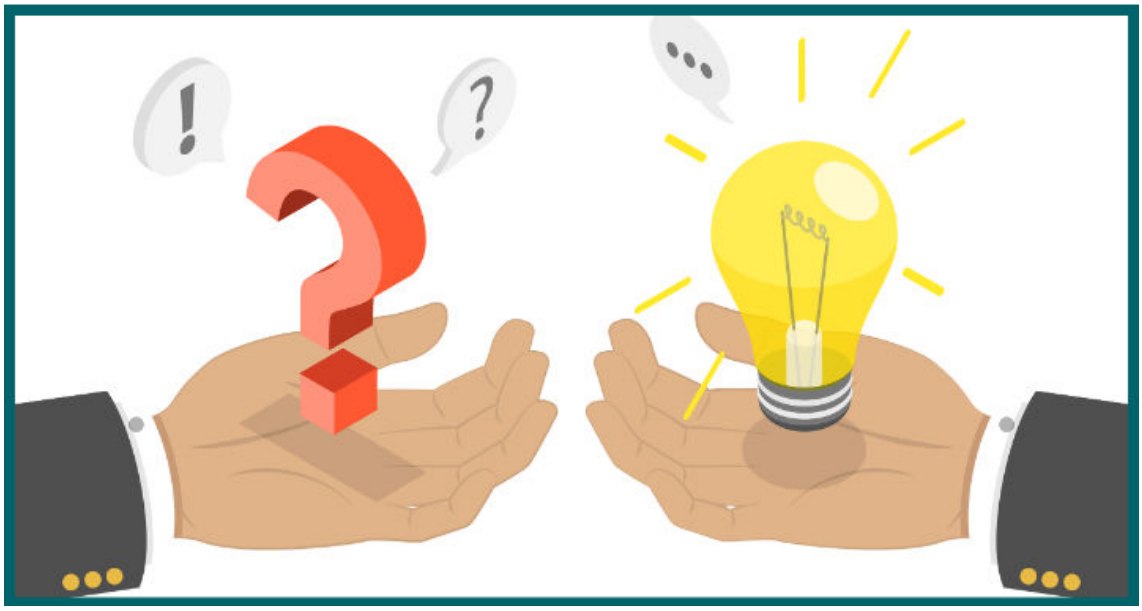
TRANSPARENCY AND ACCESS TO DATA ON CLIMATE ACTION



A first assessment to analyse transparency and access to national data for improving climate public awareness and monitoring climate policies (NECPs) implementation

Together for 1.5

ACCELERATE CLIMATE ACTION IN EUROPE

February 2024

Briefing Overview

Introduction

Under the Paris Agreement the EU must, on behalf of all EU countries, every five years submit a new Nationally Determined Contribution (NDC), its official climate plan under the Paris Agreement, that reflects the EU's highest possible ambition. This requires that Member States increase their ambition every five years. So to comply with Paris and to implement EU climate and energy targets, the EU Governance Regulation introduced the National Energy and Climate Plans (NECPs), which require Member States in similar five-year cycles to present new or updated plans. The first (now "old") NECPs were submitted in 2019 and drafts of the *updated* NECPs were ready in June 2023. Member States must have the final version of their first updated NECPs ready by June 2024. Similar to the Paris Agreement, the NECPs must have no backsliding to ensure that Member States increase ambition, thus allowing the EU as a whole to be increasing ambition.

To assess whether the draft updated NECPs actually represent increased ambition data is needed. In addition, both in regard to draft NECPs and the availability of the national data used in the tracker, the Aarhus Convention requires all EU Member States to make environmental information publicly available. Aarhus is not only about data availability, but also about early availability, so that input from the public can be effective (Art.8: *Each Party shall strive to promote effective public participation at an appropriate stage, and while options are still open,…*).

Despite this legal requirement, access to quality and open data is not granted in all Member States. During the development of the NECP Tracker tool under the LIFE Unify project and later during the update of the Tracker in the LIFE Together for 1.5 project, some project partners experienced troubles related to national data gathering, lack of clear data, impossibility to access relevant data, or incoherence of units of measurements, making it difficult - at times impossible - to retrieve and assess data or make valid national comparisons.

This report presents information about the experience and obstacles encountered when gathering climate and energy data relevant to assess the NECPs. We have analysed data from 12 countries: Belgium, Bulgaria, Croatia, Denmark, Estonia, France, Germany, Hungary, Poland, Portugal, Slovenia and Spain. Our briefing will also be shared with the relevant national institutions responsible for gathering and disseminating climate and energy data in order to propose improvement actions in areas where obstacles or problems have been identified.

Purpose of the report

Transparency and public access to data is key to follow the implementation of climate and energy policies and check the evolution of the set targets. Project partners have carried out this first analysis of the needs, quality, availability and accessibility of key data, as well as the methodology used to collect data in each country, taking into account the following:

- Greater **data availability** is at the core of more transparent, measurable and credible public policies. Open data sources allow stronger and more objective interaction with stakeholders for data release and publication of relevant datasets. A central/federal open government data portal enables users to find data easily, and creates a channel for the open data community to engage with the government.
- **Periodicity** refers to the frequency of compilation and related dissemination of the data. It is important to maintain government data periodically updated according to the target' s timeline. Periodicity of policy data allows monitoring progress on policies implementation, where countries stand on commitments and what areas still need addressing.
- **Data quality** refers to the usefulness of a specific dataset towards a certain goal. It assesses the extent to which a dataset meets established standards based on factors such as accuracy, completeness, consistency, reliability and timeliness. Governments can create frameworks with standards on data formats and publication procedures for greater data quality.
- **Accessibility** of government data by citizens, businesses, and other stakeholders is contingent upon the provision of data in formats and procedures that allow the data to be used by anyone, and for all possible purposes. Core features of accessible data include providing them free of charge, with unrestricted access, and in easy-readable formats.

To do this, each one has completed a comprehensive questionnaire, with the main objective of identifying barriers and needs for improvement in terms of transparency and access to data. The goal is to share the results obtained from the responses to the questionnaire so that decision makers can take corrective measures and thus improve national climate action through the implementation of the NECP.

Thus, the analysis has been focused on identifying the most important and pressing problems in terms of basic information needed to encourage, track and communicate progress with national climate action. Especially when diving into the national government websites, where the quantity, quality and nature of information on climate action varies greatly but is overall missing or poorly communicated. Where these information requirements are not met, the underlying difficulties will be analysed, and solutions proposed for consideration by the relevant authorities.

Although this report is centred on transparency at the national level, the EU institutions and especially the European Commission (EC) are also urged to ease public access to the information it receives from Member States. In particular, the EC should ensure that Article 28 of the Governance Regulation is correctly implemented and that the public has an easy and timely access to environmental information (e.g. NECPs progress reports).

The upcoming - possible - revision of the Governance Regulation presents a unique opportunity to improve data availability, consistency and transparency. Our report offers valuable insight and basis for recommendations for strengthening the Governance Regulation in this regard.

Major findings of the analysis: state of play and identified problems

In a nutshell

The good

- ★ Most countries have historical data series from 1990 for all main climate and energy indicators.
- ★ The majority of countries use the normal templates from UNFCCC/EEA and EUROSTAT when compiling their GHG emissions and energy data.
- ★ Most of the countries use units of measurement based on EU standards to facilitate comparison of the same data between European countries.
- ★ Only two countries do not have any official public website(s) where they can easily find and download all above-mentioned data.
- ★ All countries count on at least an officially assigned institution in charge of the GHG emissions compilation, and all but Poland count on at least one officially assigned institution in charge of the energy indicators compilation.

The moderate

- ★ Most countries have a 2-year delay for updating their national datasets, but some have managed to publish and make available datasets within one year or even earlier.
- ★ All but Poland provide national data for ETS and ESR sectors separately, although ETS sectors specifically can be hard to find on the government website (in Estonia) and sub-sectors data are not clear enough on how much of the emissions are within and outside the ETS sectors (in Denmark).
- ★ All countries offer national data for renewable energy and other sources separately. However, some problems have been underlined within the 'other renewables' category (in Spain) and within the 'biomass' category (in Denmark).
- ★ Only a third of the countries report energy data at operational level, although there is no clear answer when it comes to comparing national and operational levels.
- ★ The majority of countries do not count on an institutional focal point on climate issues and half of them do not count on an institutional focal point on energy issues to answer and solve any information and/or public consultation.

The bad

- ★ The countries who report subnational data show the existence of differences between national and subnational levels when it comes to data collection.
- ★ The disaggregation/dispersion of data between several institutions/different websites and the non-existence of a single website acting as a 'one stop shop' with all climate and energy data in an easy downloadable format, are two main obstacles pointed out on the public accessibility of data. Some indicators are still provided in unmanageable pdf format (in Bulgaria, Denmark, Germany and Poland).
- ★ The late or insufficient response of some institutional contacts, the lack of talking or exchange between official directorates and the difficulties to find some of the information on the official websites and compare data from different sources, are among the obstacles identified on the role of responsible institution(s).
- ★ The difficulty to know where to find data and who to consult information when several public bodies deal in parallel with the same issues, and the weak communication of institutional focal points with only the minimum required for information sharing and public consultation, are among the main problems identified on the role of institutional focal point(s).

More in depth analysis

On the availability of historical series of data on climate and energy (high rated score):

- Most of the analysed countries have historical data series for global GHG emissions, energy consumption and renewable energy indicators from 1990.
- All countries present national data for both gross and net GHG emissions, for both final and primary energy consumption and for share of renewables both in the electricity mix and in the final energy consumption.
- On data matching, responses show that mainly national data correspond to European official data, while when figures and percentages don't match exactly between sources (like in Spain), it is likely due to the existing 'time lag' between national and European updates.

On the availability of disaggregated data on climate and energy (high rated score):

- All analysed countries (but Poland) provide historical data for all sectors of the economy and also for ETS and ESR sectors separately. Moreover, the majority of the analysed countries offer national data for sub-sectors detailed enough (at least for general calculations, like in Portugal).
- All analysed countries (but Bulgaria) provide energy consumption data for all energy sources separately and all (but Portugal) provide installed power data for all renewable sources separately.
- All countries offer national data for renewable energy and other sources separately. In Hungary, yearly (even quarterly for solar) reports on the power generation system and the heat producers are prepared separately. However, some problems have been underlined within the 'other renewables' category (in Spain) and within the 'biomass' category (in Denmark).

On the periodicity for updating data on climate and energy (medium rated score):

- Data updates are mostly made available in the first half of the year, being April the month of reference. Also, most of the analysed countries indicate a two-year delay for updating their national GHG emissions datasets, while some countries have managed to publish and make available their datasets within one year (Belgium and Germany) or even less than a year (France).
- Very varied dates to publish the official data on energy indicators, although mostly these updates are made in the first quarter of the year. Also, around half of the analysed countries indicate a two-year delay for updating their national energy indicators datasets, while the other half are able to update their data earlier either within one year or within even less than a year.
- Belgium, Germany and France are the best examples, since data from 2022 are available already in 2023. For Denmark, for most datasets, one year delay should be possible. For Poland, the process could be done earlier since most of the statistical data to use for calculations are ready one year later. For Hungary, a reduced 'time lag' would mean the usage of premature proxy data which could be misleading.

On the monitoring systems of data on climate and energy (high rated score):

- All analysed countries use the normal template from UNFCCC/EEA reporting when compiling GHG emissions, with the exception of Spain.
- None of the countries has identified any problems in the collection of emissions data, except Bulgaria and Germany, that have underlined the need to avoid underreporting emissions data, in the first case, and avoid discrepancy between how to calculate sectoral goals nationally and at EU level, in the second case.
- Most of the analysed countries use the normal template from EUROSTAT reporting when compiling energy data, with the exception of France, Germany, Hungary and Poland.
- Almost none of the countries have noticed any problems in the collection of energy data, except Belgium, Bulgaria and Spain, that have underlined the lack of clarity when it comes to regional and national data, in the first case, the provision of the more detailed energy information from

Energy and Technical Audits, in the second case, and the difficulties to understand and interpret the Excel sheet format' s figures employed by the lead Ministry to inform the energy balance, in the third case.

On the scale/level of detail of data on climate and energy (medium rated score):

- Most analysed countries do not report GHG emissions at subnational level, with the exception of Belgium, Croatia, Germany and Spain.
- Between the involved countries, all responses show the existence of differences between national and subnational levels when it comes to data collection, such as: differences in the baseline year and in the regularity of updates; little crosslinking between datasets; subnational data roughly disaggregate from national level in a top-down approach.
- Several counties, cities and other local authorities have developed and adopted local climate strategies or SECAPs in recent years as signatories of the CoM using its methodology for GHG calculations. However, these local GHG inventories are based on a simple, energy-consumption based methodology and followed a one-off exercise with no clear revision cycle for these strategies.
- Only a third of the analysed countries report energy data at operational level, although there is no clear answer when it comes to comparing national and operational levels. Only Spain has identified that having different sources for the same indicators makes the collection of appropriate data difficult.
- For Spain, the lead Ministry should oversee the compilation of all different data in a common template with all the relevant indicators needed to have standardised and comparable energy data. Another extended suggestion is to make operational data publicly available.

On the consistency of data on climate and energy (medium rated score):

- None analysed countries have identified problems on the units of measurement to report climate and energy data. In some cases conversions are needed. Otherwise, data are provided with the methodology used on the international or EU level, which is not perfect but quite robust.
- Most of the countries use units of measurement based on EU standards to facilitate comparison of the same data between European countries.
- Half of the countries have no clear answer about consistency between data, most probably because it is hard to compare when there are different sources. In some countries, the main issues are differences in scope. Only Bulgaria and Spain have some inconsistency problems between climate and energy data from different sources.

On the public accessibility of data on climate and energy (medium rated score):

- Only two of the analysed countries (Croatia and Hungary) do not have any official public website(s) where they can easily find and download all above-mentioned data. In Hungary, where various websites contain data dating back to various years, there should be one website for all main climate and energy data which is updated regularly. Also, in Croatia, there is a need for one comprehensive public database/tool where all relevant energy, climate and GHG emission data would be available.
- Some obstacles pointed out to ensure an interactive and clear website are: the disaggregation of data hinders the finding of specific data, like raw figures, as well as the checking and comparison of regional and national data over time; detailed annual sectoral datasets showing outcomes and policy across policy levels is not easy to compile; the non existence of downloadable formats on national/federal websites; the dispersion of data between several institutions and different websites makes it difficult to find and understand (and even sometimes can be bought or obtained through public questions, like in Poland); the non existence of a single website acting as a 'one stop shop' that easily provides the various information needed.

On the role of responsible institution(s) in the accessibility of data on climate and energy (medium rated score):

- All analysed countries count on at least an officially assigned institution in charge of the GHG emissions compilation: half of them with more than one official and easily reachable institution, while only in two, institutions in charge are not easily reachable (Bulgaria and Slovenia).
- Some obstacles pointed out to make official institutions for GHG emissions compilation easily reachable are: the contacts are public and easily reachable, however, their response is often late or insufficient; non downloadable formats; official directorates are not talking to each other (much) for comparing emissions data received.
- All analysed countries but Poland count on at least one officially assigned institution in charge of the energy indicators compilation: five of them with more than one official and easily reachable institution, while in other three, institutions in charge are not easily reachable (for Bulgaria, it's one institution, Hungary and Spain).
- Some obstacles pointed out to make official institutions for energy indicators compilation easily reachable are: the contacts are public and easily reachable, however, getting information or data is often hard and prolonged; some of the information is available but still hard to find on the official websites and responsible institutions are not really responsive; the energy balance excel is difficult to interpret and many energy data must be found elsewhere; obtained data are heterogeneous and not comparable by sources; not all historical data are available on the institutional website.

On the role of institutional focal point(s) for public information and consultation of data on climate and energy (medium rated score):

- The majority of the analysed countries do not count on an institutional focal point on climate issues in charge of answering and solving any information and/or public consultation. Between the countries that have more than one institutional focal point for information and/or public consultation on climate issues, these are in general not easily reachable.
- Some problems or weaknesses identified are: institutions are often not informed about data that go beyond their own competence level; getting a valid official response from the institutions usually takes time; providing minimal consultation on climate issues; changing a lot the institutional focal point structure.
- Half of the analysed countries do not count on an institutional focal point on energy issues in charge of answering and solving any information and/or public consultation. Between the countries that have more than one institutional focal point for information and/or public consultation on energy issues, these are not always easily reachable.
- Some problems or weakness identified are: institutions are often not informed about data that go beyond their own competence level; lack of responsibility or good communication from institutional focal point; getting a valid official response from the institutions usually takes time; just doing the required minimum for information sharing and public consultation; sending the questions to other institutions to be answered or providing no answer at all when consulted; providing some of the data only for a significant sum of money; increasing involvement of the the lead Ministry could result in political interference with the credibility/objectivity of the energy datasets; more tedious and complicate to know where to find data and who to consult information when several public bodies in parallel are dealing with energy issues.

Main recommendations for national governments: good practices and suggested improvements

➔ **Suggestions on how to reduce the 'time lag' for updating data**: publishing a first set of approximate data to be later methodologically verified and confirmed; informing a first advance of the updated data some months before the official publication; developing and making public a comprehensive online energy management tool for all sectors; making publicly available the database and preliminary

data; automatically publishing initial results before official release; encouraging transparency and public access to data in a format easily understandable to all.

- ➔ **Suggestions to improve the collection of national data**: the need for better procedures, intra- and inter-institutional communication and control; collection of data down-top from local authorities; publicly collection of the more detailed energy information for science/evidence-based policy making; a cross-linking between regional and national data; periodic reviews and quality control on estimates and methodologies by responsible bodies; the simultaneous preparation of a clear and detailed interpretative report accompanying the Excel sheet format; providing data sources for the underlying factors.

- ➔ **Suggestions to improve the matching of national and subnational levels**: fixing the same baseline year for all levels of data collection; regularly updating subnational data as at the national level; ensuring a crosslinking between datasets; facilitating a common template with all the relevant indicators released by the lead Ministry to help gathering standardised and comparable (same year of reference) GHG emissions data at subnational level; strengthening the legal power and capacity of regions or counties.

- ➔ **Suggestions to avoid inconsistencies between data from different sources**: more control levels by more than one institution on the ETS Scheme; a common and standardised format facilitated by the lead Ministry to compile most relevant data; independent assessment of energy data.

- ➔ **Good practices or suggested improvements on the public accessibility of data**: an official position on climate, responsible that coordinates, collects and displays information in a user-friendly way; data availability as easy-to-use excel spreadsheets; a gathering authority that accommodates in answering questions on specific datasets and helps to find unfound data; a homepage where the data are found that contains the contact details of the civil servant who is in charge of the specific dataset; a single, unified and easily manageable data viewer/dataset with all of the regional and federal data combined, including energy as well as climate and policy as well as output; an official website tool that aims at integrating interactive tools that will enable better comparison.

- ➔ **Good practices or suggested improvements on the role of responsible institution(s)**: better communication to stakeholders on which institutions have which responsibilities; better quality control procedures are needed, together with more time for the institutions to check the reports they receive; collection of the same official data in different institutional websites; easy accessibility to related reports; a clear, complete and useful website for GHG emissions inventories; a more standardised and understandable energy data compilation at least once a year; the combination of the responsibilities of relevant and interlinked institutions.

- ➔ **Good practices and suggested improvements on the role of institutional focal point(s)**: a deputy prime-minister on climate issues with coordinating role for the national climate policy acting as ‘one stop shop’ on climate; better communication between official institutions in charge needed in a multidisciplinary issue; creating an institution focal point where no specific one has been assigned; a more open, ‘user-friendly’ approach with more human capacity and willingness; better understanding of the exact role and responsibilities of state institutions for the general public and stakeholders; having responsible authorities extremely approachable that competently answer any question; data available as excel sheets; inviting stakeholders to comment and review the new annual datasets both before and after they are made public.

ANNEX 1. The Questionnaire.

Availability of data

Historical series
1. Since when does your country have a historical data series for global GHG emissions? Do you have data for both gross and net GHG emissions? 2. Since when does your country have a historical data series for energy consumption indicators? Do you have data for both final and primary energy consumption? 3. Since when does your country have a historical data series for renewable energy indicators? Do you have data for both share of renewables in the electricity mix and in the final energy consumption? 4. Do national data on historical emissions correspond to data provided by the EEA (GHG emissions) and Eurostat (energy)? Which are the differences? 5. Rate from 0 to 5 the availability of historical climate and energy data in your country, where 0 is very low and 5 is very high.

Data subcategories
6. Does your country have historical GHG emissions data for all sectors? Which ones are missing? 7. Could you find data for ETS and ESR sectors separately? 8. Are the subsectors detailed enough? e.g. transport sector divided into road, railway, maritime and air transport. Which ones are missing? 9. Does your country have energy consumption data for all energy sources separately? Which ones are missing? 10. Does your country have installed power data for all renewable sources separately? Which ones are missing?

11. Are the energy sources detailed enough for renewables? Could you find data for true renewable energy and biomass and fossil fuel sources separately? e.g. if all RE is grouped together it makes it easy to hide the bad stuff (biofuels and biomass) inside the good stuff (wind and solar).

12. Rate from 0 to 5 the availability of disaggregated climate and energy data in your country, where 0 is very low and 5 is very high.

Periodicity of data

Data update
13. On national GHG emissions periodically update, when does your national government publish the official data? When updated data are available? 14. Data is updated every year, but EEA GHG data viewer has a two-year delay (data from 2020 is available in 2022), does your country have more recently updated datasets? (e.g. some national datasets have only a 4-month delay, if data from 2021 is available in April 2022). 15. How can this 'time lag' be reduced to obtain data more timely to better inform and make advocacy? 16. On national energy indicators periodically update, when does your national government publish the official data? When updated data are available? 17. Data is updated every year, but EUROSTAT Energy Balance Sheets has a two-year delay (data from 2020 is available in 2022), does your country have more recently updated datasets? 18. How can this 'time lag' be reduced to obtain data more timely to better inform and make advocacy? 19. Rate from 0 to 5 the periodicity for the updating climate and energy data in your country, where 0 is very low and 5 is very high.

Quality of data

Monitoring systems
20. Is your country using a special national system rather than/other than the normal template from UNFCCC/EEA reporting when compiling GHG emissions? Could you describe it? 21. Have you noticed any problems in how your country collects emissions data? Any suggestions on how to fix them? 22. Is your country using a special national system rather than/other than the normal template from EUROSTAT reporting when compiling energy data? Could you describe it? 23. Have you noticed any problems in how your country collects energy data? Any suggestions on how to fix them? 24. Rate from 0 to 5 the quality of monitoring systems in your country, where 0 is very low and 5 is very high.

Data scale/level of detail
25. Does your country report GHG emissions at subnational level (regional and local)? 26. Have you noticed any differences when matching national and subnational levels? e.g. the use of different years of reference. Any suggestions on how to fix them? 27. Does your country report energy data at operational level (RED companies, electricity suppliers, TSO) 28. Have you noticed any differences when matching national and subnational levels? e.g. the report of different figures for self-consumption. Any suggestions on how to fix them? 29. Rate from 0 to 5 the scale/level of detail of data reported in your country, where 0 is very low and 5 is very high.

Data consistency
30. Any problems regarding what units of measurement your country uses to report climate and energy data? Any suggestions on how to fix them? 31. Are they based on EU standards to facilitate comparison with the same data from any other European country? 32. Is there consistency between climate and energy data from different sources (official government, companies, other sources)? (meaning they are compatible and comparable). Any suggestions on how to fix this? 33. Rate from 0 to 5 the consistency of climate and energy data in your country, where 0 is very low and 5 is very high.

Accessibility of data

Official public website/s
34. In your country, are there any official public websites where you can easily find and download all above-mentioned data? How can it be improved to ensure an interactive and clear website where data is easily found and can be downloaded in relevant format (excel)? 35. Rate from 0 to 5 the public accessibility of climate and energy data in your country, where 0 is very bad and 5 is very good.

Responsible institution/s
36. Is there an officially assigned institution in charge for the GHG emissions compilation? If there are more than one, are they clearly identified?

37. Is there an officially assigned institution in charge for the energy indicators compilation? If there are more than one, are they clearly identified?

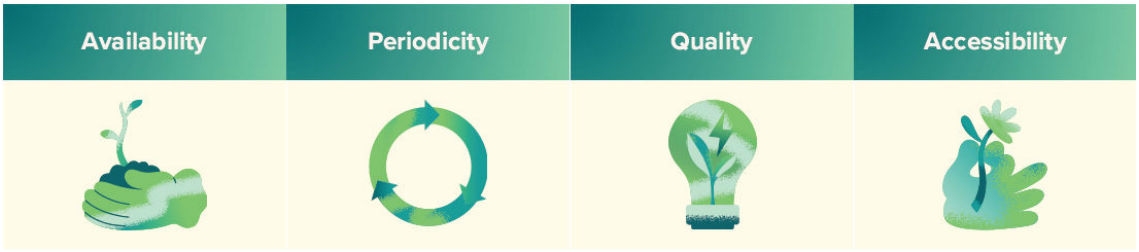
38. Rate from 0 to 5 the role of responsible institution(s) to ensure proper and public access to climate and energy data in your country, where 0 is very bad and 5 is very good.

Institutional focal point/s
39. Has your country established an institutional focal point to answer and solve any information and/or public consultation on climate issues? How can it be improved? 40. Has your country established an institutional focal point to answer and solve any information and/or public consultation on energy issues? If there are more than one, are they easily reachable? How can it be improved? 41. Rate from 0 to 5 the role of institutional focal point(s) to facilitate public information and consultation on climate and energy issues in your country, where 0 is very bad and 5 is very good.

Additional information

(Voluntary)
42. Does your country provide other additional information relevant for the climate action and energy transition not mentioned in this questionnaire? 43. Does your country provide sufficiently detailed information on the budget devoted to climate action and energy transition? 44. Does your country prepare at least an annual stocktake report on the state of implementation for NECP policies and measures? 45. Do you miss any other relevant information that could be useful for your country? other countries? at EU level?

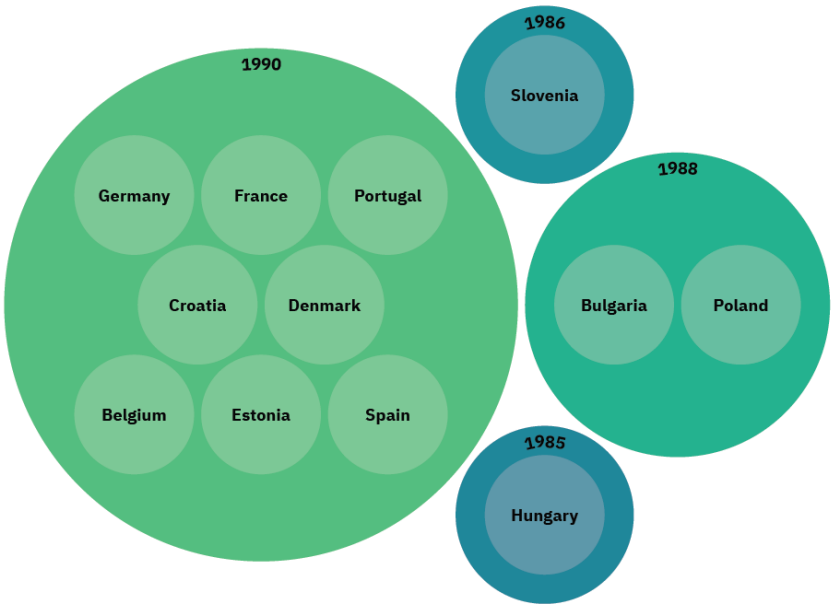
ANNEX 2. The responses.



Each involved partner has filled-in the above-mentioned questionnaire that aims at identifying the information requirements needed for an effective monitoring as well as the requirements for a transparent communication towards the general public in order to increase data transparency and facilitate access to national data, focusing on national government websites and taking into account the following aspects:

Availability of data

1. Since when does your country have a historical data series for global GHG emissions? Please, specify the year(s).

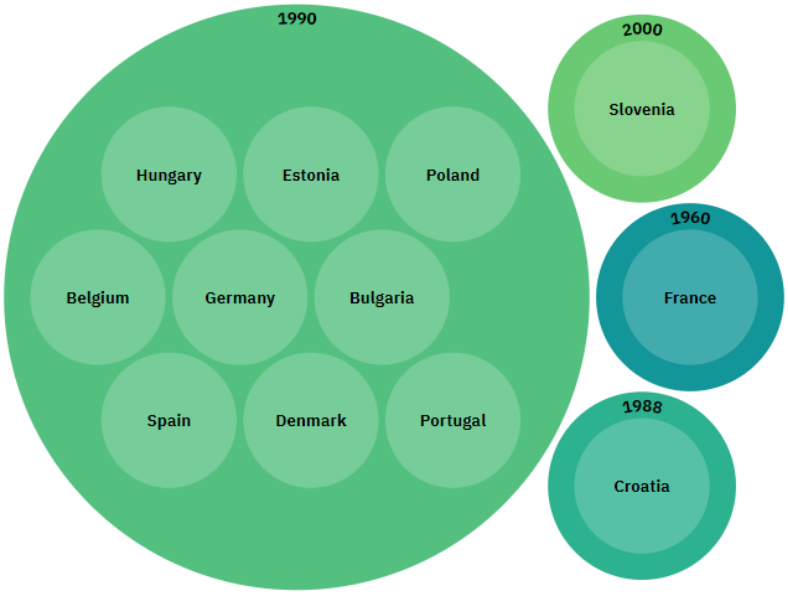


Responses show that **most** of the analysed countries have historical data series for global GHG emissions **from 1990**, except for the Eastern countries (Hungary, Slovenia, Bulgaria and Poland) that started slightly before, in the the 80s.

Does your country have data for both gross and net GHG emissions?

All analysed countries present **national data** for both gross and net GHG emissions.

2. Since when does your country have a historical data series for energy consumption indicators? Please, specify the year(s).

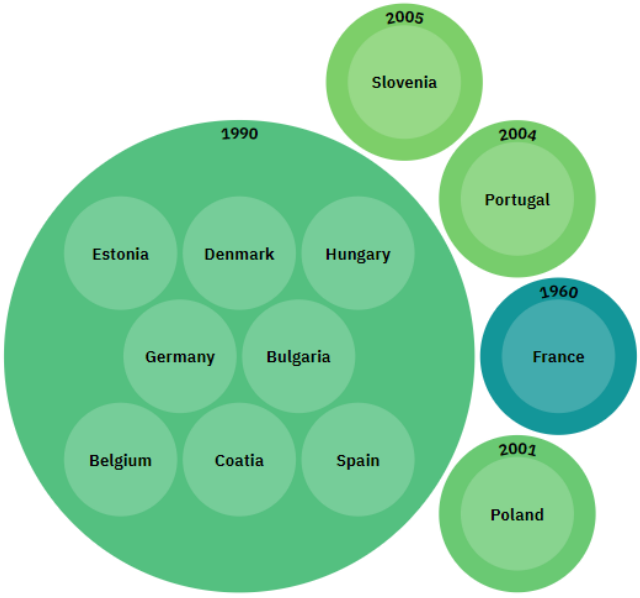


Responses show that **most** of the analysed countries have historical data series for energy consumption **from 1990**, with a few exceptions: France has the oldest data series starting in the 60s, followed by Croatia in 1988, while Slovenia started some years later in the 2000s.

Does your country have data for both final and primary energy consumption?

All analysed countries present **national data** for both final and primary energy consumption.

3. Since when does your country have a historical data series for renewable energy indicators? Please, specify the year(s).

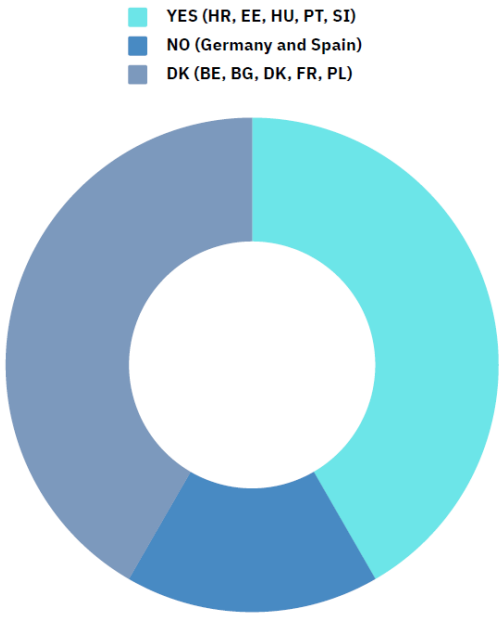


Responses show that **most** of the analysed countries have historical data series for renewable energy indicators **from 1990**, with some exceptions: France has the oldest data series starting in the 60s, while Poland, Portugal and Slovenia started some years later in 2001, 2004 and 2005 respectively.

Does your country have data for both share of renewables in the electricity mix and in the final energy consumption?

All analysed countries present **national data** for share of renewables both in the electricity mix and in the final energy consumption.

4. Do national data on historical emissions correspond to data provided by the EEA (GHG emissions) and Eurostat (energy)?



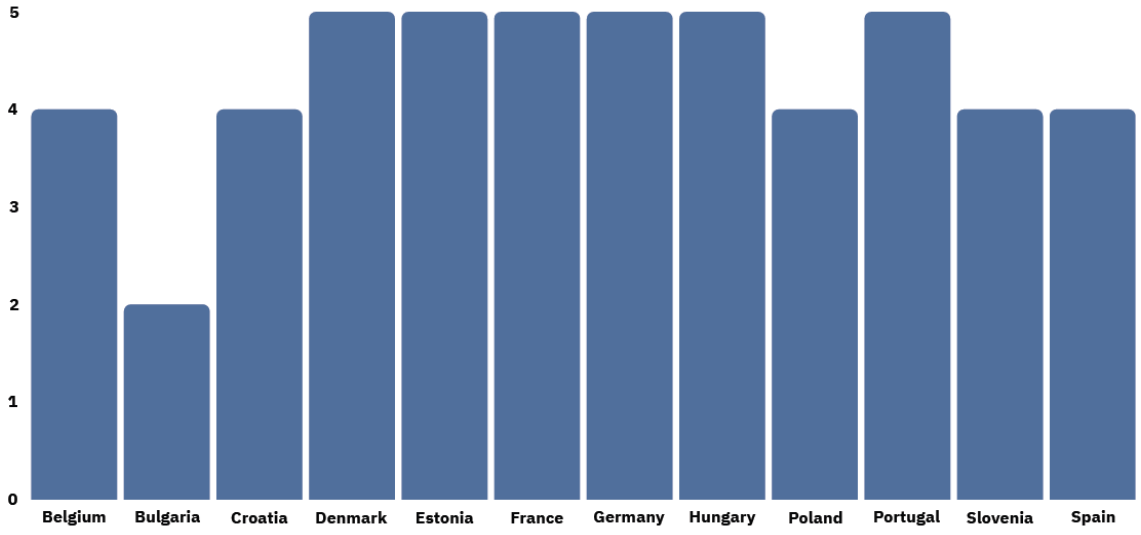
Responses show that data matching has not been analysed in some countries. While GHG emissions are easily checked, energy is a broader topic more complex to analyse and compare. Where it has been done,

in the majority of the analysed countries national **data correspond** to European data provided by official sources, **except for two countries**: in Germany and Spain, data don't completely match between sources.

Which are the differences? Please, specify the noticed differences as detailed as possible.

For **Spain**, figures and percentages don't match exactly between sources, likely due to the existing 'time lag' between national and European updates. In **Germany**, data do not completely match, since gaps are found between national and EU sources.

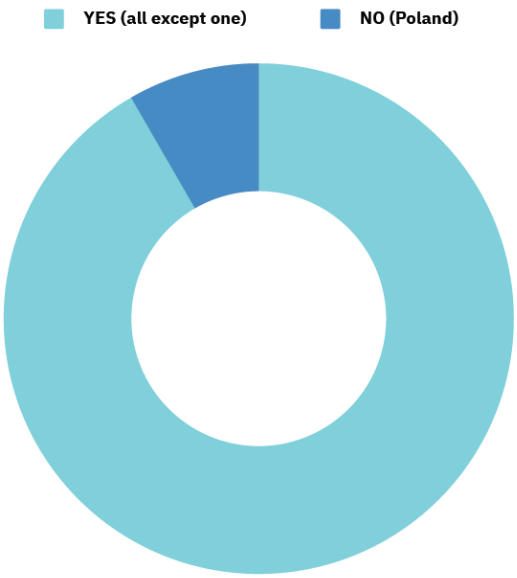
5. Rate from 1 to 5 the availability of historical climate and energy data in your country:



Overall, the **availability of historical data** on climate and energy has obtained **a high rate** by the analysed countries, with a 4 as average score, where **Bulgaria** has received the lowest score.

More details on the lowest score
Bulgaria. The data is available, but it's very hard to be accessed and information is scattered between different institutioon's websites, reports, etc.

6. Does your country have historical GHG emissions data for all sectors of the economy?

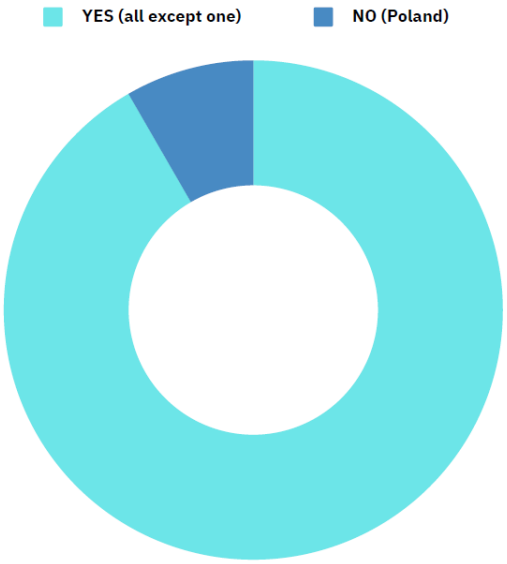


All analysed countries **but Poland** provide **historical data** for all sectors of the economy.

Which ones are missing? Please, specify the missing sectors as detailed as possible.

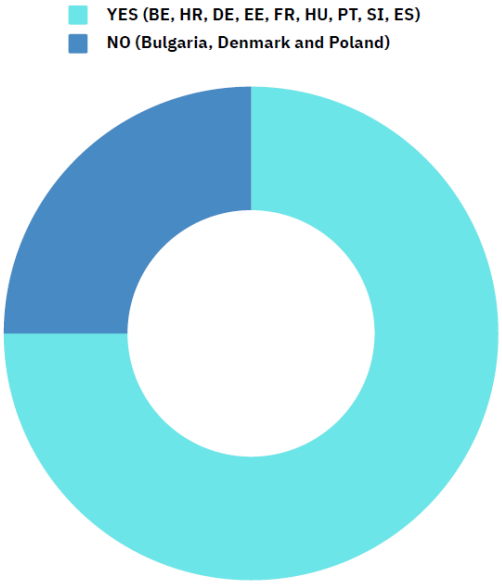
Poland does not have data for the buildings sector separately.

7. Does your country have data for ETS and ESR sectors separately?



All analysed countries **but Poland** provide **national data** for ETS and ESR sectors separately. Nevertheless, ETS sectors specifically can be hard to find on the government website (e.g. in Estonia).

8. Are the sub-sectors detailed enough? e.g. transport sector divided into road, railway, maritime and air transport.

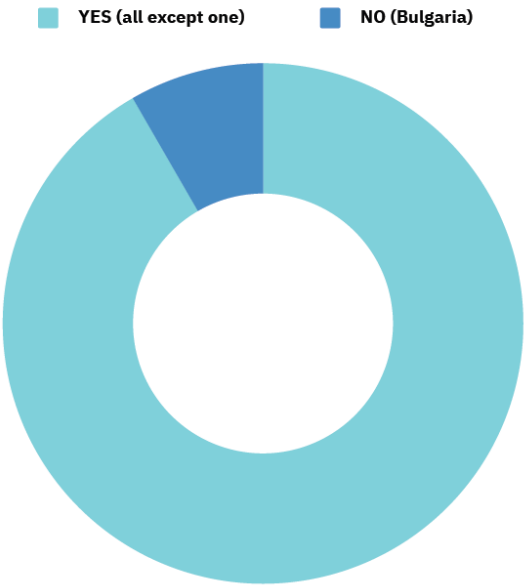


The majority of the analysed countries offer **national data** for sub-sectors detailed enough.

Which ones are missing? Please, specify the missing sub-sectors as detailed as possible.

For **Bulgaria**, maritime transport is missing. In **Denmark**, sub-sectors data are not clear enough and it can't easily find out how much of the emissions of the heat sector or industry sector emissions are within and outside the ETS sectors. For **Poland**, sub-sectors of the buildings sector are missing.

9. Does your country have energy consumption data for all energy sources separately?

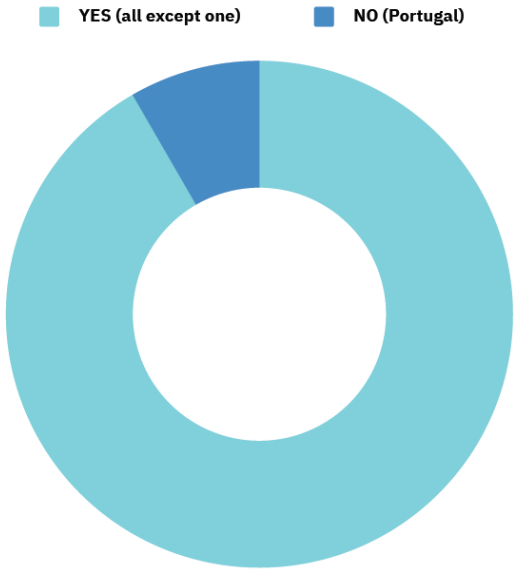


All analysed countries **but Bulgaria** provide **energy consumption data** for all energy sources separately.

Which ones are missing? Please, specify the missing energy sources as detailed as possible.

For **Bulgaria**, the missing energy sources in their national datasets are geothermal energy, and no separated wind energy figures for land and offshore wind.

10. Does your country have installed power data for all renewable sources separately?



All analysed countries **but Portugal** provide **installed power data** for all renewable sources separately.

Which ones are missing? Please, specify the missing renewable sources as detailed as possible.

In **Portugal**, data are available for energy production, but not for installed power.

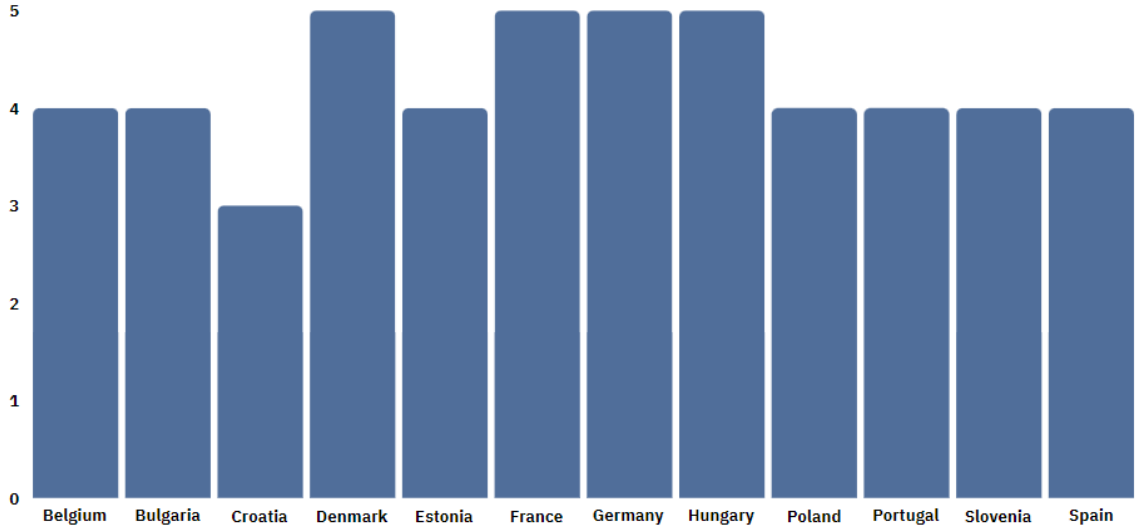
11. Does your country have data for renewable energy (solar, wind and hydro) and other sources (biomass, biogas, fossil fuel) separately?

All analysed countries offer **national data** for renewable energy and other sources separately.

Are the energy sources detailed enough for renewables? e.g. if all RE is grouped together it makes it easy to hide the bad stuff (biofuels and biomass) inside the good stuff (wind and solar). Please, explain as much detail as possible.

For **Denmark**, there is a problem within the category "biomass", since it contains an unknown mixture of both unproblematic feed stock (biogenic household waste, biogas) and unsustainable feed stocks (forest biomass and crop-based biofuels). In **Spain**, REData shows a non-specified category named 'other renewables' that includes all together biogas, biomass, hydro marine and geothermal.

12. Rate from 1 to 5 the availability of disaggregated climate and energy data in your country:

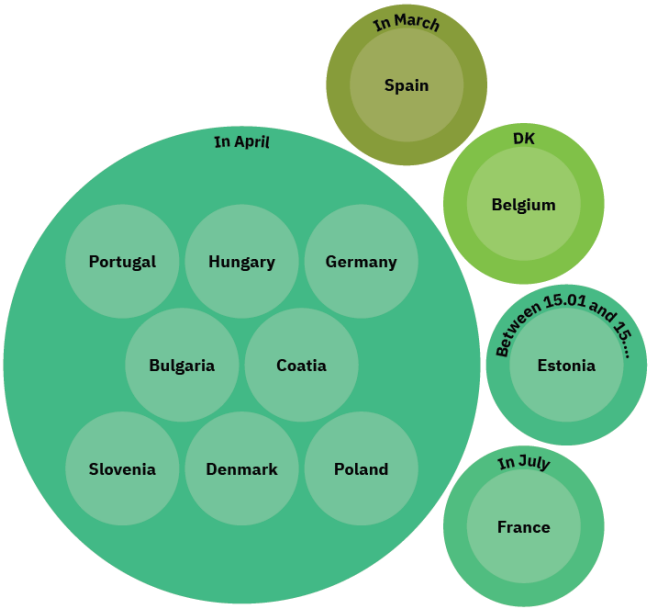


Overall, the **availability of disaggregated data** on climate and energy has obtained **a high rate** by the analysed countries, with a 4.25 as average score, where **Croatia** has received the lowest score.

More details on the lowest scores
Croatia. The existing climate and energy data infrastructure is limited and scattered around between several institutions. Sometimes there is a problem in finding which institution has which data and then obtaining them.

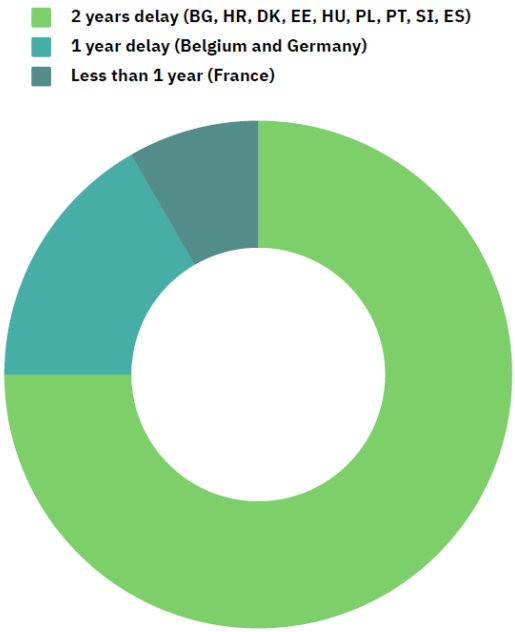
Periodicity of data

13. On national GHG emissions periodically update, when does your national government publish the official data, i.e., when updated data are publicly available? Please, specify the month of the year.



Responses show that **data updates** are **mostly** made available in the first quarter of the year, being **April** the month of reference, with very few exceptions: in Estonia, France and Spain updated data are published by the national government a bit earlier (in March) or sometime later (in July).

14. Data are updated every year, but the EEA GHG data viewer has a two-year delay (data from 2020 is available in 2022). What is the 'time lag' for dataset updating in your country? e.g. some national datasets have only a 4-month delay, if data from 2021 is available in April 2022.

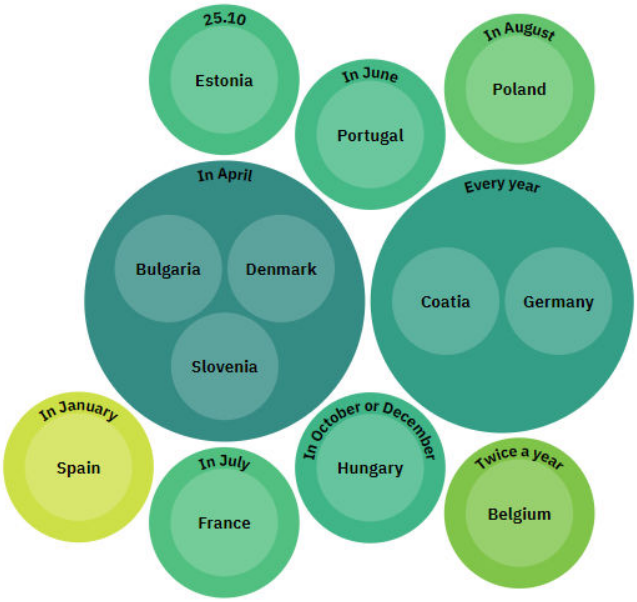


Most of the analysed countries indicate **a two-year delay** for updating their national GHG emissions datasets, with three exceptions: in Belgium and Germany updated data are published and available within one year, or even less than a year (in France).

15. How can this 'time lag' be reduced to obtain data more timely to better inform and make advocacy? Please, identify any data delays and specify your suggestion(s).

For **Denmark**, for most datasets, one year delay should be possible. In **Poland**, the process could be done earlier since most of the statistical data to use for calculations are ready one year later in September. **Spain** already reduces the official two-year 'time lag' by informing a first advance of the updated data 7 months before the official publication. Also in **Slovenia**, data are already gathered for the Climate mirror and preliminary data are available. Some suggestions are made on how to reduce the 'time lag': one possible solution is to publish a first set of approximate unverified data, with explanation disclaimer, and after completing methodological verification to be confirmed and updated (**Bulgaria**). Another possible solution is to automatically publish initial results before official release (**Estonia**). The 'time lag' could also be reduced if the database is publicly available (**Croatia**). Also, transparency and public access to data must be encouraged via making them available in a format easily understandable to all (**Hungary**).

16. On national energy indicators periodically update, when does your national government publish the official data, i.e., when updated data are publicly available? Please, specify the month of the year.



Responses show very varied dates to publish the official data on energy indicators, although **mostly** these updates are made in the **first quarter of the year,** with some exceptions: in Estonia, France, Hungary, Poland and Portugal updated data are made available sometime later (second, third or fourth quarter).

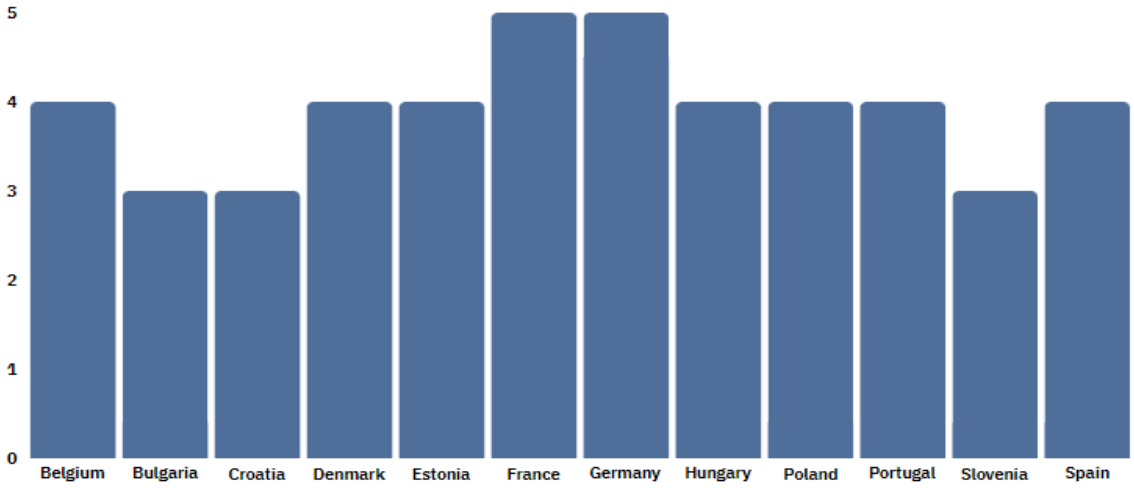
17. Data is updated every year, but EUROSTAT Energy Balance Sheets have a two-year delay (data from 2020 is available in 2022). What is the 'time lag' for dataset updating in your country?

Around half of the analysed countries indicate **a two-year delay** for updating their national energy indicators datasets, meaning that the other half are able to update their data earlier either within one year or within even less than a year. Germany, for example, updates quarterly datasets like primary energy consumption but the total balance sheets are only updated every year with a 2-year delay.

18. How can this 'time lag' be reduced to obtain data more timely to better inform and make advocacy? Please, identify any data delays and specify your suggestion(s).

For **Denmark**, one year delay should be possible for most datasets In **Poland**, the process depends on the way statistical offices gather and publish the data. **Spain** already reduces the official two-year 'time lag' by informing a provisional data update 8 months before the official publication. Some suggestions are made on how to reduce this 'time lag': one possible solution is to publish a first set of approximate unverified data, with explanation disclaimer, and after completing methodological verification to be confirmed and updated (**Bulgaria**). Another possible solution is to develop and make public a comprehensive online energy management tool for all sectors (**Croatia**). A reduced 'time lag' would mean the usage of premature proxy data which could be misleading, but what could be improved is the avoidance of delays in publication and making data more easily accessible and understandable for non-professionals (**Hungary**).

19. Rate from 1 to 5 the periodicity for updating climate and energy data in your country.

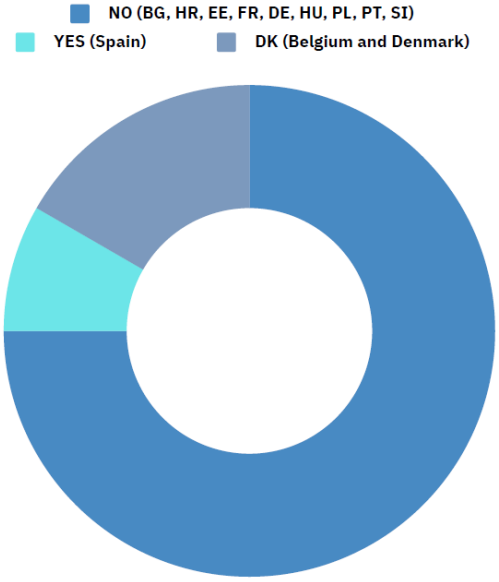


Overall, the **periodicity for updating data** on climate and energy has obtained **a medium rate** by the analysed countries, with a 3.92 as average score, where **Bulgaria**, **Croatia** and **Slovenia** have received the lowest score.

More details on the lower scores
Bulgaria also is publishing official data with a 2-year 'time lag', but according to expert opinions this period could be reduced to one year as in other countries. Still, important data are missing in the National GHG Inventory, e.g. emission factor for GHG per MWh. There is no publicly available open-source portal where this data could be accessed for free at any time. **Croatia**. Climate and energy data are being updated but made publicly available with a 2-year delay which then gives the impression that data are less available or relevant. There is no publicly available open-source portal where this data could be accessed for free at any time. **Slovenia** is publishing official data with a 2-year 'time lag'. As it is publishing annual reports on achieving climate and energy targets (Climate Mirror) at least preliminary data could be published annually.

Quality of data

20. Is your country using a special national system rather than/other than the normal template from UNFCCC/EEA reporting when compiling GHG emissions?

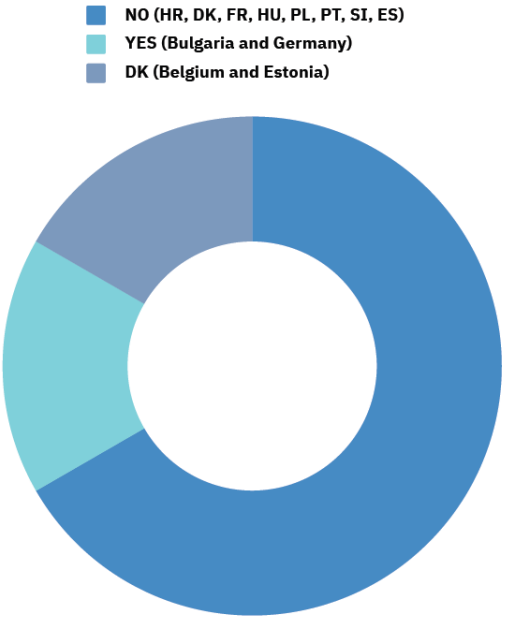


Responses show that **only one** of the analysed countries (Spain) **is using a special national system** other than the normal template from UNFCCC/EEA reporting when compiling GHG emissions.

Could you describe it? Please, explain the special national system.

The **Spanish Inventory System (SEI)** periodically prepares the National Inventory of emissions and removals of greenhouse gases and atmospheric pollutants, as well as the Projections of emissions and removals into the atmosphere, which allow evaluation of compliance with the commitments assumed by Spain within the framework of international and European air emissions regulations.

21. Have you noticed any problems in how your country collects emissions data?

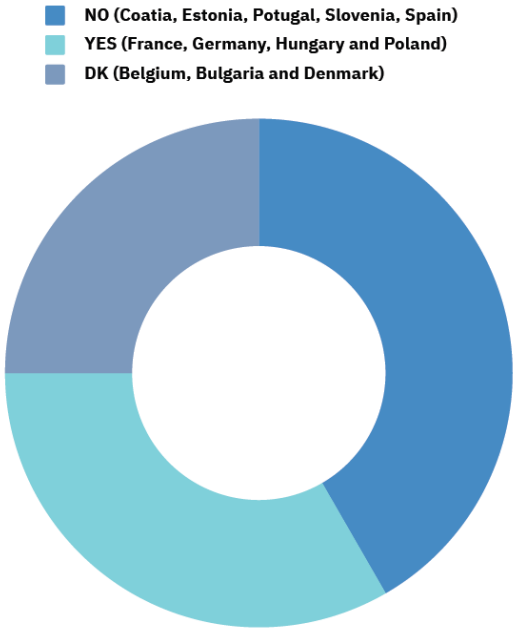


Responses show that **only in two** of the analysed countries (Germany and Bulgaria) have been identified **some problems in the collection of emissions data**. In **Bulgaria** it has been detected that some of the coal TPPs are using their own accredited laboratories for fuels/emissions testing, not independent ones as they should be. In their verified yearly reports between 2017-2021 they are underreporting emissions data and thus, are not paying for CO2 emissions as they should be. Needed are better procedures, communication between institutions (even within the same one) and control. In **Germany**, calculations for GHG emissions from LULUCF, transport and buildings sectors are different in national accounts than in the UNFCCC framework. This discrepancy between how to calculate sectoral goals nationally and at EU level makes it difficult to monitor progress (e.g. NECP vs national legislation).

Any suggestions on how to fix them? Please, specify your suggestion(s).

In **Spain**, the estimates and methodologies used are periodically subject to reviews and quality control by responsible bodies. Some suggestions to improve the collection of national emissions data are: the need for better procedures, communication between institutions (even within the same one) and control (**Bulgaria**). Data is usually gathered top-down, while there is little collection of data from local authorities (**Poland**).

22. Is your country using a special national system rather than/other than the normal template from EUROSTAT reporting when compiling energy data?

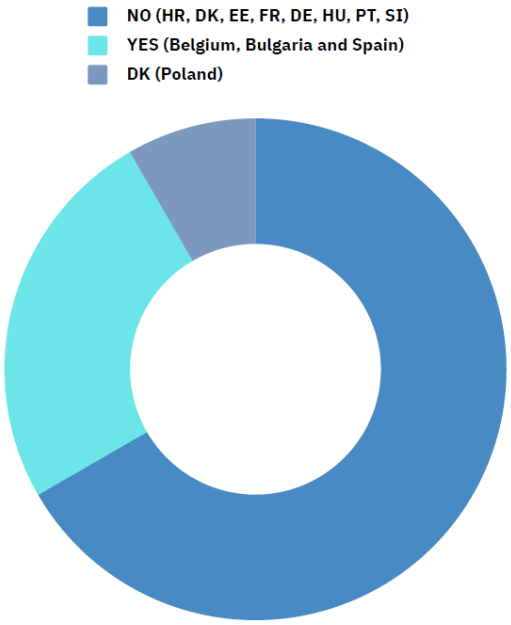


Responses show that **four** of the analysed countries (France, Germany, Hungary and Poland) **are using a special national system** rather than/other than the normal template from EUROSTAT reporting when compiling energy data.

Could you describe it? Please, explain the special national system.

In **France**, detailed data are available on the Ministry for Ecological Transition official website. For **Hungary**, besides the EUROSTAT template, other formats and more data are available. For **Germany**, calculations are more detailed in national accounts than in EUROSTAT data. In **Poland**, the Polish National Statistical Office System has its own registers, publications and databases.

23. Have you noticed any problems in how your country collects energy data?

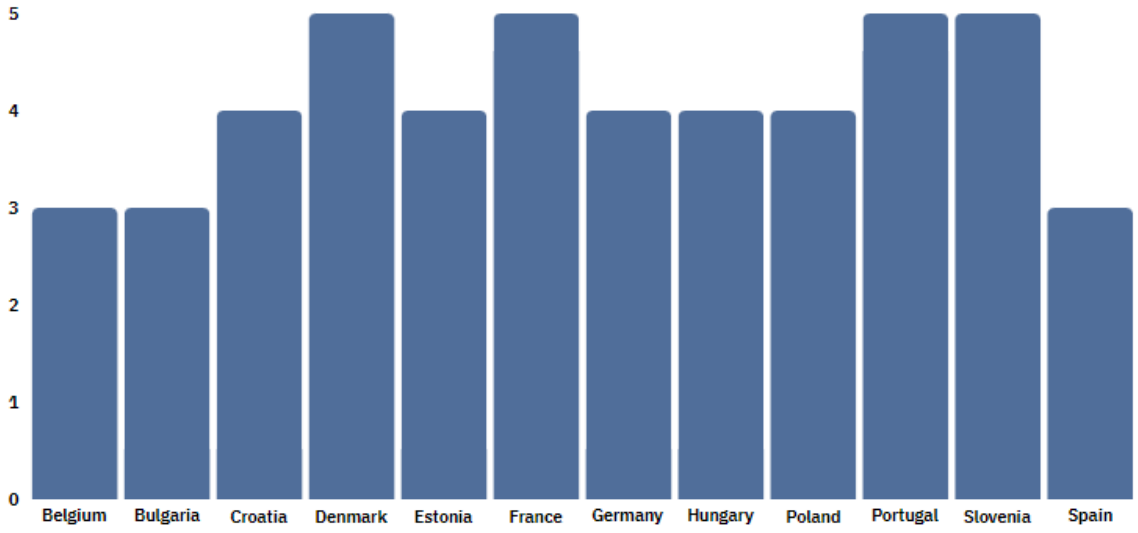


Responses show that **three** of the analysed countries (Belgium, Bulgaria and Spain) **have noticed some problems** in the collection of energy data. For **Belgium**, the biggest problem is the lack of clarity when it comes to regional and national data. In **Bulgaria**, much of the more detailed energy information comes from Energy and Technical Audits, which are so far made primary for participation in national or EU funded programs. In **Spain**, the Excel sheet format employed by the Ministry of Ecological Transition to inform the energy balance of Spain, under the Eurostat methodology, shows a lot of data difficult to interpret, accompanied by a short and incomplete pdf format.

Any suggestions on how to fix them? Please, specify your suggestion(s).

Some suggestions to improve the collection of national energy data are: ensuring a cross-linking between regional and national data to prevent existing differences in the levels of details (**Belgium**); the need to publicly collect the more detailed energy information for science/evidence-based policy making (**Bulgaria**); preparing simultaneously a clear and detailed interpretative report accompanying the Excel sheet format to be launched at the same time, as the current 2-year delay is too late to be useful (**Spain**). In **Hungary**, the main energy statistics are quite robust, but data sources for the underlying factors are scarce or non-existent (e.g., on how big and how outdated, from an energy perspective, the existing building stock is).

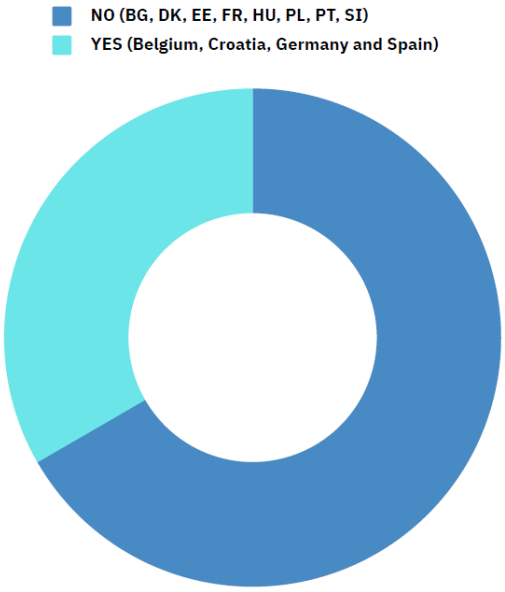
24. Rate from 1 to 5 the quality of monitoring systems in your country.



Overall, the **monitoring systems of data** on climate and energy has obtained **a high rate** by the analysed countries, with a 4.08 as average score, where **Belgium, Bulgaria and Spain** have received the lowest score.

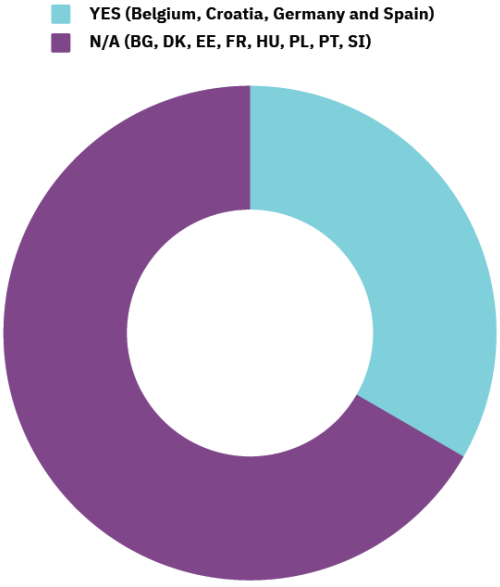
More details on the lowest scores
Belgium. The biggest problem is the lack of clarity when it comes to regional and national data. There is an imperative need to prevent existing differences in the levels of details and this could be easily solved by a regular cross-linking between regional and national data. **Bulgaria.** There is important missing information within the National GHG Inventory. Also the Air quality monitoring stations are not dispersed in the whole country, while some are not properly placed. Many of the coal TPPs have their own accredited laboratories and problems have been detected with some of their reported data. **Spain**. The Excel sheet format to inform the energy balance of Spain, under the Eurostat methodology, shows data difficult to interpret by the general public and stakeholders. It would be useful to prepare and launch simultaneously a clear and detailed interpretative report accompanying the Excel sheet.

25. Does your country report GHG emissions at subnational level (regional and local)?



Most of the analysed countries **do not report GHG emissions at subnational level**. For example, in Bulgaria, no subnational data are available, only very limited and scattered data on municipal level, where voluntary initiatives play a key role like the Covenant of Mayors (CoM). The exceptions are: Belgium, Croatia, Germany and Spain, coinciding with the very decentralised and/or federal countries.

26. Have you noticed any differences when matching national and subnational levels? e.g. the use of different years of reference.



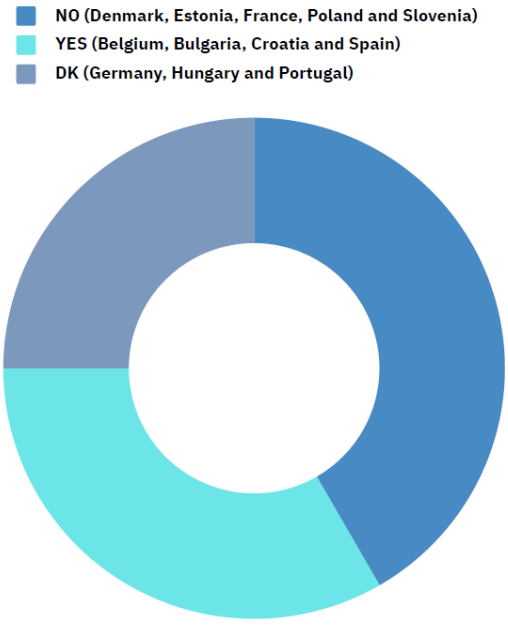
Between the involved countries, **all** responses show the **existence of differences** between national and subnational levels when it comes to data collection. For **Croatia**, the baseline year differs for each of them with regards to the available data. In **Germany**, subnational data are not updated as regularly as at the

national level (e.g. only data older than 2021 are available, and not even for all states). In **Belgium**, it has often been quite difficult to see how national and regional data relate, since there is little crosslinking between datasets, while regional and national monitoring and reporting happens to some extent in parallel. For **Spain**, the Ministry of Ecological Transition publishes annually GHG emissions by regions, roughly disaggregated from national level in a top-down approach and conditioned, in its accuracy and precision, by the availability of information at regional level. Also, when looking directly into regional available data, differences in the year of reference have been noticed.

Any suggestions on how to fix them? Please, specify your suggestion(s).

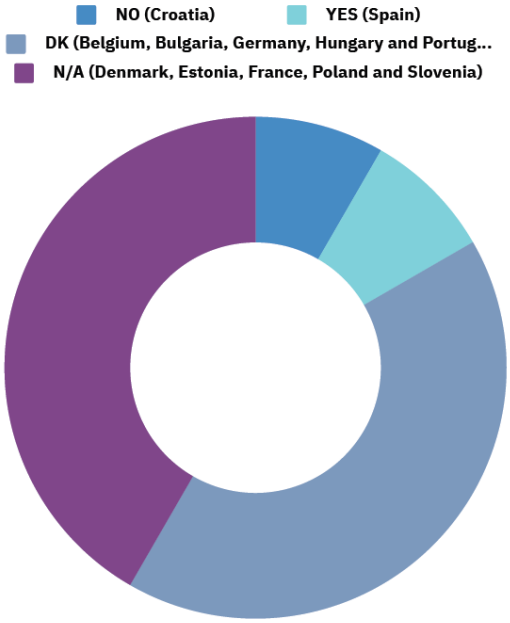
Several counties, cities and other local authorities have developed and adopted **local climate strategies or SECAPs** in recent years as signatories of the CoM using its methodology for GHG calculations. However, these local GHG inventories are based on a simple, energy-consumption based methodology and followed a one-off exercise with no clear revision cycle for these strategies. Some suggestions to improve the matching national and subnational levels are: fixing the same baseline year for all levels of data collection (**Croatia**); regularly updating subnational data as at the national level (**Germany**); ensuring a crosslinking between datasets (**Belgium**); facilitating a common template with all the relevant indicators released by the Ministry to help gathering standardised and comparable (same year of reference) GHG emissions data at subnational level (**Spain**). In **Hungary**, since there is no regular reporting on local inventories, the methodology issues are not relevant, but there is a need to strengthen the legal power and capacity of regions or counties to effectively combat climate change (subsidiarity principle).

27. Does your country report energy data at operational level (RES companies, electricity suppliers, TSO).



Responses show that **only a third** of the analysed countries **report energy data at operational level**.

28. Have you noticed any differences when matching national and operational levels? e.g. the report of different figures for self-consumption.

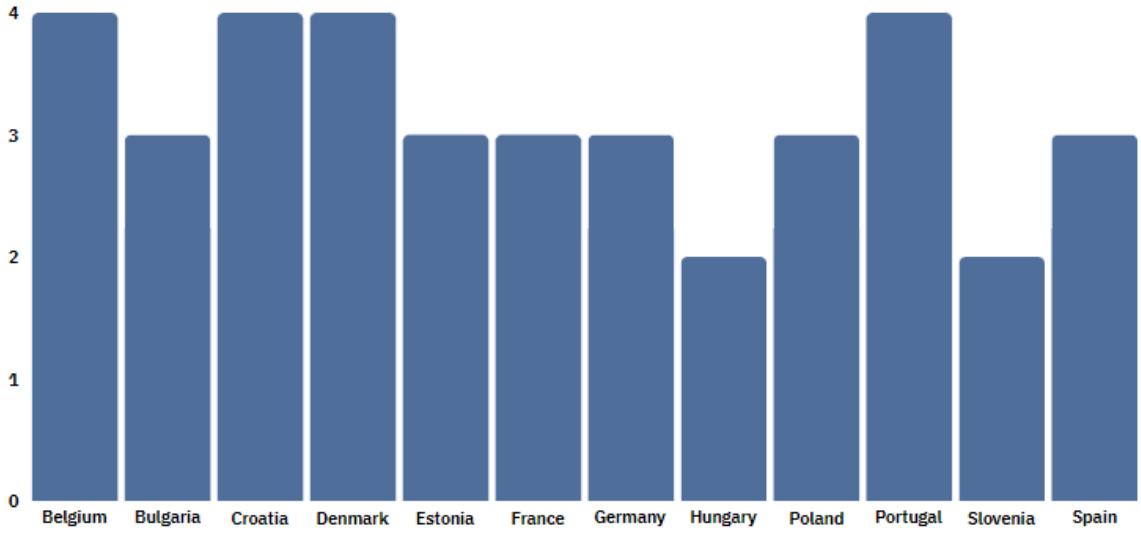


Responses show that **only one** of the analysed countries (Spain) has different sources for the same indicators, making the collection of appropriate data difficult. However, **for the majority** of the involved countries, there is no clear answer when it comes to comparing national and operational levels. For example, in Bulgaria, such operational data are reported to SEDA, within Energy Saving Obligation Scheme, ETS or for national GHG inventories, but there is no public access to them, neither summary nor tendencies in the Energy Newsletter of the Ministry. Also, for Germany, data at operational level are not immediately accessible on the federal statistics website, while in Poland, data are dispersed and probably available but only upon request.

Any suggestions on how to fix them? Please, specify your suggestion(s).

For **Spain**, it is fine that different bodies working on energy gather specific data from their own activities, but the Ministry of Ecological Transition should oversee the compilation of all different data in a common template with all the relevant indicators needed to have standardised and comparable energy data. Another extended suggestion is to make operational data publicly available.

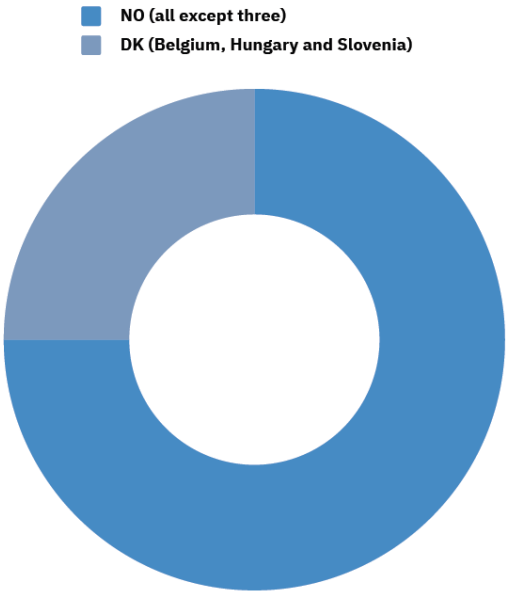
29. Rate from 1 to 5 the scale/level of detail of data reported in your country.



Overall, **the scale/level of detail of data** on climate and energy has obtained **a medium rate** by the analysed countries, with a 3.17 as average score, where **Hungary** and **Slovenia** have received the lowest score.

More details on on the lowest scores
Hungary. Since there is no regular reporting on local inventories, the methodology issues are not relevant, but there is a need to strengthen the legal power and capacity of regions or counties to effectively combat climate change following the subsidiarity principle. **Slovenia**. While subnational level reporting would not make sense, it would be useful to provide operational data.

30. Any problems regarding what units of measurement your country uses to report climate and energy data?

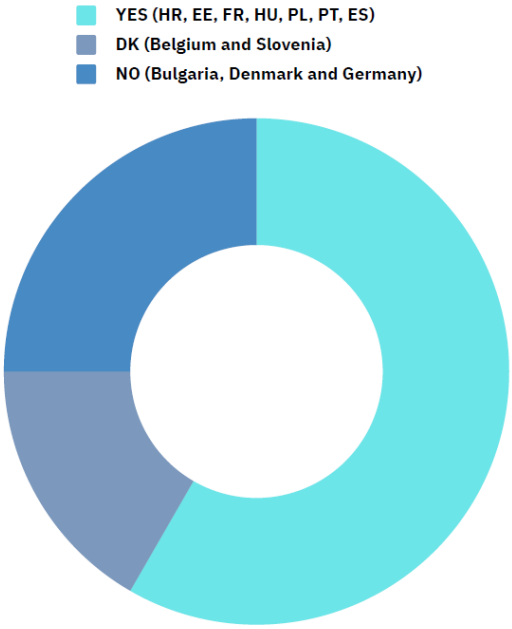


None analysed countries have identified **problems on the units of measurement** to report climate and energy data. In some cases conversions are needed but happen in an easy way, for example, **Denmark** and **Germany** report energy data in neutral units (like KWh or PJ) rather than converting energy to fossil units (like mtoe). Otherwise, data are provided with the methodology used on the international or EU level, which is not perfect but quite robust.

Any suggestions on how to fix them? Please, specify your suggestion(s).

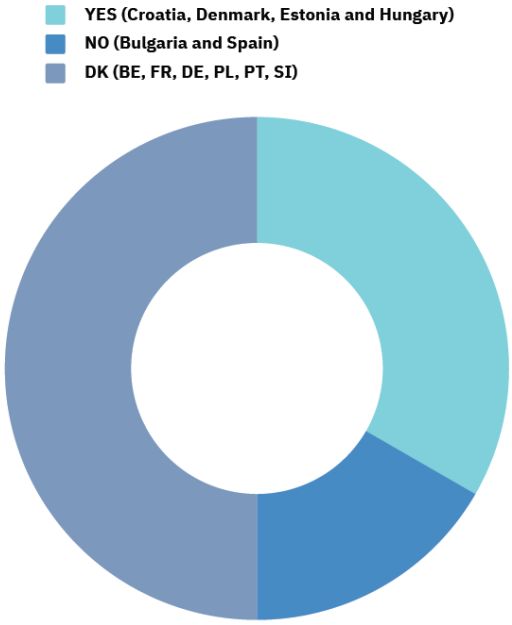
N/A

31. Are they based on EU standards to facilitate comparison with the same data from any other European country?



Responses show that **most** of the analysed countries use **units of measurement based on EU standards** to facilitate comparison of the same data between European countries.

32. Is there consistency between climate and energy data from different sources (official government, companies, other sources), meaning they are compatible and comparable?

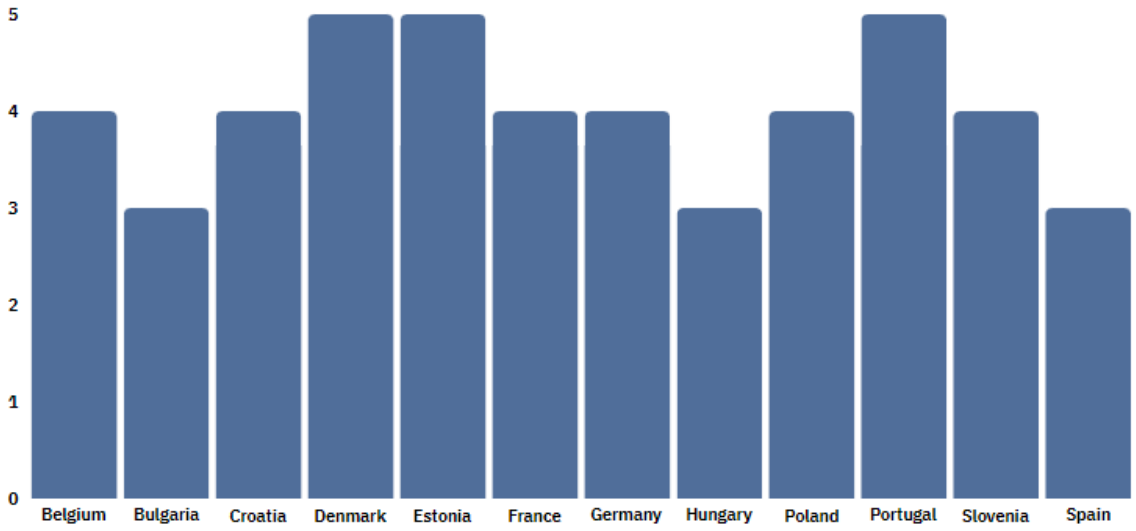


Responses show that in **half** of the analysed countries there is **no clear answer about consistency between data**, most probably because it is hard to compare when there are different sources. For example, in **Hungary** and other countries, the main issues are differences in scope: the same scope should be provided or at least a clear explanation (clear to a non-professional) on each dataset about the usage of limited scope. **Only in two** countries (Bulgaria and Spain) some **inconsistency problems** have been noticed between climate and energy data from different sources. In **Bulgaria**, overall seems to be consistent, but there are indications that some small producers are not part of ETS and that some companies (TPPs) have reported different data to the ExEA and the Regulatory Commission concerning emissions. In **Spain**, inconsistencies have been found in relation to energy data provided by different sources and GHG emissions when going downwards at subnational level.

Any suggestions on how to fix them? Please, specify your suggestion(s).

Some suggestions to avoid inconsistencies between climate and energy data from different sources are: more control levels by more than one institution on the ETS Scheme (**Bulgaria**) and a common and standardised format facilitated by the Ministry of Ecological Transition to compile most relevant data (**Spain**). In **Germany**, energy data are independently assessed.

33. Rate from 1 to 5 the consistency of climate and energy data in your country.

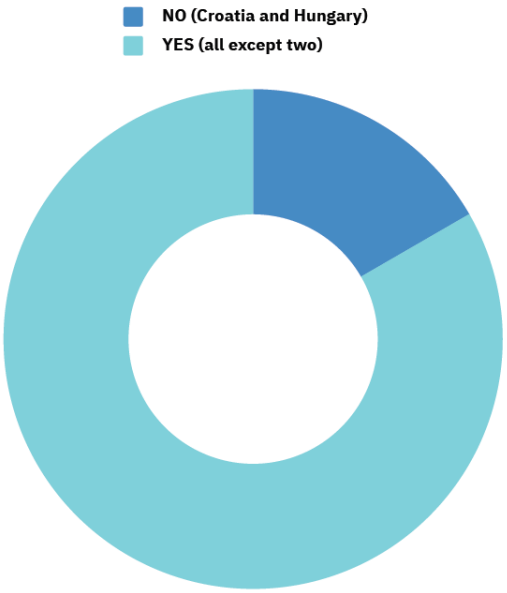


Overall, the **consistency of data** on climate and energy has obtained **a medium rate** by the analysed countries, with a 4 as average score, where **Bulgaria**, **Hungary** and **Spain** have received the lowest score.

More details on the lowest scores
Bulgaria. Overall data seems to be consistent, but some inconsistency problems have been detected even by our partner Za Zemiata. **Hungary**. The main issues are differences in scope. The same scope should be provided or at least a clear explanation (clear to a non-professional) on each dataset about the usage of limited scope. **Spain**. While national GHG emissions (gross, net and sectoral) data are centralised in the Ministry of Ecological Transition website, inconsistencies have been found in relation to energy data provided by different sources and GHG emissions when going downwards at subnational level. It would be useful to have a common and standardised format facilitated by the Ministry of Ecological Transition to compile most relevant data.

Accessibility of data

34. In your country, are there any official public website(s) where you can easily find and download all above-mentioned data? i.e. historical GHG emissions, sectoral subcategories, energy data (both production and consumption)



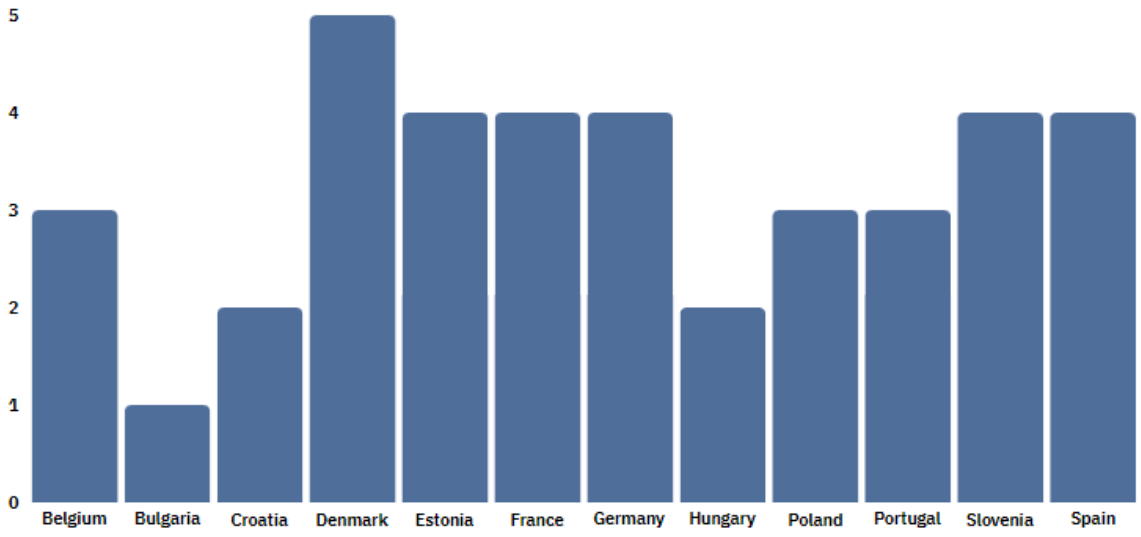
Responses show that **only two** of the analysed countries (Croatia and Hungary) **do not have any official public website(s)** where they can easily find and download all above-mentioned data. For **Hungary**, there are various websites containing data dating back to various years but you have to know what and how to look for to find it, so there should be one website for all main climate and energy data which is updated regularly and contains all historical data (from 1990) and some other data, like proxy data and projections, that are reported to the EU but not made public. Also, for **Croatia**, there is a need for one comprehensive public database/tool where all relevant energy, climate and GHG emission data would be available.

Does it work well in practice? How can it be improved to ensure an interactive and clear website where data is easily found and can be downloaded in relevant format (excel)? Please, identify any data problem or weakness and specify your suggestion(s).

While in some analysed countries (**Denmark**, **France** and **Estonia**) official public website(s) work well, in other countries **some obstacles and ways of improvements** to ensure an interactive and clear website have been exposed. In **Belgium**, some of these data can be very difficult to find, especially if raw figures are needed or regional and national data need to be checked and compared over time. Most of the numbers are there if you know where to look, but disaggregation can be particularly difficult. In **Germany**, data are easy to find but in a non-downloadable format (or only in pdf) on federal agencies websites (the Statistics or Environment agencies), while downloadable formats are available on the EEA website. In **Poland**, data are dispersed between different institutions. In fact, there are two official websites, one for GHG emissions (KOBiZe) and another one for energy data (GUS). Also, in **Portugal**, data are disaggregated between different institutional websites. In fact, according to directives in the National Climate Law, data were supposed to be aggregated in a single website -the 'Portal of Climate Action'-, but it has not been done yet. In **Bulgaria**, there is no single website to act as a 'one stop shop', easily providing the various information needed. The information so far is scattered between the websites of ExEA and SEDA/Environmental and Energy Ministry respectively, and within different update reports of theirs. As an improvement, it could be useful to have an official position on climate, responsible for coordinating, collecting and displaying

information in a user-friendly way. In **Spain**, for GHG emissions, the official Environmental Ministry website works well, but for energy indicators, data are more difficult to find and understand since they are scattered in several sources. As an example of good practice, in Denmark, the **data are available as easy-to-use excel spreadsheets**, data gathering authority is very accommodating in answering questions on specific datasets and helping to find unfound data, and often the homepage where the data is found also contains the contact details of the civil servant who is in charge of the specific dataset. Also, in **Slovenia**, there is an official public website and the new climate law (currently in public consultation) institutionalises the 'Climate Mirror', aimed also at integrating interactive tools that will enable better comparison.

35. Rate from 1 to 5 the public accessibility of climate and energy data in your country.



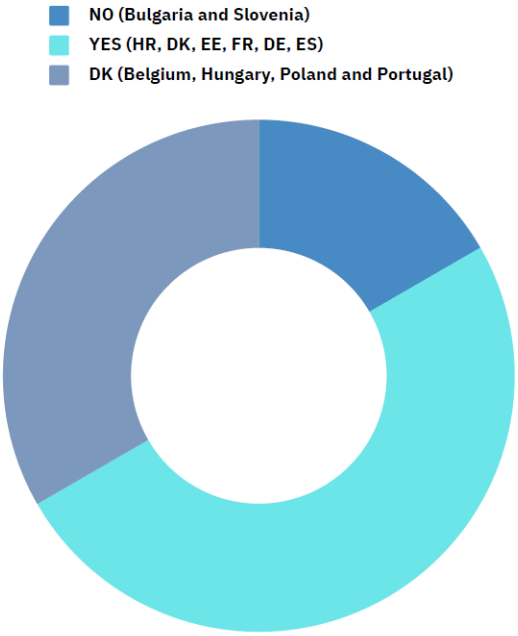
Overall, the **public accessibility of data** on climate and energy has obtained **a medium rate** by the analysed countries, with a 3.25 as average score, where **Bulgaria** has received the lowest score.

More details on the lowest score
Bulgaria. Accessibility of data is worsening, even some data previously available on the website of the Regulatory Commission that was used in expert reports is not available anymore, or when requesting such data from ExEA through the Access to Information Act trade secrets are being cited more often.

36. Is there an officially assigned institution in charge for the GHG emissions compilation?

All analysed countries count on **at least an officially assigned institution** in charge of the GHG emissions compilation.

If there are more than one, are they easily reachable?

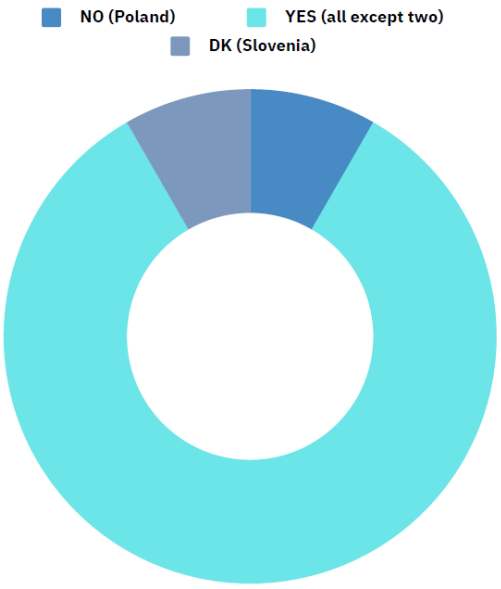


Responses show that **in half** of the analysed countries there are **more than one official and easily reachable institution responsible** for the collection of GHG emissions, while **in two** of them institutions in charge are **not easily reachable** (Bulgaria and Slovenia).

Does it work well in practice and how can it be improved? Please, identify any problem or weakness and specify your suggestion(s).

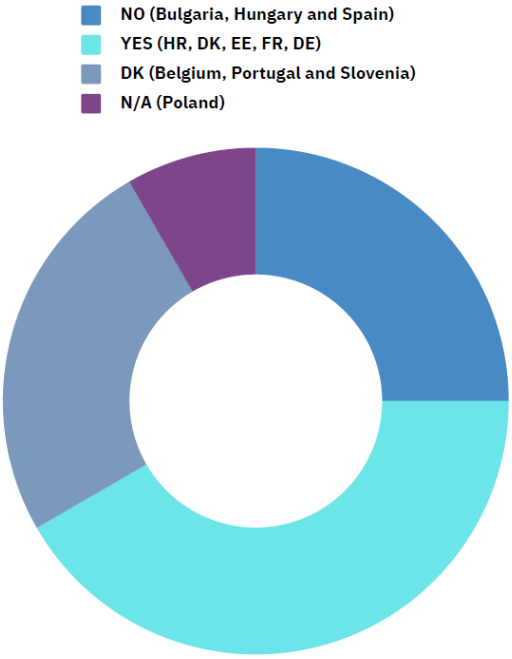
While in some analysed countries (France, Hungary, Portugal and Spain) official institutions in charge of GHG emissions compilation work well, in other countries **some obstacles and ways of improvements** to make official institutions for GHG emissions compilation easily reachable have been exposed. For **Bulgaria**, directorates in ExEA, the one doing national inventories and the one receiving CO2 verification reports, are not talking to each other (much) for comparing emissions data received from ETS companies (TTPs), meaning that better quality control procedures are needed, together with more time for the institutions to check the reports they receive, not the current 10-14 days for over 150-160 reports processing. In **Croatia**, the contacts are public and easily reachable, however, their response is often late or insufficient. For **Estonia**, it works well, but it should be communicated better to stakeholders which institutions have which responsibilities. In **Hungary**, the Meteorological Service (OMSZ) is providing the NIR, and some data are repeated on the Hungarian Statistical Office website. As an example of good practice, in **Poland**, there is one report on emission that is easily accessible. Also, in **Spain**, the Spanish Ministry of Ecological Transition offers a clear, complete and useful website for GHG emissions inventories. For **Denmark**, there is a combination of the responsibilities of three relevant and interlinked institutions: the national energy authority (ENS) is the one mostly used, the Danish statistical office (DST) provides data (e.g. emission data from burning biomass was available from DST, while ENS still counted all biomass as zero emissions), and the DCE is the body responsible for compiling Danish emission reports to IPCC and EU and provides much of the data that DST and ENS are making available.

37. Is there an officially assigned institution in charge for the energy indicators compilation?



All analysed countries **but Poland** count on **at least one officially assigned institution** in charge of the energy indicators compilation.

If there are more than one, are they easily reachable?

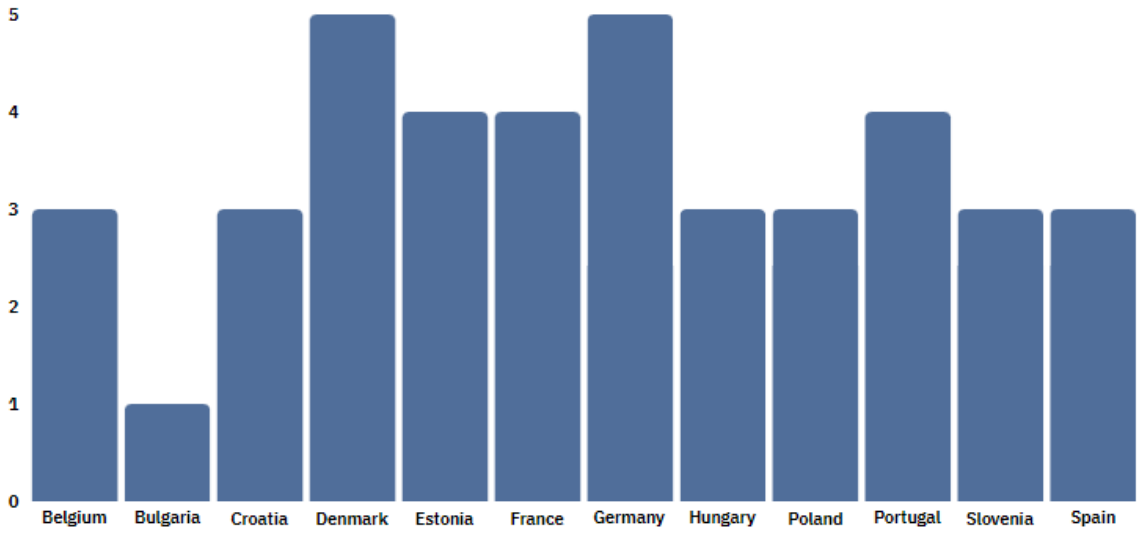


Responses show that **in five** of the analysed countries (Croatia, Denmark, Estonia, France and Germany) there are **more than one official and easily reachable institution responsible** for the collection of energy indicators, while **in three** of them institutions in charge are **not easily reachable** (for Bulgaria, it's one institution, Hungary and Spain).

Does it work well in practice and how can it be improved? Please, identify any problem or weakness and specify your suggestion(s).

While in some analysed countries (France, Estonia and Portugal) official institutions in charge of energy indicators compilation work well, in other countries **some obstacles and ways of improvements** to make official institutions for energy indicators compilation easily reachable have been exposed. For **Bulgaria**, where the Ministry of Energy is the responsible institution and SEDA its executive energy agency, some of the information is available but still hard to find on their website (e.g. installed capacity data for all renewables separately), and the Ministry is not really responsive (e.g. ongoing lawsuit on the denied access to information on the recultivation activities in regard to the just energy transition). **Hungary** has established the Hungarian Energy Authority (MEKH) since 2014, but not all historical data are available on the website (some older data are on the KSH website). In **Croatia**, the contacts are public and easily reachable, however, getting information or data is often hard and prolonged. In **Spain**, Miteco' s website for energy indicators does not work that well, the energy balance excel is difficult to interpret. Many energy data must be found elsewhere, and obtained data are heterogeneous and not comparable by sources, meaning that a more standardised and understandable energy data compilation is needed at least once a year. Again, As an example of good practice, **Denmark** combines the responsibilities of three relevant and interlinked institutions**.**

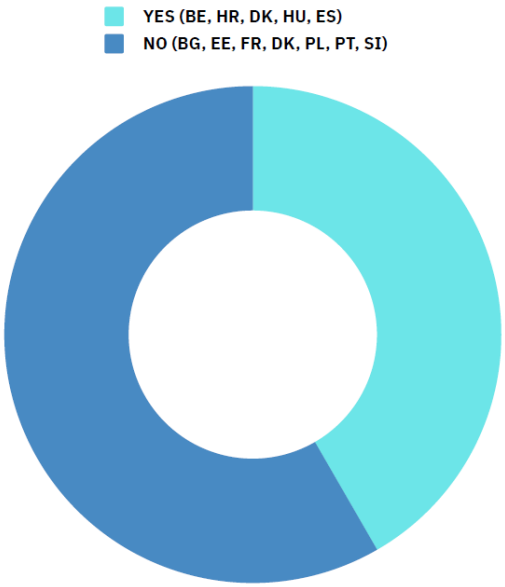
38. Rate from 1 to 5 the role of responsible institution(s) to ensure proper and public access to climate and energy data in your country.



Overall, the **role of responsible institution(s) in the accessibility of data** on climate and energy has obtained **a medium rate** by the analysed countries, with a 3.42 as average score, where **Bulgaria** has received the lowest score.

More details on the lowest score
Bulgaria. No 'one stop shop' with the needed climate and energy data is organised by the responsible institutions. The information is also scattered between the Ministry of Energy and Ministry of Environment. Detected miscalculations and frauds in ETS emissions reporting.

39. Has your country established an institutional focal point to answer and solve any information and/or public consultation on climate issues?



Responses show that **the majority** of the analysed countries **do not count on an institutional focal point on climate issues in charge** of answering and solving any information and/or public consultation.

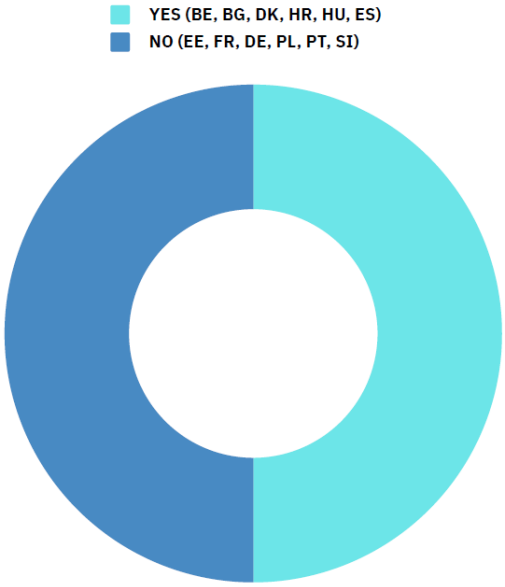
If there are more than one, are they easily reachable?

Between the countries that have more than one institutional focal point for information and/or public consultation on climate issues, **these are in general not easily reachable**.

Does it work well in practice and how can it be improved? Please, identify any problem or weakness and specify your suggestion(s).

In **Belgium**, federal and regional institutions work well, but you need to know where to find them and they are often not informed about data that go beyond their own competence level, which is a substantial problem. **Bulgaria**, for some months had a Deputy Prime Minister on climate issues with a coordinating role for the national climate policy, acting as 'one stop shop' on climate, but this good practice has not continued. In **Croatia**, it usually takes time to get a valid official response from the institutions. On the contrary, in **Denmark**, the Danish energy authority (ENS) is extremely approachable and any question is competently answered (data are available as excel sheets and NGOs and other stakeholders are invited to comment and review the new annual datasets both before and after they are made public). For **Estonia**, the exact role and responsibilities of state institutions should be better understandable for the general public and stakeholders, since only a small specific group of people knows where to find specific data when they need it. **Germany** needs to create an institutional focal point. In **Hungary**, although the data is collected by the OMSZ, MEKH and the Climate Protection Authority for the ETS and F-gases sector, the institutional focal point -the State Secretary for Energy and Climate of the Ministry of Energy for climate or energy issues-, whose structure has changed a lot in the past years, providing minimal consultation on climate issues. In **Portugal**, it could be improved with the 'Portal of Climate Action', in accordance with the National Climate Law. In **Spain**, the institutional focal points for climate issues are clearly established, although it is not always easy to get a fast and timely meeting.

40. Has your country established an institutional focal point to answer and solve any information and/or public consultation on energy issues?



Responses show that **half** of the analysed countries **do not count on an institutional focal point on energy issues in charge** of answering and solving any information and/or public consultation.

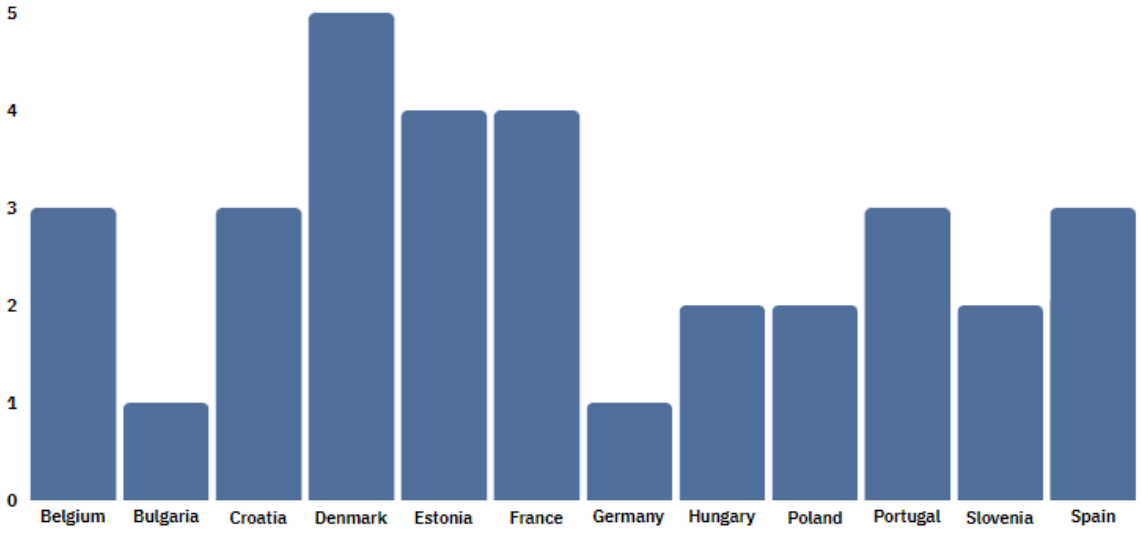
If there are more than one, are they easily reachable?

Between the countries that have more than one institutional focal point for information and/or public consultation on energy issues, **these are not always easily reachable**.

Does it work well in practice and how can it be improved? Please, identify any problem or weakness and specify your suggestion(s).

In **Belgium**, federal and regional institutions work well, but you need to know where to find them and they are often not informed about data that go beyond their own competence level, which is a substantial problem. In **Bulgaria**, the Ministry of Energy is not really responsible or good at communication, even fighting for long years not to be responsible for the energy poverty issue, while it's a multidisciplinary issue that needs better communication between it, the Social and Regional Ministries. In **Croatia**, it usually takes time to get a valid official response from the institutions. In **Denmark**, the energy authority is a body under the Ministry of Climate, working well in the past without diminishing the credibility/objectivity of the ENS data. However, this year energy data have been moved closer to the ministry, sparkling fear that increased ministry involvement will result in political interference with the credibility/objectivity of the ENS datasets. For **Hungary**, in general, the Ministry of Energy, responsible for policy issues, is just doing the required minimum info sharing/public consultation (except for some p.eg. the NECP process, but this improved public consultation is the result of years of advocacy by climate-energy-environmental NGOs). MEKH's performance in information sharing and public consultation, responsible for statistics, seems also quite minimal, with some openness regarding community energy. When consulted, it can happen that the Ministry (or MEKH or KSH) sends the questions to other institutions to be answered or provides no answer at all. A more open, 'user-friendly' approach would be highly appreciated, which would need more human capacity and willingness on the Ministry's side. Furthermore, KSH provides some of the data they possess only for a significant sum of money. In **Portugal**, the same 'Portal of Climate Action' could be used for energy data since data is related. In **Spain**, instead of a clear established institutional focal point, there are several public bodies in parallel dealing with energy issues (General Subdirectorate of Prospective, Strategy and Regulations in Energy Issues, Institute for Energy Diversification and Saving of Spain), making it more tedious and complicated to know where to find data and who to consult information.

41. Rate from 1 to 5 the role of institutional focal point(s) to facilitate public information and consultation on climate and energy issues in your country.



Overall, the **role of institutional focal point(s) for public information and consultation of data** on climate and energy has obtained **a low rate** by the analysed countries, with a 2.75 as average score, in which **Bulgaria** and **Germany** have received the lowest score.

More details on the lowest scores
Bulgaria doesn't have a focal point on climate issues. Since last autumn 2023 both the Ministry of Energy and Ministry of Environment are responsible for the NECP preparation, while previously the Energy minister was supposed to lead the process. As a result the first public consultation on the NECP update came 6 months after the deadline and one day after the EC announced initiating infringement procedure against Bulgaria on the delay. **Germany** doesn't have a focal point on climate issues.

Additional information

42. Does your country provide other additional information relevant for the climate action and energy transition not mentioned in this questionnaire? Please, specify relevant additional information.

Belgium	At the Flemish regional level, there is an analysis of more fine-grained indicators for every sector. There are highly aggregated WAM scenarios.
Bulgaria	Rather not. We've used the 2020 NECP Annex Information mainly. A newer draft came in late December 2023, but without energy modelling results or any annexes with data. We hope the final draft will come with updated annexes as well.
Denmark	We now have data on the emissions from burning bioenergy. Bio-CO2 is still not counted towards DKs CO2 accounts, but the data is now available, making it clear that biomass/biofuels are far from CO2-free and is a much worse choice than electrification. Also

	the DK Climate Act requires the government annually to report the GHG-emissions outside Denmark caused by DKs import of products/value chains.
Germany	Yes, there is in general a lot of information available. Worth mentioning: the projection report from the environmental protection agency which independently assesses progress on climate targets and the German Council of Experts on Climate Change, which also assesses progress.
Hungary	Not really, and the more we go into details the less underlying information is available.
Slovenia	Yes, within the Climate mirror. It started as a LIFE project and the Climate mirror page and reports are dedicated to monitoring progress and planning climate action to reduce greenhouse gas emissions from buildings, transport, industry, agriculture, forestry and waste.

43. Does your country provide sufficiently detailed information on the budget devoted to climate action and energy transition? Please, specify detailed information on the budget.

Belgium	Mixed. There is no unified green budgeting. Information on environmentally harmful expenditure has significantly improved.
Bulgaria	No, even the available information is very scattered. Such detailed information should be available in the (future) Energy Strategy and NECP Update. Only the National Recovery and Resilience plan did specify the amount of climate/green transition investments (aka 60%, but still some investment had dubious climate effect), which were slightly reduced as BG was recovering from the pandemic better than expected (the reduction came mainly from the climate investments: Of the investments related to decarbonization, 6 projects are affected. Of these, two are proposed to be dropped entirely and funding for four to be reduced. - highlights from Za Zemiata's recent report on NRRP 1,5 years implementation).
Croatia	No, only the budgets within specific funding programs that can contain energy and/or climate projects.
Denmark	Unsure. New climate measures are usually funded as part of the political agreement. Often new measures are either financed via new fees/levies or by the next annual budget bill.
Estonia	No, the budget is scattered around different documents and it is not easy to get the full picture.
Germany	Not in the NECP but this information is publicly available.
Hungary	No. Information is scarce and fragmented, it is nearly impossible even for professionals to see the full picture. Most likely the total sum is not tracked even by the Government as there are too many sources of money and too many Ministries dealing with it.
Poland	No. People do not know where ETS money goes for example.
Portugal	No. From 2022 there's a 'Green Budget' part of the Annual State Budget, according to directions in the National Climate Law. However, it's still not detailed enough.
Spain	Information on the budget devoted to climate action is scattered in different programs, instruments and scales, which makes it difficult to easily obtain detailed information.

44. Does your country prepare at least an annual stocktake report on the state of implementation for NECP policies and measures? Please, specify the state of implementation for NECP.

Belgium	Yes, but until now only at the regional level. There will now also be a federal stocktake. A readable NECP-wide stocktake at the national level is however still missing, a significant handicap.
Bulgaria	No, so far we have seen only the March 2023 edition of the NECPR Progress Report, on the EC website, it wasn't circulated or even mentioned on national institutions' websites or in the media.
Croatia	Not on an annual basis but every 2 years as is the requirement from the EC.
Denmark	The Danish NECP contains only business as usual scenario. The NECP-plan contains no additional measures and no plans for how to reach Danish national targets or DK's EU obligations. Since the DK NECP only outlines results of existing measures, there is by definition nothing requiring implementation.
Estonia	No, only the obligatory biennial NECP progress report to the Commission. NECP is used only as a summary of preexisting policies and measures in Estonia, so it is not actively used in planning.
Hungary	Only the reporting obligation under the EU law and UNFCCC are fulfilled and the reports sent to the EU are not always/often not made public. The Hungarian National Climate Change Strategy (the most recent adopted in 2018) prescribes that 3-year long Climate Action Plans shall be adopted. However, the Plan for 2021-23 is still not adapted, also the evaluation of the Plan for 2018-2020 remained undone.
Portugal	No. There's only the NECP Progress Report (NECPR) every two years.
Slovenia	Yes. Yearly report on implementation is done within Climate mirror, also for different sectors, and then also separately by the government on the official NECP site.
Spain	Spain has prepared the NECP Progress Report as required biannually by the EU regulation, but it was presented in an unreadable format of tables. Beyond that, no annual stocktake report on the NECP implementation state has been so far published.

45. Do you miss any other relevant information that could be useful for your country? other countries? at EU level? Please, specify on other relevant missed information.

Denmark	From next year, when the EU (according to the EU climate law) will provide a GHG-budget it would be useful if DK (all MS) also provides national carbon budgets. DK has only single year targets (e.g. 70% reduction by 2030). It would be better if the official data also contained the carbon budget for each country.
Germany	More comparability between national goals and EU goals would help monitor Germany's progress.
Hungary	IIn Hungary, data underlying the progress towards climate neutrality on the building sector, finance, lifestyle and just transition is scarce, as well as data and information on trends of greenhouse-gas sink capacities (LULUCF). (In its climate law of 2020, Hungary committed to climate neutrality by 2050. This law also contains the 3 targets of the "old" NECP so these targets will need to be revised once the updated NECP is adopted.)

TRANSPARENCY AND ACCESS TO DATA ON CLIMATE ACTION

A first assessment to analyse and improve transparency and access to data on national climate action and NECPs implementation

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