



# ELECTRICITY AND HEAT ANNUAL QUESTIONNAIRE 2016 EXCEL USER DOCUMENTATION

July 2017

## Table of Contents

### Introduction

1. Opening and saving the questionnaire
  - a. Opening the questionnaire
  - b. Data entry
  - c. Saving your work
2. Menu, and sub-menus, and structure of the workbook
3. Data Entry
  - a. Data Entry through ASCII Data Transfers
  - b. Data Entry through Time Series
  - c. Data Entry through Forms
4. Checks and Controls
5. Remarks

### Annex: List of checks

#### **Important note to users of Excel 2007 and above**

Please note that the Questionnaire was developed and optimised for the Excel 2003 edition. Although the Excel 2007 and above editions will automatically open the questionnaire in “Compatibility mode”, please always save your data using the “**Save as**” option and the “**Excel 97-2003 Workbook**” format. Otherwise, the functionalities of the questionnaire may be lost.

## Introduction

The two main objectives of the electronic questionnaire are first to **facilitate data entry** for administrations, and second to **minimise the risk of data entry inconsistencies**, which would require substantial time investment from the IEA and the national administrations to correct.

### Facilitate data entry

The electronic questionnaire provides three options:

#### 1) ASCII Data Transfers

- Using the new “ASCII Data Transfers” buttons on the “Data Entry Menu” page of the Excel questionnaires, the user can Import or Export ASCII data files (comma separated values - CSV).
- **Import:** Using the questionnaire’s embedded “data dictionary” (naming convention of the different dimensions - products, flows, time...), data files previously downloaded from your databases in CSV format can be uploaded directly into the Excel questionnaires.
- **Export:** Similarly, the questionnaire can generate data files in CSV format for transfer to other databases or uploading to the Energy Data Center: <https://www.energydatacenter.org>. The user can choose to generate these data files containing either IEA country codes or ISO country codes.
- To use this feature, please contact us for the “data dictionary” and assistance.

E-MAIL: [eleaq@iea.org](mailto:eleaq@iea.org)

#### 2) Data Entry through Time Series (1990 onwards)

- Using the time series viewing format for data entry provides the benefit of having at hand the historical time series back to 1990. It therefore provides reference points for the new data entries, and the capacity to do multiple years’ revisions/updates to the historical time series all at once.
- In the time series format, the user selects the product table they wish to update/revise. The data for the selected product are then presented in a table format by flows (e.g. production, imports and exports) and for all years from 1990 onwards.
- Data entry through time series should minimise the risk of breaks in time series and misreported data.

#### 3) Data Entry through Forms

- Using the forms viewing format, the user enters the data for one year at a time and data are organised based on lists of products over various lists of flows.
- Data entry with forms requires the user to select both the year and the table they wish to update/revise.
- As the user moves between individual forms, the data will be automatically transferred to and from the time series sheets where all the data is stored.

### Minimise the risk of data entry inconsistencies

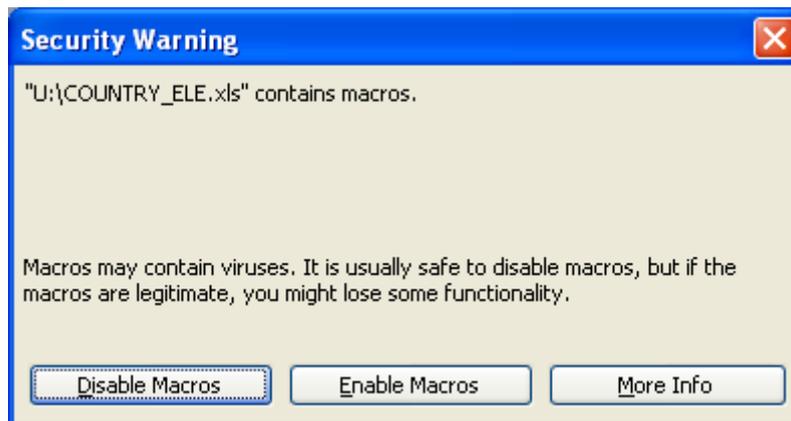
To minimise the risk of data entry inconsistencies or errors, the user is strongly advised to run the **Data Coherence Checks** option. This option alerts the user of inconsistencies in data entry through messages on the Error Sheets which are created.

## 1. Opening and saving the questionnaire

### a) Opening the questionnaire

You have received a compressed ZIP file that contains the Excel version of the questionnaire, which was developed in Excel 2003. Users of the Excel 2007 and above editions should refer to the note on page 1.

- First, decompress the file, and save the questionnaire on your system.
- Open the extracted Excel workbook “COUNTRY\_ELE.xls”.
- Excel may first prompt you with a message similar to the one below regarding the enabling of macros. If so, please select “Enable Macros” which will provide you the full benefit of the questionnaire’s functionalities.



- The questionnaire will then open the "Start" sheet automatically.
- Please note that the questionnaire will not work if the macros are not enabled. The macros in the questionnaire are safe and virus-free.

### Before you start, please note:

#### b) Data entry

- The workbook is protected. Only cells available for data entry can be modified. Other cells are locked and cannot be updated: bold cells are automatically calculated and data cannot be entered in grey shaded cells, which always remain empty.
- Multiple data entry is possible, but only if the selection does not contain locked cells.
- **The entry of decimal numbers is not allowed.**
- Data Imports via the “ASCII Data Transfers” feature will automatically respect the above constraints on data entry and decimals will automatically be rounded.

#### c) Saving your work

- Please save your work frequently.
  - a) Users of Excel 2003: simply click on the save button on the Excel toolbar, or choose FILE and then SAVE.
  - b) Users of Excel 2007 and above: in other to maintain the functionalities of the questionnaire and its compatibility to Excel 2003, it is important to that you use the “Save as” option and select “Excel 97-2003 Workbook”.

- When you try to exit the application, a message will first appear asking you “Do you wish to run the checks to control the integrity and coherence of your entries?” If all data entries are completed, it is advisable to run the **Data Coherence Checks** option to minimise the risk of data entry inconsistencies or errors. If data entries are not completed, or if you already ran the **Data Coherence Checks** click NO.
- Then, as you exit the application, a message will appear asking “Do you want to save?” Click on the YES button to save your work.

## 2. Menu, sub-menus, and Structure of the workbook

Once you have opened up the Excel workbook, and selected the language of work, you will get the following "START" sheet:

**IEA - Eurostat - UNECE**

**Energy Questionnaire - Electricity & Heat**

**Questionnaire annuel - Electricité & Chaleur**

**AIE - Eurostat - UNECE**

Click on the "Start" button to begin:

Cliquez sur le bouton "Start" pour commencer :

Start

If it does not work, please:

- 1) Close this file
- 2) Reopen it and click **"Enable Macros"** if a security warning appears.

The macros in this file are virus free.

Si cela ne fonctionne pas, veuillez :

- 1) Fermer ce fichier
- 2) Le réouvrir et cliquer sur **"Activer les macros"** si un message de sécurité apparaît.

Les macros de ce fichier sont sans virus.

You have to click on the “Start” button to access the other sheets of the questionnaire. This requires that you have enabled the macros (see above). Once you have clicked on the “Start” button, you will access the “Cover” sheet, where you can select the language in which you will work (English or French). The “Menu” button takes you to the sheet “Data Entry Menu” sheet, where you can access either:

- the “Data Entry in Time Series” section
- the “Forms” section
- the “ASCII Data Transfers” options
- the “Check Data” button, once your data entries are completed. This will allow you to select a year for which a series of checks will be run to capture potential inconsistencies in the data. The program would then create an “Error Sheet” for that year. Please note that you can run the checks for all the years by leaving the selection field blank.

At any time, you can also change the language of work from the “Cover” sheet or by pressing Ctrl + L. Please note that the questionnaire will “remember” the language selected on the first time; therefore, you do not have to select the language every time you open the questionnaire.

**DATA ENTRY MENU**

Control the integrity and coherence of your entries:  
Run the "Check data" program.

Check data

Tip: press Ctrl+M to come back to this page from anywhere

**DATA ENTRY IN TIME SERIES**

**FORMS**

1. Gross Electricity	1. Gross Heat	2. Net Electricity	2. Net Heat	Please select the year and click on the form 2013 <input type="button" value="v"/>  Table 1  Table 2  Table 3  Table 4  Table 5  Table 6a  Table 6b  Table 6c  Table 6d  Table 7a  Table 8  Remarks
3/4. Electricity consumption	3/4. Heat consumption	5. Autoproducers Electricity Plants	5. Autoproducers Elect. CHP Plants	
5. Total Autoproducers Electricity	5. Autoproducers Heat Plants	5. Autoproducers Heat CHP Plants	5. Total Autoproducers Heat	
7. Net max capacity main activity producers	7. Net max capacity autoproducers	8. Electricity Imports	8. Heat Imports	
8. Electricity Exports	8. Heat Exports			
<b>Fuel Input, Gross Electricity and Heat Production by Plant - Tables 6</b>				
6a. Anthracite	6a. Coking Coal	6a. Other bituminous coal	6a. Sub-bituminous coal	
6a. Lignite	6a. Patent Fuel	6a. Coke Oven Coke	6a. Gas Coke	
6a. Coal Tar	6a. BKB	6a. Gas Works Gas	6a. Coke Oven Gas	
6a. Blast Furnace Gas	6a. Other recovered gases	6a. Peat	6a. Peat Products	
6a. Oil Shale and Oil Sands	6b. Crude Oil	6b. Natural gas liquid	6b. Refinery gas	
6b. LPG Liquefied Natural Gas	6b. Naphtha	6b. Kerosene type jet fuel	6b. Other Kerosene	
6b. Gas/Diesel Oil	6b. Fuel oil	6b. Bitumen	6b. Petroleum coke	
6b. Other oil products	6c. Natural Gas	6d. Industrial Waste	6d. Municipal Waste (renewable)	
6d. Municipal Waste (non-renewable)	6d. Solid Biofuels	6d. Biogases	6d. Biodiesels	
6d. Other Liquid Biofuels				

**ASCII DATA TRANSFERS**

Import

Export

**“Data Entry in Time Series” section**

- As mentioned in the Introduction, using the time series viewing format for data entry provides the benefit of having at hand the historical time series back to 1990. This option therefore provides reference points for the new data entries, and the capacity to do multiple years’ revisions/updates to the historical time series all at once.
- To use the time series format, select the product you wish to update/revise. The data for the selected product will then be presented in a table format by flows (e.g. production, imports, exports) and for all years from 1990 onwards.
- It is expected that data entry through time series would minimize the risk of breaks in time series and misreported data.

### “Forms” section

- If you prefer to use the forms viewing format, the data can only be viewed and/or entered for one year at a time. In this format, you select the year for which you want all relevant products to be presented over various lists of flows.
- To use “Data Entry through Forms” you are required to select the year and then the table that you wish to update/revise.
- As the user moves between individual forms, the data will be automatically transferred to and from the time series format where all the data is stored. Please note that clicking the save button when a forms sheet is selected also triggers the transfer of data to the time series.

### “ASCII Data Transfers” section

- This section allows the user to Import data files (in comma separated values – CSV) directly into the Excel questionnaire or to Export the full data content of the questionnaire into a CSV file.

You can switch between Time Series and Forms at any time through the “Menu” sheet.

You can return to the “Menu” sheet from the Time Series or Form sheets by pressing Ctrl + M or clicking on the “Menu” button (in the top left corner of each sheet). If the “Menu” button is not visible, you may need to scroll up and/or to the left until it is visible.

Alternatively, you can navigate from sheet to sheet by clicking directly on the tab (near the bottom of the screen) indicating the name of the required sheet.

Comments on the data submission should be made in the "Remarks" sheet.

## 3. Data Entry

This section provides information and alerts you to specific requirements regarding some flows or products.

### a) Data Entry through ASCII Data Transfers

Data submission and revisions can be loaded as data files directly in the time series of the annual questionnaire using the Import option. The Import feature provides for two options:

Full Import:

Each year present in the data file will be treated as a complete dataset. Therefore, all datapoints present in the questionnaire for the specified years will first be erased before the values from the CSV data file are loaded into the questionnaire.

Partial Import:

Only datapoints present in the data file will be loaded into the questionnaire. This is useful when multiple data files are required to generate a complete dataset for any given year. This option is also to be used when only a few datapoints need to be changed/updated.

Data files need to be in CSV format and to follow the embedded “data dictionary” (naming convention of the different dimensions - products, flows, time...) of the questionnaire. To receive the documentation regarding the “data dictionary”, please contact us by E-mail : [eleaq@iea.org](mailto:eleaq@iea.org)

### b) Data Entry through Time Series

The time series contains historical data for your country. For each product, a spreadsheet features the data of Tables 1 to 8 from 1990 to 2015.

### c) Data Entry through Forms

You will find the following forms for each year:

- Table 1: Gross Electricity and Heat Production (transformation sector)
- Table 2: Net Electricity and Heat Production (transformation sector)
- Table 3: Electricity and Heat Supply and Consumption
- Table 4: Electricity and Heat Consumption in the Industry and Energy Sectors
- Table 5: Net Electricity/Heat Production by Autoproducers in Electricity/CHP/Heat Plants
- Table 6 a,b,c,d: Gross Electricity and Heat Production from Combustible Fuels
- Table 7a: Net Maximum Electrical Capacity and Peak Load
- Table 7b: Net Maximum Electrical Capacity of Combustible Fuels
- Table 8: Imports by Origin and Exports by Destination of Electricity and Heat

## 4. Checks and Controls

As indicated in the Introduction, to minimize the risk of data entry inconsistencies or errors, we strongly advise that you run the **Data Coherence Checks**. For this, you need to go back to the main “Menu” sheet and click on the following button:



A pop-up window will ask you which year you wish to run the check for:

The Check will then create an Error sheet (e.g. “**2016-Errors**”) with messages alerting you to potential inconsistencies in data entry for that year.

Please note that you can run the checks for all the years by leaving the field on the pop-up window blank.

**PLEASE MAKE SURE YOU RUN THE DATA COHERENCE CHECK FOR EACH YEAR IN WHICH YOU HAVE CHANGED DATA (e.g. create an Error sheet for each year).**

The list of checks that are produced is presented in the Annex.

## 5. Remarks

This sheet has an entry zone that allows you to note any remarks pertaining to incomplete data, exceptions, or explanations. For example, please enter any partner countries not shown on the trade tables together with their corresponding amounts here.

You can navigate to the “Remarks” sheet using the tabs (near the bottom of the screen). The “Remarks” sheet is the furthest one to the right of the workbook.

## Annex

### List of checks

If data appear inconsistent, an error sheet for the year selected will be created, with the list of errors and inconsistencies, and the corresponding cells in the time series will show the inconsistent numbers in red. To assist you in your work, the inconsistencies are also rated by their importance (high, medium, low).

When coherent figures are entered, the red colour disappears once control checks have been run again for the same year.

- Gross and Net Production (Tables 1 vs. 2): checks that net electricity and heat production is reported in Table 2 if gross electricity and heat production is reported in Table 1 and that net production is lower or equal to gross production.
- Hydro Pumped Storage (Tables 1 and 2): checks that hydro electricity production from pumped storage is lower than hydro electricity production.
- Total Gross Production (Table 1 vs. Table 3): checks total gross electricity and heat production from all plants in Table 1 against total gross electricity and heat production in Table 3.
- Total Net Production (Table 2 vs. Table 3): checks total net electricity and heat production from all plants in Table 2 against total net electricity and heat production in Table 3.
- Combustible Fuels (Table 1 vs. all Tables 6): checks total gross electricity and heat production from combustible fuels, for each plant, in Table 1 against the sum of gross electricity and heat production, by plant, from all fuels in Tables 6.
- Consumption (Table 3): checks total electricity and heat consumption calculated against total consumption observed + statistical difference in Table 3.
- Imports (Table 3 vs. Table 8): checks imports of electricity and heat in Table 3 against total imports (electricity and heat) in Table 8.
- Exports (Table 3 vs. Table 8): checks exports of electricity and heat in Table 3 against total exports (electricity and heat) in Table 8.
- Autoproducers – Electricity (Table 5 vs. Table 2): checks total net electricity production by autoproducer electricity and CHP plants in Table 5 against total net electricity production by autoproducers in Table 2.
- Autoproducers – Heat (Table 5 vs. Table 2): checks total net heat production by autoproducer heat and CHP plants in Table 5 against total net heat production by autoproducers in Table 2.
- Efficiencies (all Tables 6): checks that efficiency for each fuel and for each plant is lower than 100% and that for each input/output the corresponding output/input is reported.
- Capacity (Tables 7a and 7b): checks total capacity for combustible fuels against the sum of capacities by single fuel fired + multi fired plants and against the sum of capacities by type of generation, for main activity producers and autoproducers.
- Capacity factor (Table 7a and 7b vs. Table 2): check that total net electricity production is below the theoretical maximum allowed by the capacity (calculated as net capacity reported times 24 times 365), for main activity and for autoproducers.