



# Designing an Energy Statistics Roadmap

Practical guide for the assessment tool

International  
Energy Agency



# INTERNATIONAL ENERGY AGENCY

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# Introduction

This document is based on the [Designing an Energy Statistics Roadmap](#) and serves as a practical guide to help users in filling out the Microsoft Excel-based assessment tool. It focuses solely on the key guiding questions to provide further guidance on how to answer them. It is intended to be used alongside the assessment tool and not as a standalone document. For a thorough application of the IEA’s framework, we invite you to download the [full version of the guidebook](#), which includes the relevant context for energy statistics as well as detailed information on each element of the framework.

## How to use the assessment tool

Accompanying the IEA’s “Designing an Energy Statistics Roadmap”, a Microsoft Excel-based self-assessment tool is also available for users to easily apply the framework steps to their national context by answering the questions presented in the roadmap. The tool allows users to also extract a report which can be easily presented to exhibit the national progress at various contexts.

**If you encounter errors while extracting the report**, please refer to the *Troubleshooting* section to resolve common problems. In case your issue is not resolved, please email [DataCapacities@iea.org](mailto:DataCapacities@iea.org).

**Prior to using the tool**, on the tab *I\_Cover*, you may select the desired language and enter your country’s name on the designated field.

**iea** Designing an energy statistics roadmap:  
Assessment tool

Questionnaire Version: 2025\_06\_30

**Link to the guidebook:**  
[Designing an Energy Statistics Roadmap](#)

**Tool description**  
This tool is designed based on the IEA's "Designing an energy statistics roadmap: A guide to strengthening national capacities for tracking energy transitions". It allows the national stakeholders responsible for the development of energy statistics to document and quantify the status of the current capacities to produce energy information.

**Use:**  
The user should first carefully read the guide before answering the questionnaire sections. The questionnaire can be used independently, or it can be filled together with external experts (e.g. IEA energy data experts) through computer-assisted phone interview (CAPI). The results can be extracted in a PDF-format using the in-built feature button (printed to the user desktop)

**Filling instructions by sheet**

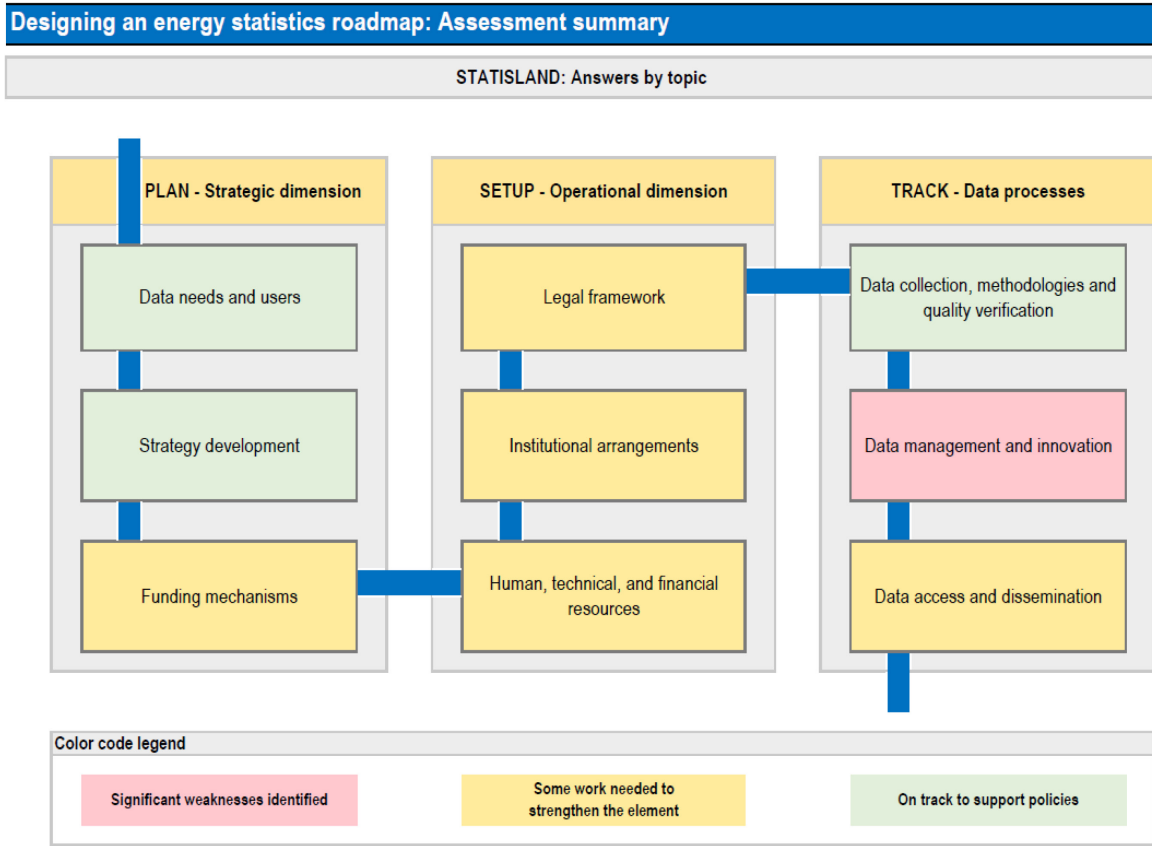
I_Cover	This sheet.
II PLAN	Covers the Section 'PLAN' of the guidebook (see document. pp. 27-36). Please

Select language / Sélectionnez la langue / Seleccionar idioma / Выберите язык :

Insert country name:

After providing answers, click the button to generate a report of the results (PDF will appear on the user desktop)

## Sample summary output from the assessment tool



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For instance, based on the assessment output above, this country could prioritise the “Data management and innovation” element, and improve such processes by implementing the applicable recommendations outlined in the full version of the IEA roadmap. For an effective implementation of the recommendations for “Data management and innovation”, the country could also work on improving the previous dimensions, namely PLAN and SETUP, as this would ensure that the strategic and operational dimensions of the national energy information system are on track to support the data processes.

## Sample data availability assessment input

### VII) Data availability assessment

Notes:

- see 'Designing an energy statistics roadmap', Section 'Key energy data', pp. 12-14.
- indicate the data availability in the blue cells: Yes = Available, No = Not available ('Partial' is also an option)
- if a product/flow is not relevant in the national context, insert 'Yes'.

Statisland

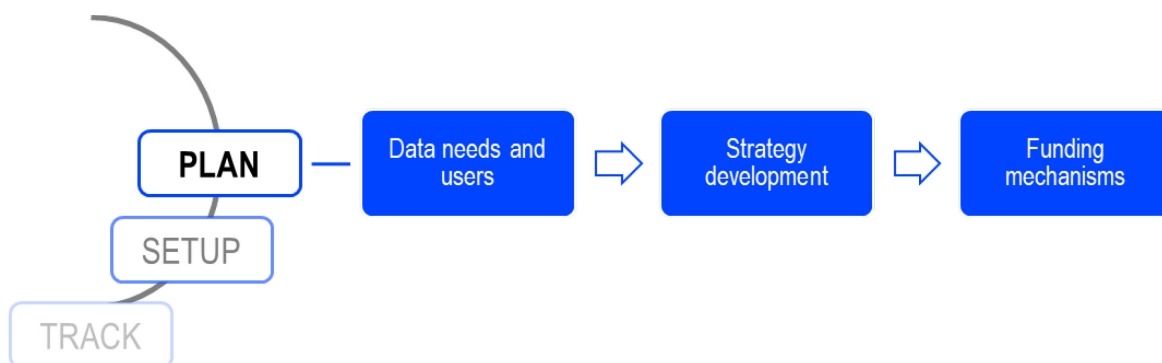
		Main energy products						Total
		Coal	Oil & oil products	Natural gas	Solid biofuels	Electricity	Heat	
<b>Energy supply</b>								
	Production				Partial	Yes		--
	Trade	No	Partial		Partial	Yes		--
	Stocks	No	Yes		No	x	x	--
	domestic supply	Partial	Yes		No	Yes		--
<b>Energy demand</b>								
Main energy flows	Inputs: electricity/heat		Yes		Partial	Yes		--
	Inputs: other transformation		Yes		Partial			--
	<b>Industry</b>	Partial	Partial		No	Yes		--
	Iron and steel	Partial				No		--
	Chemical and petrochemical					No		--
	Non-ferrous metals					No		--
	Non-metallic minerals (cement)					No		--
	Other					No		--
	<b>Transport</b>							--
	Road transport		Yes			Partial		--
	Aviation		Yes			No		--
	Maritime		Yes			Yes		--
	Rail		Yes			No		--
	Other							--
	<b>Residential/households</b>		Partial			Yes		--
	Space heating		Partial					--
	Space cooling		No			No		--
	Cooking		Yes		No	No		--
	Lighting and appliances		No			No		--
	<b>Other final consumption sectors</b>							--
Commercial and public services		Partial			Yes		--	
Agriculture		Partial		Partial	No		--	
Forestry		Partial			No		--	
Other							--	

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For instance, based on the data availability assessment above, this country could prioritise collection of granular demand side data for coal, oil, solid biofuels, and electricity, and improve the relevant data processes by implementing the applicable recommendations outlined in the full version of the IEA roadmap.

The following sections align with the structure of the self-assessment tool, using the corresponding tab names (e.g., Section PLAN refers to the II\_PLAN tab). Each sub-header corresponds to a specific question in the tool, with supporting guidance provided to help users assess and respond accurately. By reviewing the supplementary prompts, users can better determine whether their answer should be “Yes”, “Partial”, or “No”. For instance, under “Data needs and users”, if most sub-questions under “Are there relevant and/or high-visibility energy policies in place that require energy data for policy design and evaluation?” are answered affirmatively, the main question should be marked as “Yes”.

# PLAN – The strategic dimension

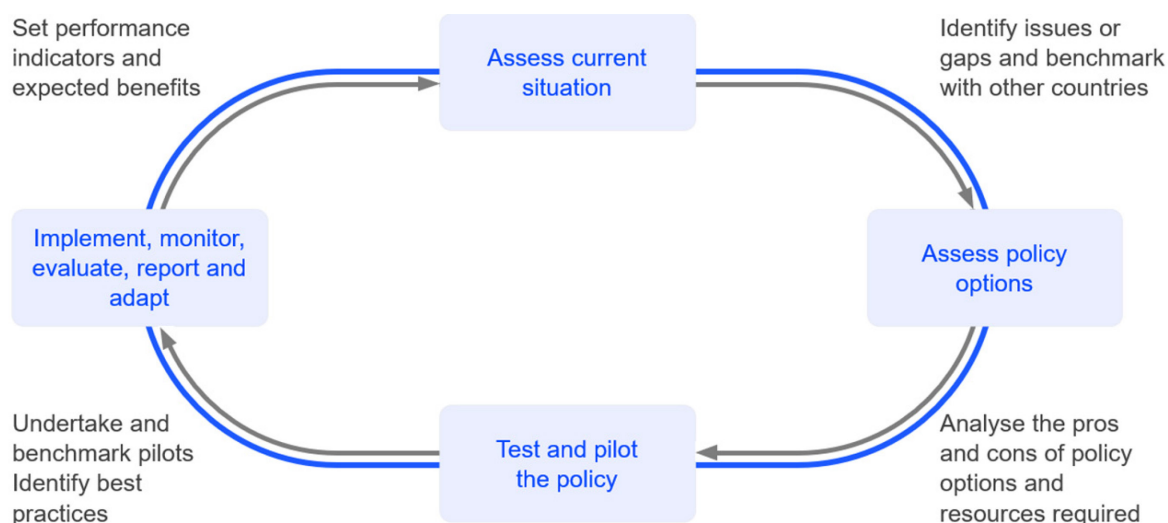


*This section refers to the tab named “II\_PLAN” from the assessment tool.*

## Data needs and users

Are there relevant and/or high-visibility energy policies in place that require energy data for policy design and evaluation?

- Is the current energy information system suitable to support the design and tracking progress of:
  - existing and planned energy policies in the country?
  - international energy and climate commitments (SDGs, NDCs, etc.)?
- Are relevant policies developed based on a data-driven policymaking approach? (see the diagram below)



## Is it clear who the data users are?

- Government bodies responsible for energy and climate issues are primary users of energy information, but the data are also regularly accessed by academics, research institutes, private companies and the general public. For the entity responsible for producing official national energy information, it is important to develop an understanding of who the main users are by consulting them and inquiring about their data needs.
  1. Consultation is the main way for entities producing official national energy information to learn how the energy information is used, what the priority gaps are and how to reach different audiences.
  2. It is only possible to meet users' data needs and priorities if they are properly identified. It is important that users share their data needs with data producers – and for that to happen, they need accessible communication channels.
- Are there regular consultations of key users to gather information on emerging data needs and the appropriateness of dissemination methods?

## Are evolving data needs continuously identified and addressed?

- Is there regular dialogue between the entities responsible for energy policymaking and energy data producers?
- Are additional data requests outside of regular data collection assessed to see how these data could be collected?
- Does a centralised energy information system exist? Does it allow stakeholders to flag new data needs to the entity responsible for producing official national energy information?

# Strategy development

## Is there a strategy for producing and developing energy data?

- Strategic planning is the process of defining organizational vision with specific objectives, achieved through a sequence of steps. A strategy on national energy data facilitates institutional collaboration and helps secure statistics development funding.
- Is the Ministry of Energy (MoE) involved in developing the energy data strategy? Who coordinates it?
- Does the annual work programme of the entity responsible for producing official national energy information stem from longer-term planning? Are there longer-term plans beyond the annual work programme? (e.g., Is there an internal written energy

data strategy for the next 5-10 years that prioritises improvements to national energy information?)

### Does the strategy include identification of data collection priorities?

- The energy data strategy should also be informed by existing data needs, in consultation with key stakeholders, to enhance the relevance of energy information needed for meeting national energy and climate policy targets.
- Does the development phase of the energy data strategy include consultation with primary data providers (or their representatives) as well as key public and private users and international stakeholders (e.g., IEA)?
- Is the priority of the energy data strategy to support existing or upcoming energy and climate policies?

### Is it regularly updated to respond to evolving needs?

- Is the internal energy data strategy updated at regular intervals?
- Does it also cover internal procedures?
- Is it publicly available and accessible? How frequently is it updated and communicated publicly?

## Funding mechanisms

### Are core energy statistics funded by the national administration?

- In most countries, energy data are collected by public entities such as the national statistics office (NSO) or the MoE and are primarily funded from the state budget. Statistics should be viewed as a public good, deserving of public financing to ensure the continuity of core operations, as well as their independent nature.
- Can national ministries, such as the MoE, provide targeted funding to produce specific energy information to meet existing needs?
- Is the production of regular national energy statistics financed primarily through national resources allocated to statistical work?

### Are there additional funding mechanisms besides conventional public ones?

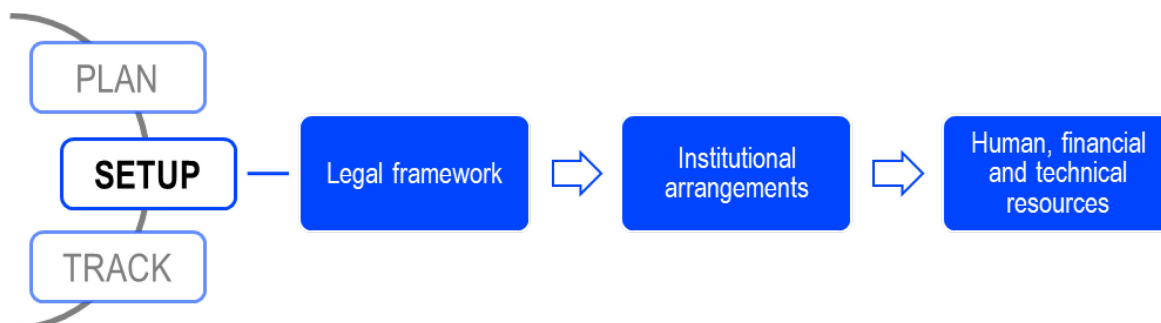
- If so, what do they cover?

- Limited state budgets can sometimes force compromises to the development of national energy statistics. Countries may have to resort to alternative national and international funding streams to produce energy data, such as:
  - earmarking additional funding from the state budget
  - reallocating internal resources within the entity producing energy statistics
  - drawing from the budgets of other relevant agencies (such as energy, transport, industry and economic development ministries)
  - seeking external grants from regional or international counterparts (often only available for producing new data)
  - applying for concessional loans
  - seeking voluntary contributions from donors and/or impact investors.
- Is external funding (e.g. grants, concessional loans) used to finance new or pilot surveys (e.g. household energy consumption) in a way that ensures knowledge is transferred to national stakeholders?

### Are the funding mechanisms sufficient and sustainable for routine and additional work?

- Sufficiency of funding refers to the amount of resources available to cover the needs. This can be ambiguous given that evolving user needs may outpace the resources available to collect the desired energy data.
- Stability of financing refers to the predictability of the amount of funds allocated for the production, development and dissemination of energy information. Large annual fluctuations in the budget make it difficult to plan. Having budget visibility at least one fiscal cycle in advance would provide greater flexibility and time to plan routine activities and respond to emerging information needs.
- Are there sufficient resources to cover the needs?
- Is the funding available in the long term?
- Is the use of external funding to conduct routine energy data work minimised?
- Does the entity responsible for producing official national energy information have control over internal resource allocation?

# SETUP – Operational dimension



This section refers to the tab named “III\_SETUP” from the assessment tool.

## Legal framework

Is there a regulatory framework for energy statistics or statistics in general (e.g. Energy Statistics Act or Law)?

- Most countries have dedicated legislation (in the form of law or decrees) governing statistical work. This is often general in nature and not specific to energy statistics. *If that is the case for your country, please answer “Partial” for this question.* The main role of these legal frameworks is to designate the entity responsible for data collection and dissemination and to ensure its access to primary information (e.g. mandatory data provision, administrative data sources).
- Does the regulation consider the appropriate level of granularity when it comes to data collection, and when possible, allow amendments depending on evolving data needs?

Does it require respondents to provide data (i.e. mandatory nature)?

- Does the legislation grant authority to collect statistics and information from different types of respondents?
- Does it mandate the dissemination of energy information to the public as well as to the government?
- Does it imply that the production of energy supply and demand data are mandatory and require that adequate resources be provided for these tasks?

## Is it functioning and appropriate for your work? Is it enforced?

- As a default, statistical legislation should:
  - nominate a responsible entity for energy data collection and reporting
  - enforce responsiveness
  - regulate access to administrative data sources.
- Does the legislation grant the entity responsible for producing official national energy information access to relevant administrative data from any level of government, regulators, enterprises and organisations across the country?
- Does it define penalties for unjustified withholding of data?

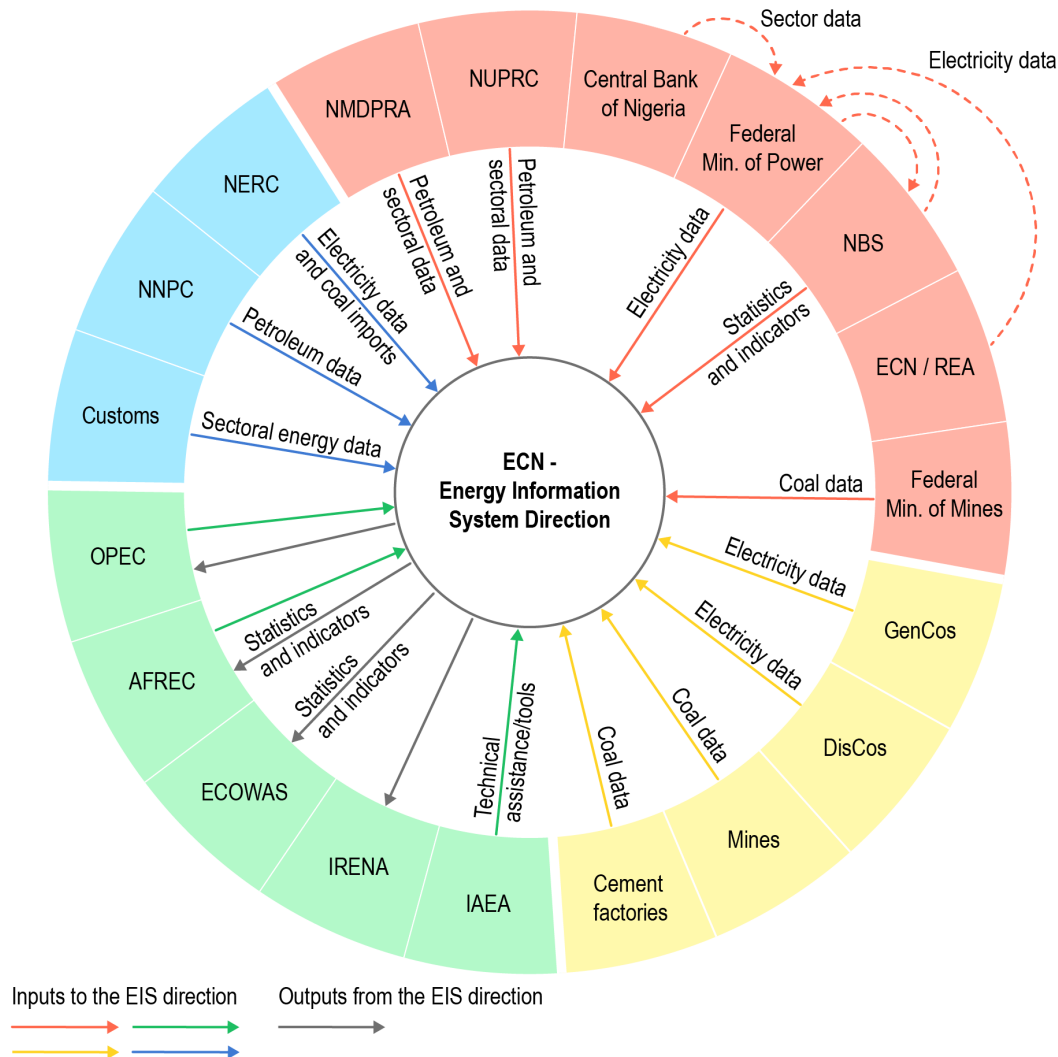
## Institutional arrangements

### Is there an entity responsible for coordinating the national energy information system?

- Most energy data are handled either by the ministry in charge of energy matters (MoE) or the national statistics office (NSO). Nevertheless, it is likely that additional stakeholders are involved in the provision, validation and release of energy statistics, including regulators, tax authorities and customs offices.
- Is there a dedicated entity for coordinating energy statistics activity, with sufficient mandate and tools to collect and disseminate energy information? (See also “Legal framework”).
- If the entity responsible for producing official national energy information is different than the NSO, do they coordinate their energy data collection and dissemination activities?

### Is the division of work clear to avoid both gaps and overlaps in data collection?

- It is essential to have a clear understanding of the relevant stakeholders, their interconnections and their mandates to ensure cost-efficient use of often limited resources. To understand the connections among the stakeholders, it can be helpful to map them. Mapping can reveal potential overlaps or gaps between stakeholders. See the diagram below that demonstrates the institutional environment of the Nigerian Energy Information System for an example:



IEA. CC BY 4.0.

Source: African Energy Commission (2022), [Development of the National Energy Information System \(NEIS\) and Capacity Building Project. Diagnostic Report and Action Plan](#), (accessed 25 June 2024), as modified by the IEA.

- If responsibility for international reporting falls to different entities (e.g. energy vs. climate), do they coordinate their work to harmonise information?
- Is the responsibility for compiling and publishing energy statistics, energy balances, and energy efficiency data clearly defined?
- Are data uniformly applied across government reporting channels to avoid inconsistencies in different policy documents?

**Are there any mechanisms to foster institutional collaboration and data sharing at national level (e.g., memoranda of understanding [MoUs], agreements, working groups)?**

- Is the entity responsible for producing official national energy information in frequent communication with national stakeholders to facilitate data exchanges and control data quality?

- Is regular data sharing covered by a formal long-term data sharing agreement to avoid unnecessary bureaucracy?
- Does the entity responsible for producing official national energy information maintain a publicly accessible, centralised repository for energy information? Is all energy-related administrative data collected by the government accessible on a regular basis to the entity responsible for producing official national energy information?
- Is there a dedicated aggregator at the national level, even if responsibility for primary data collection falls to multiple entities?
- Are data sharing agreements in place with the key administrative data sources (e.g. energy regulator) and the entity responsible for aggregating the official energy information?
- Do bilateral data exchange agreements support information flow in both directions?
- Is there a dedicated contact point within each institution for questions related to energy data?
- Does a stakeholder group exist (e.g. working group, external advisory body) as an intermediary between the entity responsible for official national energy statistics and key stakeholders?
- Is there a regular communication between energy utilities, large energy traders and the ministries responsible for sectoral developments (e.g. Ministry of Coal, Industry, Oil and Gas)?

## Human, financial and technical resources

### Are the available technical and financial resources adequate and visible in the long-term?

- Relevant technical resources include the availability of manuals and documentation that can support the implementation of energy data work (e.g. methodological guidelines and standards), as well as IT infrastructure (hardware and software) to support data collection, processing and dissemination. IT infrastructure plays a key role in enhancing productivity and enabling solutions that reduce the likelihood of human error and automate repetitive tasks – freeing staff to focus on critical activities.
- Beginning with competitive staff salaries (comparable to the private sector to prevent turnover and "brain drain"), financial resources are essential for data collection. Household energy consumption surveys, for example, are among the most expensive kinds of data collection activities.

- Among the technical team, is there a mastery of programming skills (e.g. Python and R)? Are there two or more responsible staff members assigned to each software/program/script used (“product owner” and “vice-product owner”)?
- Is there an online database developed for centralising data collection and processing compatible with internationally recognised data exchange formats (e.g., SDMX)?
- Is there awareness-raising material on the benefits of sound energy statistics? This may help in securing sustainable funding over the long term.
- Are additional funding sources identified and pursued for including new and scattered energy technologies (e.g. heat pumps, residential solar) within national statistics?

### Are the available resources (human, technical and financial) relatively stable over time, without major annual fluctuations?

- Human resources refer not just to the number of staff (headcount) but also to the skills of those involved in collecting and handling energy data. A universal measure for the number of staff is a full-time equivalent (FTE), with 1 FTE being an equivalent of 40 hours of weekly input.
- Is there a consolidated energy data team with clear roles that could benefit the development of data and of the staff on energy statistics?
- Do all team members and new hires working on energy statistics possess core competencies, such as a solid understanding of energy systems? Is external funding used mainly for pilot projects, such as new data collection? Is the capacity developed during the project absorbed in the core workflow?

### Is there sufficient staff capacity? Is there continuous training of staff?

- Is the total number of FTEs working directly on energy statistics across different institutions known? Does each staff member have an individual training plan to develop relevant skills?
- Does the staff have access to the expertise of the national energy statistics working groups to arrange training sessions on relevant energy topics?

# TRACK – Data processes



*This section refers to the tab named “IV\_TRACK” from the assessment tool.*

## Data collection, methodologies and quality verification

Are there sound data collection methods in place (e.g. use of administrative sources, fuel supplier and sectoral user surveys)?

- In general, the different methodologies used to collect energy supply and demand data can be grouped into four main categories: i) administrative sources, ii) surveying iii) measuring or metering, and iv) modelling.
- Have you conducted an initial mapping to review existing data (e.g. from administrative sources) and identified any data gaps? Is there a detailed action plan for gathering missing or additional information?
- Do you collect data at regular, predefined intervals to allow for comparison with earlier information?
- Is access to administrative data systematised?
- Is the collection of data from the energy and manufacturing industries separated?
- Is there an energy-specific module to the census to collect comprehensive information on energy consumption in households (e.g. biomass)?
- Is preference given to electronic data collection? (allowing for paper reporting in exceptional cases is acceptable, e.g., internet and content literacy, lack of online access). Are modern technologies integrated into the process?

## Does the data collection follow documented methodologies and standards?

- Are national data collection questionnaires designed to be compatible with international standards for streamlined data production and dissemination?
- Have you compared current energy data compilation methodologies with international standards (IRES) to identify discrepancies that could lead to inconsistencies?
- Are energy commodity balances in full compliance with the IRES? Is the energy balance in full compliance with the IRES, both for products and activities?
- Have you compared the energy product definitions with international standards (SIEC) to identify any discrepancies that could lead to inconsistencies or gaps?
- Are nationally used definitions and standards harmonised among national institutions? Are nationally published figures for energy production harmonised?
- Are metadata available alongside the actual energy supply and demand data?

## Are there sufficient processes in place to control data quality?

- Are data gaps duly identified both in energy supply and demand data to support consistency checks?
- Are the following checks conducted:
  - Basic arithmetic checks and sum formulas in spreadsheets to ensure that totals add up.
  - Energy balance checks for electricity and heat production.
  - Mass and energy balance checks for other transformation processes.
- Is the national energy information assessed regularly to find any existing or emerging data gaps and followed up with a plan to narrow them?
- Does the centralised energy management system run data validation checks automatically and provide a summary report of the flagged issues for action?

## Are the following references applied in the national context?

### Key international methodologies and standards for energy statistics

Source	Description
International Recommendations for Energy Statistics (IRES), UN 2011	<p>IRES is the main document guiding the structure of the energy supply and demand data.</p> <p>IRES provides a complete set of recommendations covering all aspects of the statistical production process, from basic concepts, definitions and classifications to data sources, data compilation strategies, energy balances, data quality and statistical dissemination.</p> <p>Link: <a href="https://unstats.un.org/unsd/energystats/methodology/ires/">https://unstats.un.org/unsd/energystats/methodology/ires/</a></p>
Standard International Energy Product Classification (SIEC), UN 2012	<p>The main purpose of SIEC (part of IRES) is to serve as a basis for developing or revising national classification schemes for energy products to make them compatible with international standards and, consequently, to improve cross-country comparability of energy data.</p> <p>Link: <a href="https://unstats.un.org/unsd/classifications/Family/Detail/2007">https://unstats.un.org/unsd/classifications/Family/Detail/2007</a></p>
The International Standard Industrial Classification of All Economic Activities (ISIC), UN 2007	<p>ISIC provides an internationally accepted classification of all economic activities, which is useful for the collection and reporting of energy statistics (e.g. for the disaggregation of the industry and services sectors). Most countries around the world have used ISIC as their national activity classification or have developed national classifications derived from ISIC, such as the EU Nomenclature of Economic Activities (NACE).</p> <p>Link: <a href="https://unstats.un.org/unsd/classifications/Econ/isic">https://unstats.un.org/unsd/classifications/Econ/isic</a></p>
Energy Statistics Compiler's Manual (ESCM), UN 2016	<p>The ESCM is a guidebook that complements the International Recommendations for Energy Statistics (IRES).</p> <p>It is written primarily for practitioners responsible for building up or improving the energy statistics programme of a country or institution in a way that is consistent with international standards and which produces reliable and internationally comparable data.</p> <p>Link: <a href="https://unstats.un.org/unsd/energystats/methodology/ESCM/">https://unstats.un.org/unsd/energystats/methodology/ESCM/</a></p>
2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 2: Energy	<p>These guidelines are specifically designed for countries to prepare and report inventories of greenhouse gases. In the energy sector, the activity data for emissions estimates are typically the amounts of fuels combusted. Such data are sufficient for performing a Tier 1 analysis.</p> <p>To ensure transparency and comparability, a consistent classification scheme for fuel types must be used. Therefore, the IPCC guidelines rely on the definitions laid out in the IRES.</p> <p>Link: <a href="https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol2.html">https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol2.html</a></p>
Demand-side data and energy efficiency indicators: Guide to designing a national roadmap, IEA 2023	<p>This IEA roadmap provides tools to assess the current capacity to produce energy demand data and energy efficiency indicators as well as guidelines for mitigating the observed issues.</p> <p>Link: <a href="https://www.iea.org/reports/demand-side-data-and-energy-efficiency-indicators">https://www.iea.org/reports/demand-side-data-and-energy-efficiency-indicators</a></p>
Energy Statistics Manual, IEA 2004	<p>This manual provides a basic understanding of energy statistics to the general user.</p> <p>Link: <a href="https://www.iea.org/reports/energy-statistics-manual-2">https://www.iea.org/reports/energy-statistics-manual-2</a></p>

## Does the current data collection fully capture the following?

### Common data gaps in national energy statistics

Potential gap	Description
<b>Energy production</b>	<p>Data on production of natural resources is often easily available. This includes coal, crude oil and natural gas.</p> <p>However, there may be less data available on the byproducts of these extraction processes. Examples include residues/rejects from coal washeries, liquid fractions associated with oil and gas extraction, coalbed methane.</p> <p>If these side streams are ultimately used for energy purposes, they should be included in the energy statistics. The larger the producer, the larger the data gap may be. Underreporting of production can lead to a systematic discrepancy between the supply and observed energy consumption.</p> <p><b>Suggestion:</b> As a first step, identify how extractive industries treat the byproducts. If some of these flows are continuously used for energy purposes but not included in the data reported to the relevant statistics entity, the reporting mechanism needs to be amended.</p>
<b>Energy transformation processes in iron and steel making</b>	<p>The transformation processes related to iron and steel production are often not fully captured by the reporting. Due to the integrated nature of the processes, it may also be difficult to track all the energy inflows and outflows. However, accurately representing energy data for this sector is critical for climate policies. Steel's GHG footprint is a closely monitored metric and thus the underlying data should be properly captured.</p> <p>Ideally, complete input and output flows should be available for <b>coke ovens and blast furnaces</b>. If certain elements are missing, the related process efficiencies and emissions may either be under- or overestimated.</p> <p><b>Suggestion:</b> A generic manufacturing industry survey may not be enough to track all the specifics of the sector. Also, amending an existing survey may be overkill given that the number of actors in the sector is typically limited. Therefore, it is recommended that energy data from the iron and steel sector be collected separately.</p>
<b>Electricity produced by autoproducers - Industry</b>	<p>To build a complete picture of the energy flows in a country, it is important to include all electricity generation and related energy inputs, not just those of the main utilities.</p> <p>In practice this means including electricity produced for the sector's own consumption. Large industrial enterprises may operate their own power plants, for example, using process residues to generate electricity.</p>

Potential gap	Description
<p><b>Electricity produced by autoproducers</b></p> <p><b>- Residential</b></p>	<p>Excluding this electricity consumption from the national energy balance would distort a sector's weight in the overall accounting of energy supply and demand. This effect can be significant for a small country if a major industry is absent from the reporting.</p> <p><b>Suggestion:</b> If a generic manufacturing industry survey does not include questions on electricity production, it is advisable to add a pertinent section.</p> <p>Households are increasingly installing small-scale solar PV systems. Currently, accurate electricity generation data may not be readily accessible to the entity responsible for producing official national energy information/NSO. However, efforts should be made to estimate and model annual output. The deeper the penetration of solar PV, the greater the disparity between the amount of electricity sold and consumed by households. If not appropriately accounted for, this can send inaccurate signals, impacting energy efficiency and other analyses.</p> <p><b>Suggestion:</b> Different methods have been developed (e.g. IRENA) to estimate power generation based on the number of solar panels, average irradiation, etc. In the future, advances in metering technology and intelligent control systems are expected to enable precise data sharing with aggregators.</p>
<p><b>Geographical coverage</b></p>	<p>The geographical coverage refers to the area for which statistics are collected. For policy and analytical purposes, it is essential to collect statistics at the national level.</p> <p>Territorial issues are often politically sensitive, and sometimes the entity responsible for producing official national energy information may prefer not to disclose all information. However, national energy analysis – on energy efficiency, for example – could be misleading if the variables being compared pertain to different geographical areas.</p> <p><b>Suggestion:</b> In cases of territorial dispute, it is critical – at bare minimum – that the accompanying methodological notes spell out details such as which areas are excluded from the dataset and how energy trade for these regions is treated.</p>
<p><b>Non-commercial energy demand</b></p>	<p>While this category is rather generic, it covers types of energy consumption without an official transaction attached to it. Therefore, it is not possible to obtain this information using government registries (e.g. tax) or other administrative sources (e.g. customs). Two cases fall into this category:</p>

Potential gap	Description
<p><b>Non-commercial energy demand (continued)</b></p>	<p><b>Biomass utilisation for energy purposes</b></p> <p>In many countries, and particularly in rural areas, biomass in various forms is commonly used for heating and cooking purposes. Most of this is self-produced or collected, i.e. there are no commercial transactions to track the consumed amounts. Quantifying the consumption of biomass is essential for several areas of policy, including energy, environmental and social aspects. If the share of biomass in overall energy demand has never been estimated or modelled, the usefulness of national energy policies is likely limited. This impact is most pronounced in countries where the population relies predominantly on biomass (fuelwood) for energy.</p> <p><b>Suggestion:</b> Consumption of biomass can only be reliably quantified through surveys. Conducting such surveys is costly but should be included in the energy data strategy. Prior to the survey, the data can be estimated using <a href="#">specific modelling tools</a>.</p> <p><b>Illegal trade of liquid transport fuels</b></p> <p>In certain countries, the official supply figures (production, imports) of transport fuels – mainly gasoline and diesel – are systematically lower than the observed consumption. Once the official data are confirmed and the discrepancy persists, it can be assumed that a portion of consumption is satisfied through illegal imports from neighbouring countries.</p> <p><b>Suggestion:</b> A good indicator of the magnitude of such activities is the fuel price (tax) disparity between the countries. Price data can also be used as the basis for estimating/modelling the missing trade volumes. The inclusion of the smuggled volumes is important for an accurate picture of consumption patterns.</p>
<p><b>Fuel tourism</b></p>	<p>The concept of “fuel tourism” refers to consumers from neighbouring countries crossing the borders to purchase fuel at a cheaper price, contributing significantly to national fuel sale totals.</p> <p>Typically driven by significant price differentials, this effect can constitute a significant portion of national consumption. In such cases, national consumption statistics, based solely on fuel sales would not be consistent with national transport activity data. Estimation methods exist for cross-border traffic to adjust the sales data. (See <a href="#">UNECE Handbook on Statistics on Road Traffic</a>) The approach involves counting vehicles crossing the border and interviewing drivers at service stations. Collection and comparison of price data across countries can also help to estimate the scale of the phenomenon.</p>

## Data management and innovation

### Is the current data management framework adequate?

- Data management can be considered to cover the whole information chain, from obtaining primary data to preparing the final data products for dissemination.
- Does the online data reporting portal have embedded checks for signalling implausible inputs to respondents?
- Are ad-hoc (legacy) data management processes replaced with robust and transparent processes developed with either open-source programmes or common programming languages (e.g. Python)?

### Is there room for further digitisation of data collection, management and dissemination?

- The use of digital tools in data management is also relevant as these technologies typically reduce the likelihood of manual mistakes.
- Are repetitive manual data processing tasks identified and automated based on cost-benefit?
- Is the share of energy data received via pen and paper known?
- Are there energy data coherence and plausibility checks in place and with some level of automation to save time?
- Are data from spreadsheet questionnaires uploaded to databases automatically?
- Is there an IT strategy to migrate all energy data to a central database for online data collection and for the generation of final output files, including external reporting?

### Is there any plan or pilot programme for innovative methods or approaches in the national energy information system?

- Are data collection tasks that could benefit from innovative methods identified?
- Is there an action plan to gradually introduce digital data collection methods? (although a fully digital system may not be feasible in the near future, or even desirable)
- Do technical institutes collaborate on developing innovative data collection methods? (e.g., artificial intelligence tools)

## Data access and dissemination

### Are energy statistics easily findable and accessible?

- Are energy supply and demand data accessible online? Can they be accessed within a maximum of three clicks?
- Are energy data available in different and user-friendly formats (e.g. infographics, spreadsheets, CSV)? Is there a publicly accessible online database with download and plotting features?
- Is there a public schedule for data releases? Are new data releases advertised via press release and/or through social media channels?

### Are the final data products relevant to the users?

- Are dissemination formats periodically reviewed?
- Are different user types considered when developing dissemination formats?
- Are data visualisations (e.g. infographics) available that summarise key developments in the energy sector?
- Do dissemination formats include both data repositories and data communiqués?
- Are website analytics used to further develop online content and dissemination formats?

### Are the data transparent? Is there metadata available?

- Are metadata published alongside energy data?
- Can links to data products be shared through social media and other platforms? Does the webpage provide a feature to properly reference the data source when sharing?
- Is the entity responsible for producing official national energy information also the primary communicator of energy information?

# Country information

*This section refers to the tab named “V\_Country info” from the assessment tool.*

<b>National institution(s) involved</b>	What entity coordinates the energy information system? What entities are involved in what roles, across the various areas for data collection?
<b>Key enablers</b>	Any recommendations for low-hanging fruit/quick wins to strengthen the framework for national data collection, production and dissemination?
<b>Success story</b>	What are your success stories regarding your energy information system?
<b>Main challenges</b>	What are the biggest challenges when it comes to different elements of the energy information system?
<b>Lesson learned</b>	How can other countries benefit from your country’s experiences?

# Long-term enablers

*This section refers to the tab named “VI\_Enablers” from the assessment tool.*

Three key long-term enablers have been identified as the main pre-requisites for supporting and driving improvement in national energy statistics systems.

## Key long-term enablers



IEA. CC BY 4.0.

## Political will and awareness

The basic pillar for the development of energy statistics at national level is the acknowledgement of the importance of energy information – not only in designing and evaluating evidence-based energy and climate policies, but also in tracking progress towards national goals, targets and commitments. The development and availability of such information should also be supported by a strong policy framework, enabling data collection from a variety of sources.

## Staff and institutional capacity and stability

Qualified staff who understand the methodological specificities of energy statistics are crucial for the development and effective use of national energy statistics. Such capacity is needed not only within the entities responsible for producing the official data but also among those in charge of energy planning.

## Multilateral collaboration both at national and international level

Institutional collaboration – either formal or informal – should be fostered at a high level to encourage deeper engagement and accountability among stakeholders and to improve the consistency and efficiency of statistical systems.

At the global level, cooperation is also an important driver of improved data collection that respects international methodologies and allows for international comparisons.

# Data availability

*This section refers to the tab named “VII\_Data availability” from the assessment tool.*

**Key energy data** refers to the main types of data needed for developing an **energy balance**. An energy balance is a matrix of energy products and flows brought together in energy units and provides a complete picture of the energy landscape for a certain geographical territory and period (e.g. a year).

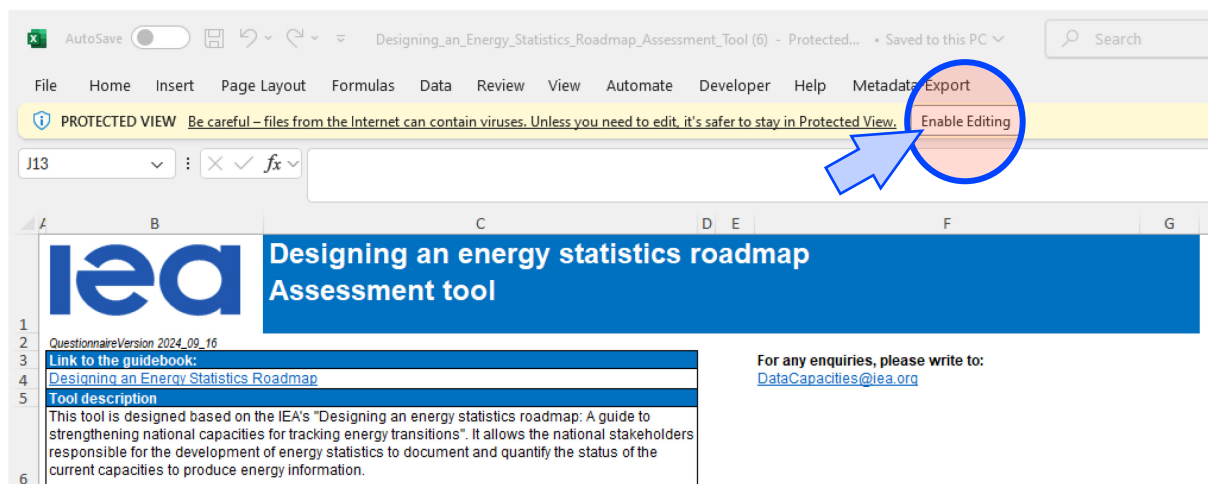
Three main data categories for developing energy balances (or derive high-level indicators) can be considered: **energy supply**, **energy demand** and **economic activity**. Details about energy products and flows can be found in existing literature, most importantly in the [International Recommendations for Energy Statistics](#).

Please fill this section in accordance with the data availability on your country’s energy balance. If a product/flow combination is not relevant in the national context, insert N/A.

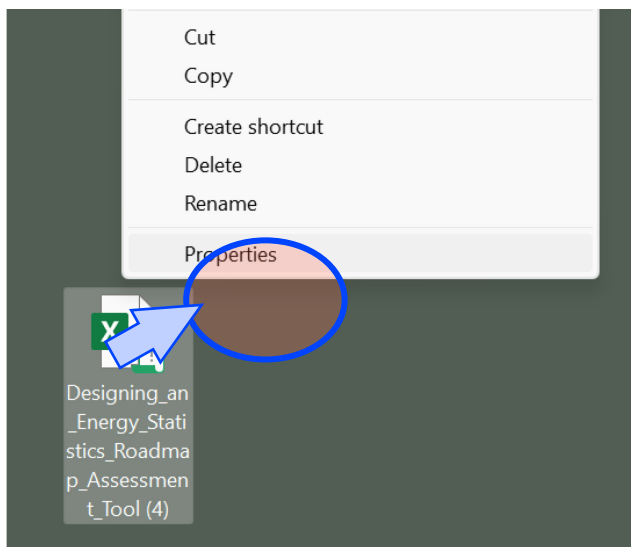
# Troubleshooting

If macros are disabled and you have issues generating a report:

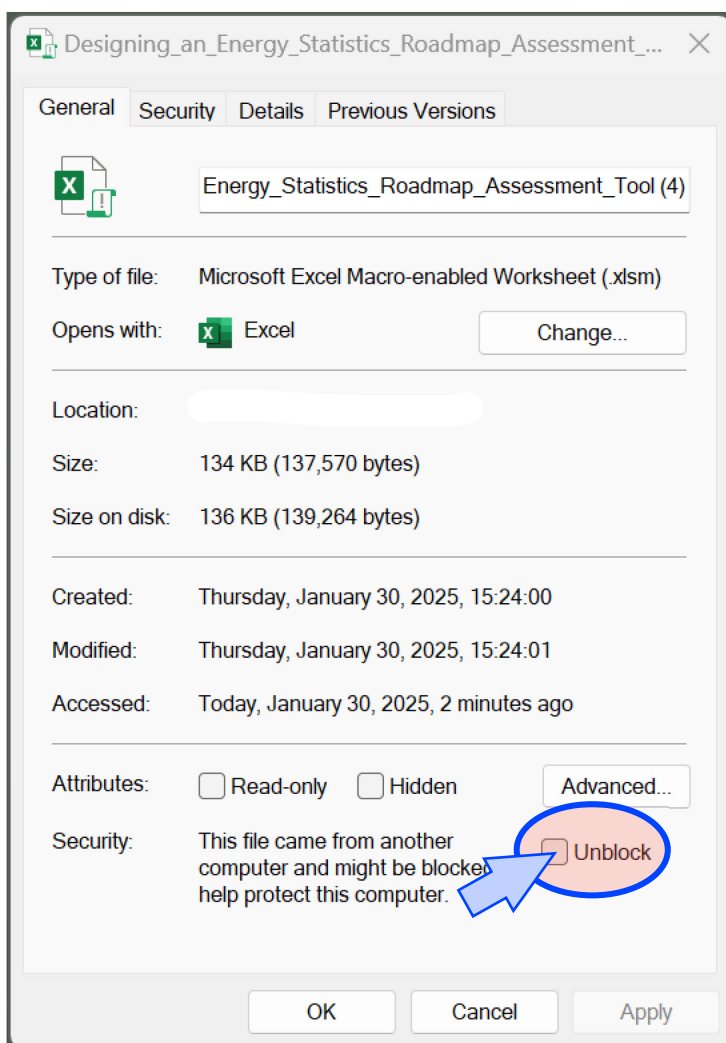
1. When opening the file, Excel might display a Security Warning banner under the ribbon stating that macros are disabled. Click the “Enable Editing” button in the warning to enable macros.



2. If macros are still disabled, close the file, locate it on your computer. Right-click the file, go to properties.

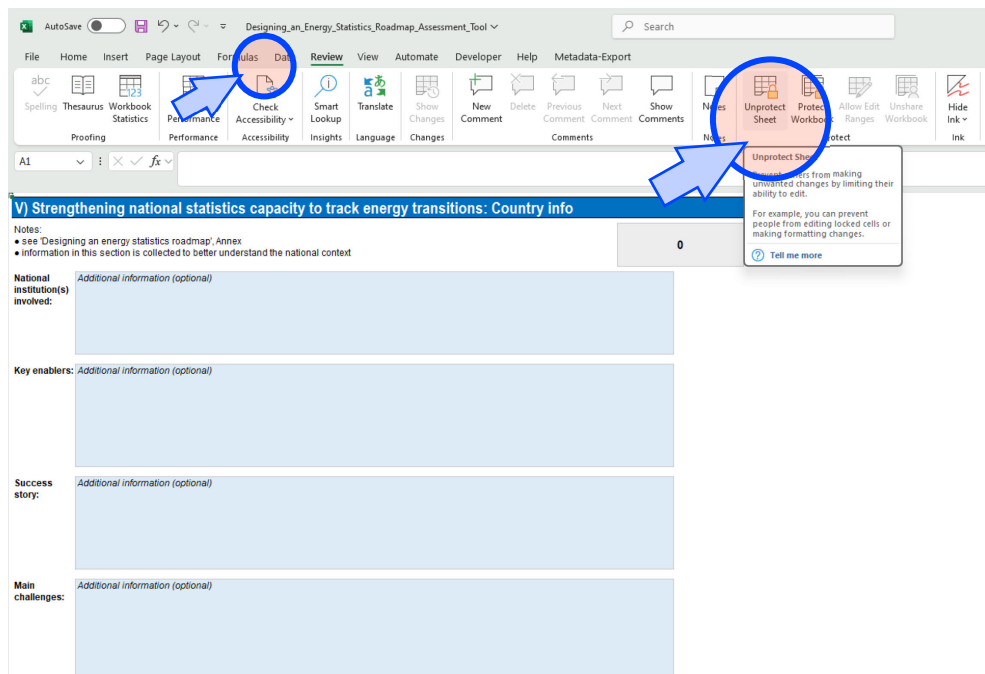


3. Tick the box "Unblock" at the bottom-right corner and then apply to enable macros

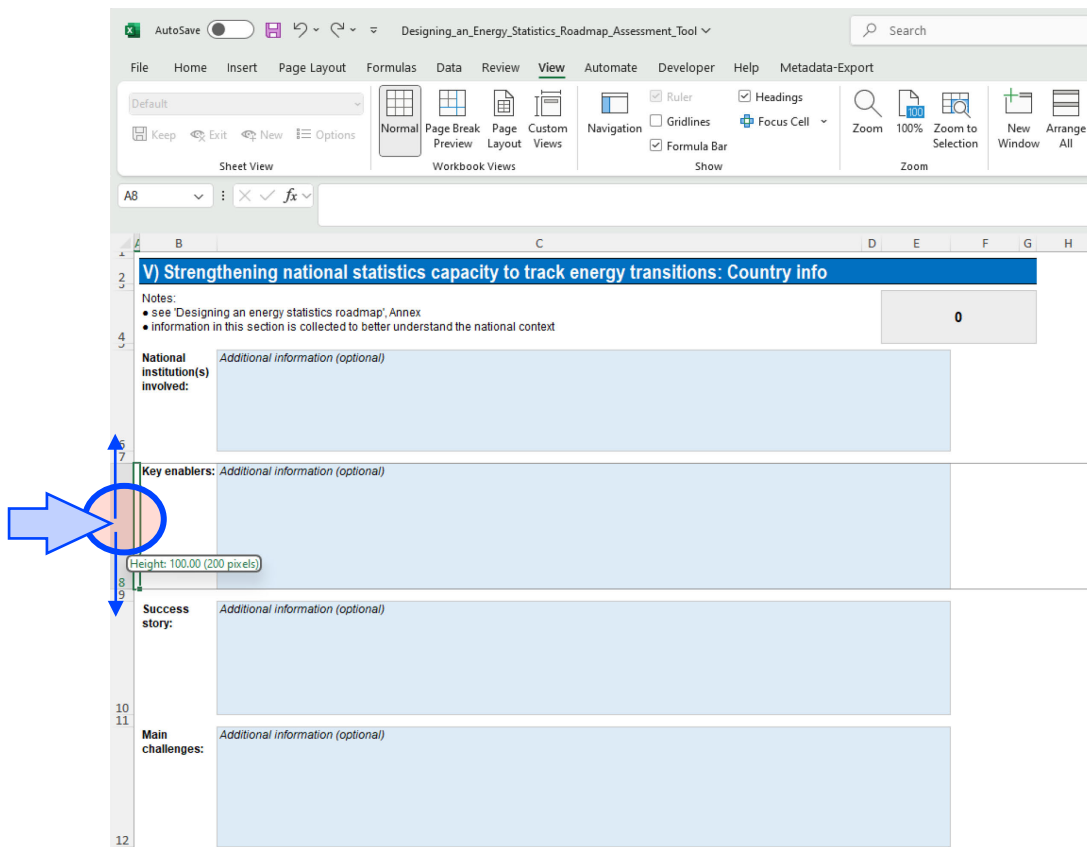


If you run out of space to enter text in the additional information boxes:

1. Navigate to the “Review” tab. In the “Protect” segment, click “Unprotect Sheet.” This will allow you to edit the row heights.



2. Adjust the row size as needed by dragging the line under the row number.



For any inquires or remarks, please contact [DataCapacities@iea.org](mailto:DataCapacities@iea.org)

## International Energy Agency (IEA)

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