for emissions of pollutants into the atmosphere and carrying out relevant inspections.
- The Agency for Hydrometeorology monitors urban air quality and publishes this information daily on its website. It is also responsible for data collection and preparation of the national greenhouse gas inventory, assessing vulnerability to climate change, forecasting and warning of extreme weather events, preparing and disseminating climate-related information, participating in the global information exchange under the auspices of the World Meteorological Organisation and other international projects.
- The Ministry of Energy and Water Resources is responsible for energy policy and regulation, including hydropower, development of new CHP plants and energy efficiency.
- The Ministry of Transport is responsible for the development of road infrastructure and takes into account issues related to air pollution from transport.
- The Ministry of Industry and New Technologies is responsible for the implementation of projects focused on the introduction of energy-saving technologies and "green" products.

The Statistical Agency receives data on climate change from the above mentioned organisations, processes and publishes the data in relevant publications.

At the moment, the available official statistical data on relevant aspects of climate change and sustainable development are insufficient in the Statistics Agency of Tajikistan, therefore it is necessary to generate relevant spatial statistics and indicators in order to obtain quantitative data at the national level.

#### **Dedicated climate change-related statistics web page**

[https://stat.tj/storage/publications/October2019/tphifzi\\_muhiti\\_zist\\_-\\_2019\\_nav.pdf](https://stat.tj/storage/publications/October2019/tphifzi_muhiti_zist_-_2019_nav.pdf)

## United Kingdom

**Keywords:** Dashboard, Drivers, Emissions, Impacts, Mitigation, Adaptation, Climate finance, Socioeconomic dimension, Microdata linkage, Geo-referenced data, Interacting with users, Perceptions and behaviours, Improving accessibility

*Submitted by the Office for National Statistics*

### Recent achievements

In Autumn 2022, ONS launched a refreshed design of our [UK climate change statistics portal](#), with more interactive content ahead of COP27. The development of the portal continues as new datasets and content are identified and included. This is a cross-government project, coordinated by the ONS.

In 2022, the ONS launched a product called Climate Change Insights, which forms part of the Beyond GDP work programme. These are quarterly publications bringing together the latest climate change-related statistics and analysis from a range of sources. Editions are themed and ONS has just completed our first annual cycle, the themes are:

- Families and households
- Natural and rural environments
- Business and transport
- Health and well-being

In August 2023, ONS plans to publish the sixth edition which will return to a focus on families and households. [Click here to access the full series of our publications.](#)

Following a Parliamentary committee's recommendation, the ONS are developing new quarterly estimates of greenhouse gas (GHG) emissions on a residency basis. ONS has improved our initial method of estimating UK residence-based emissions by switching to using multiple predictor indicators, as outlined in a [methodology article](#) published in December 2022. ONS has recently published [experimental estimates](#) using this improved methodology in 2023, covering the period up to Quarter 1 (Jan to Mar) 2023. ONS has engaged with other NSOs and international bodies on this work and and continue to do so.

The Department for Energy Security and Net Zero (DESNZ), established in 2022, also publish GHG emission statistics. Over the past few years, they have expanded their final GHG emissions stats to include an annex with split by Standard Industrial Classification (SIC) code, expanded their local authority GHG emissions stats to include nitrous oxide and methane (not just CO<sub>2</sub>), as well as including estimates for National Parks areas. Myriad improvements to methodology and data underpinning the stats through their Inventory Improvement Programme with contractors Ricardo Energy & Environment, including improvements to the granularity available in the data in some cases.

- <https://www.gov.uk/government/collections/uk-greenhouse-gas-emissions-statistics>
- <https://www.gov.uk/government/collections/uk-territorial-greenhouse-gas-emissions-national-statistics>

In the last year DESNZ published statistics on [International Climate Finance Results](#) disaggregated by gender and other characteristics for the first time, as well as a time series of results.

#### Key development plans

Our priority for the UK Climate Change Statistics Portal is an update and review of existing indicators (adding the indicators outlined in the UK Net Zero Strategy and others) in the underlying statistical framework with an addition of some new datasets to the portal. As part of this on-going work, ONS continues to develop the functionality and capability of the Portal to support interactive and novel content.

ONS will further develop our outputs through feedback and engagement with data providers, users and the public. ONS also intends to produce ad hoc analysis supporting user needs around climate change, e.g. a timely response to current or emerging event, developing a new insight and/or filling an identified data gap.

ONS has now established our experimental quarterly GHG emissions estimates publications, and on the 25th of July 2023, published the estimates for Quarter 1 (Jan to Mar) 2023. These suggested that UK greenhouse gas emissions dropped in the first quarter (year-on-year) for the first time in two years, as the post-pandemic recovery in demand eased and renewable energy contributed more to the energy mix. Emissions on a residence basis, which includes all British residents plus UK-registered businesses whether they are located in the country or overseas, are estimated to be 151 million tonnes of carbon dioxide equivalent in the first three months of 2023, a 1.4% drop from the same period a year earlier.

Also, these releases are integrated with other relevant releases as part of ONS' beyond GDP initiative.

ONS is always looking to increase the granularity of our statistics and datasets where possible.

The DESNZ plans for GHG statistics include developing new sectoral split of how their emissions stats are reported domestically to better match policy and analytical needs (i.e. further breakdowns to those reported annually to UNFCCC). DESNZ continue to improve their production processes and move towards Reproducible Analytical Pipelines (RAP) to improve efficiency and give them greater scope to focus on improvements and produce more relevant analysis.

Regarding [International Climate Finance Results](#) DESNZ plans to start publishing results for new indicators relating to technical assistance.

#### Areas of climate change-related statistics produced and examples

The Office for National Statistics produces climate change-related statistics on Drivers, Emissions, Impacts, Mitigation, Adaptation.

The UK Climate Change Statistics Portal and ONS Climate Change Insights bring together a range of climate-change related statistics, grouped by the above categories.

Some examples:

- Emissions: Information about greenhouse gas emissions including carbon dioxide (CO<sub>2</sub>) and other atmospheric emissions. Here is the link that will take you to our emissions dashboard where you can see a piece about [Greenhouse gas emissions on a territorial \(1990 to 2022, provisional\), residence \(1990 to 2021\) and carbon footprint \(1990 to 2020\) basis, UK \(Mt CO<sub>2</sub>e\)](#) as well as other different indicators, users can download Visualisation and Data.

- Impacts: Information about the impacts of climate change on human and natural systems, e.g. indicators on the [Status of both surface and ground waters in England, 2019 and 2022](#).
- Adaptation: Information relating to actions taken to adapt to the consequences of climate change, including tree planting and efficient use of water.

There is also a variety of indicators related to [woodlands, pollinators, and water leakage](#).

This link outlines statistics produced by The Department for Energy Security and Net Zero (DESNZ): <https://www.gov.uk/government/organisations/department-for-energy-security-and-net-zero/about/statistics>

### **Involvement of the national statistical office in producing energy statistics for the energy balances and emission inventories**

Energy statistics and emission inventories are produced by government statisticians who are part of the Government Statistical Service (GSS), which is in turn part of the [UK Statistical System](#), although not directly employed by the Office for National Statistics (Most energy statistics and emission inventories are produced by the Department for Energy Security and Net Zero (DESNZ).

The UK's Greenhouse Gas Inventory (GHGI) is produced for DESNZ by contractors Ricardo Energy & Environment. The GHGI Team in DESNZ works with them to oversee the contract and associated outputs, as well as identify and fund improvements. Most of DESNZ's GHG emissions statistics are derived from the GHGI, so Ricardo Energy & Environment also play a significant role in producing them, producing data tables and supporting methodology documents for GHGI Team in DESNZ to turn into official statistics releases.

### **Climate change-related statistical outputs taking into account the social or socioeconomic dimension**

ONS runs regular (fortnightly) surveys of both the public (via our Opinions and Lifestyle Survey, [OPN](#)) and businesses (via our Business Insights and Conditions Survey, [BICS](#)). These enable us to capture attitudes and actions, on climate change along with many other topics. ONS has included outcomes of climate change related questions on perceptions of climate change in both editions of Insights so far. Relevant questions from both surveys are also reported in other ONS publications, e.g. a recent survey asking about climate change and the recent heatwave [Public opinions and social trends, Great Britain - Office for National Statistics](#)).

The Department for Energy Security and Net Zero (DESNZ) publishes [Fuel Poverty statistics](#). [International Climate Finance Results](#) summarise the impacts our climate finance is having on people in developing countries, including people supported to cope with the effects of climate change and people provided with improved access to clean energy. These statistics are broken down by gender and other characteristics.

The [domestic National Energy Efficiency Data-Framework \(NEED\)](#) provides gas and electricity consumption estimates for different property and household characteristics (household income, adult occupancy). It also assesses the impact of installation an energy efficiency measure on energy consumption, these savings by measure are published by different property attributes and household characteristics).

#### Microdata linkage

The [domestic National Energy Efficiency Data-Framework \(NEED\)](#) is a framework in which property level data from existing sources (administrative and commercial) are used to provide insights into energy use and the impact of energy efficiency measures on gas and electricity consumption in residential properties. The different data sources which form domestic NEED are linked together using the [Unique Property Reference Number](#). As part of NEED, the Department for Energy Security and Net Zero (DESNZ) publish a summary report, summary tables and an anonymised extract of property level data.

Domestic NEED includes data on:

- Annual electricity and gas consumption
- Characteristics of the property (for example floor area, property age, property type)
- Characteristics of the household (for example household income, number of adults)
- Installations of energy efficiency measures (for example cavity wall insulation, loft insulation)
- Energy performance certificates (for example current energy rating)
- Information about the area in which the property is located (for example local authority)

The [non-domestic National Energy Efficiency Data-Framework \(ND-NEED\)](#) is formed by linking together three main data sources using the [Unique Property Reference Number](#). The ND-NEED sample is created by matching the ND-NEED building stock with corresponding meters from the electricity and gas meter point data that the DESNZ obtain from data suppliers. This sample is then subsequently matched to business characteristics data which provides information on the size of the business occupying a building. ND-NEED provides information on the non-domestic building stock by building use, building size, year of construction. It also provides data on energy consumption and energy intensity by building use and building size.

GHGI Stats: Some of the methodology underpinning DESNZ's local authority emissions stats incorporates microdata linkage, e.g. matching of employment data from individual businesses to LAs as part of the employment based estimates used for some emissions allocations.

#### Geo-referenced and geospatially enabled data

ONS uses various levels of georeferencing both for internal use and dissemination, including:

- Major sub-national administrative areas
- Smaller sub-national administrative areas
- Statistically defined geographic areas
- Other areas smaller than municipality
- Buildings/dwellings and/or cadastral parcels
- Post codes and grids (for dissemination)

Devolved competencies across the four nations (England, Scotland, Wales, Northern Ireland) mean that these administrations will often make data available for the territory within their own jurisdictions. Publications such as the Climate Change Insights bring these data together and include data from our Opinions and Lifestyle Survey (OPN), typically broken down to NUTS1 level.

Achieving more granular breakdowns is challenging with survey data in particular because of the limitations caused by sample sizes. However, ONS does publish the following breakdowns:

- <https://www.gov.uk/government/collections/sub-national-electricity-consumption-data>
- <https://www.gov.uk/government/collections/sub-national-gas-consumption-data>
- <https://www.gov.uk/government/collections/road-transport-consumption-at-regional-and-local-level>
- <https://www.gov.uk/government/collections/sub-national-consumption-of-other-fuels>
- <https://www.gov.uk/government/collections/total-final-energy-consumption-at-sub-national-level>
- <https://www.gov.uk/government/collections/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics>
- <https://naei.beis.gov.uk/emissionsapp/>
- <https://naei.beis.gov.uk/data/map-large-source>
- [https://naei.beis.gov.uk/data/map-uk-das?pollutant\\_id=2&emiss\\_maps\\_submit=naei-20230512155407](https://naei.beis.gov.uk/data/map-uk-das?pollutant_id=2&emiss_maps_submit=naei-20230512155407)

### **Mechanisms for interaction with policymakers and other user representatives**

The UK's Inventory System is overseen by a government-wide governance board (the National Inventory Steering Committee) made up of key data users, data providers, policy makers and other key stakeholders. This board helps direct and scrutinise changes to the Inventory system to ensure it remains sensitive to policy measures and accurate across all key sectors – this also helps build and maintain trust in the Inventory estimates.

The statistics teams that produce the UK's energy use and territorial greenhouse gas emissions estimates are based in the Department for Energy Security and Net Zero (DESNZ), alongside the teams with policy responsibility for reducing the UK's greenhouse gas emissions. The ONS publishes statistics on a residential basis.

The ONS engages with policy colleagues and other stakeholders through:

- **Policy Liaison Unit:** This team within ONS operates as the link to central government policy areas, seeking to maximise the opportunities for ONS data and analysis. The Unit operates flexibly across policy areas and organisations to understand the needs of policymakers and ensure that decisions are informed by the latest and most relevant evidence and analysis.
- **Events:** ONS organises seminars for certain publications, such as our Natural Capital Accounts, to disseminate findings and engage directly with users. In July, a major event was organized for the relaunched Measuring National Well-being dashboard, as part of the ONS engagement around our ongoing "Beyond GDP" work.
- **Advisory boards and steering groups**
- **Strong interdepartmental relationships**
- **Public consultations**
- **Government Departments:** ONS engages strongly with government departments on our outputs with user groups.

#### **Dedicated climate change-related statistics web page**

The UK's climate change statistics portal is hosted separately to the ONS' website because it spans multiple organisations and brings together statistics from across the UK. See link: [UK climate change statistics Portal](#)

Within the ONS, environmental statistics, including the UK's Environmental Accounts and Natural Capital Accounts, as well as our Climate Change Insights releases, can be accessed via the following link: <https://www.ons.gov.uk/economy/environmentalaccounts>

Beyond the ONS:

- <https://www.gov.uk/government/organisations/department-for-energy-security-and-net-zero/about/statistics>
- <https://www.gov.uk/government/collections/uk-greenhouse-gas-emissions-statistics>
- <https://www.gov.uk/government/collections/uk-territorial-greenhouse-gas-emissions-national-statistics>

#### **Improving accessibility of climate change-related data**

May 2023 saw ONS publish its latest insights from our Measures of National Well-being dashboard. This forms part of the ONS's plans to move beyond traditional economic metrics to measure the impact of growth on people and the natural environment. ONS published a range of statistics looking at how UK is doing as an economy, society and environmentally. The dashboard includes greenhouse gas emissions.

Findings will be discussed by a range of experts in a series of seminars in September and October, organised in partnership with the Royal Statistical Society and others on measuring progress 'beyond GDP'.

On the 11th of August 2023, ONS will publish the sixth edition of Insights with the focus returning to families and households: [Click here access the full series of our publications.](#)

ONS is always considering how to add to the Portal to address the range of user needs and inform policymakers and the public, e.g. explainer articles focusing on particular issues.



# KEYWORD INDEX

## **Adaptation**

Armenia  
Belarus  
Canada  
Ecuador  
Mexico  
Netherlands  
United Kingdom

## **Climate change-related indicators**

Ecuador  
Kazakhstan  
Luxembourg  
Serbia  
Switzerland  
Tajikistan

## **Climate finance**

Luxembourg  
United Kingdom

## **Coordination**

Costa Rica

## **Dashboard**

United Kingdom

## **Drivers**

Armenia  
Belarus  
Bulgaria  
Canada  
Ecuador  
Ireland  
Kazakhstan  
Luxembourg  
Mexico  
Netherlands  
Switzerland  
United Kingdom

## **Emissions**

Armenia  
Azerbaijan  
Belarus  
Bulgaria  
Canada  
Ecuador  
Ireland  
Kazakhstan  
Luxembourg  
Mexico  
Netherlands  
Poland

## **Emissions (continued)**

Switzerland  
Tajikistan  
United Kingdom

## **Emission inventories**

Bosnia and Herzegovina  
Poland

## **Energy statistics**

Armenia  
Azerbaijan  
Belarus  
Bosnia and Herzegovina  
Bulgaria  
Ecuador  
Ireland  
Kazakhstan  
Mexico  
Netherlands  
Poland  
Serbia  
Switzerland  
Tajikistan

## **Environmental indicators**

Kazakhstan

## **Geo-referenced data**

Armenia  
Azerbaijan  
Bulgaria  
Ecuador  
Ireland  
Kazakhstan  
Mexico  
Netherlands  
Poland  
United Kingdom

## **Global Set**

Armenia  
Kazakhstan

## **Impacts**

Armenia  
Belarus  
Canada  
Ecuador  
Kazakhstan  
Luxembourg  
Mexico  
Netherlands  
Switzerland

### **Impacts (continued)**

United Kingdom

### **Improving accessibility**

Azerbaijan

Belarus

Bosnia and Herzegovina

Canada

Costa Rica

Ecuador

Ireland

Kazakhstan

Netherlands

Poland

United Kingdom

### **Interacting with users**

Azerbaijan

Belarus

Bosnia and Herzegovina

Bulgaria

Ecuador

Ireland

Kazakhstan

Luxembourg

Mexico

Netherlands

Switzerland

Tajikistan

United Kingdom

### **Microdata linkage**

Bosnia and Herzegovina

Ireland

Luxembourg

Netherlands

Serbia

United Kingdom

### **Mitigation**

Armenia

Belarus

Canada

Ireland

Luxembourg

Mexico

Netherlands

Switzerland

United Kingdom

### **National Adaptation Plan**

Bosnia and Herzegovina

### **Perceptions and behaviours**

Netherlands

United Kingdom

### **SDGs**

Belarus

Bosnia and Herzegovina

### **Poland SEEA**

Azerbaijan

Netherlands

Serbia

Switzerland

### **Socioeconomic dimension**

Armenia

Bosnia and Herzegovina

Canada

Costa Rica

Ecuador

Ireland

Mexico

Netherlands

Serbia

Switzerland

United Kingdom

### **UNFCCC reviewers**

Kazakhstan

Netherlands

Poland

The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

