



NATIONAL STATISTICAL INSTITUTE

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DATA COLLECTION ON ENERGY USE: NON-ENERGY CONSUMPTION AND FINAL ENERGY CONSUMPTION

Study tour on Energy statistics and Energy balances
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PRESENTATION OVERVIEW

- NSI STATISTICAL SURVEYS
 - Fuel and energy Consumption
 - Resources and Deliveries
 - Deliveries to end-users (for electricity, heat and natural gas only)
 - Transformation sector – Energy-transformation processes

- ENERGY STATISTICS QUESTIONNAIRES

- CALCULATION OF DATA ON ENERGY USE: NON-ENERGY CONSUMPTION AND FINAL ENERGY CONSUMPTION



NSI STATISTICAL SURVEYS

- NSI conducts several annual surveys for providing data on energy consumption in:
 - agriculture and forestry, industry, construction, transport sectors,
 - services sector and households
 - transformation sector for production of other energy products

NSI STATISTICAL SURVEYS

FUEL AND ENERGY CONSUMPTION (1)

This survey is providing data for fuel/energy consumption in Agriculture and forestry, Industry, Construction, Transport sector

- **Data providers** – all entities composing Balance sheet according to the Accounting law and submitting Annual report for their activity (AAR) in NSI.
- **Questionnaire** – Annual Report for Consumption of fuels and energy. It is part of AAR.
- **Way of submitting** – online via Information System of Business Statistics (ISBS) or on paper, submitted in RSO.
- **Frequency** – yearly.
- **Response rate** – high. According to agreement between NSI and National Revenue Agency (NRA), each taxable entity must submit an annual report on its activities (AAR) in NSI before the submission of annual tax declaration at the NRA.



NSI STATISTICAL SURVEYS

FUEL AND ENERGY CONSUMPTION (2)

➤ Most frequent problems in data collection:

- **not filled questionnaire** for annual consumption of fuels and energy - some entities, composing Balance sheet according to the Accounting law and submitting AAR, ***do not fill in*** Annual Report data for consumed fuel/energy
- **wrong unit of measure of energy product** - data filled ***in a different unit of measure*** than the required by the questionnaire
- **wrong code/type of energy product** - data entered for ***other type of fuel instead of actual*** used fuel

NSI STATISTICAL SURVEYS

FUEL AND ENERGY CONSUMPTION (3)

- **Quality control at data entry in ISBS** - for each entity at the input of online ISBS, automatic checks of data are made for each energy product:
- If in the financial report are shown expenditures for energy products, should be filled in also Report of fuel and energy consumption.
 - The average price of one specific measure to be within the preliminary defined values
 - Opening stock level must be equal to closing stock level of previous year
 - Consumption between reporting and previous year not to differ more than ten times.

In case of non-compliance with the above mentioned controls, warning messages are displayed.



NSI STATISTICAL SURVEYS

RESOURCES AND DELIVERIES (1)

- **Data providers** – suppliers of different types of fuels/energy – producers, importers, exporters, traders.
- **Questionnaire** – Annual questionnaire for resources and deliveries. It contains aggregated data on the amounts of fuels and energy sold to consumers in service sector and to households.
- **Way of submitting** – Excel questionnaire via e-mail
- **Frequency** – Yearly
- **Response rate** – High, approximately 100% coverage, excluding the respondents for firewood.

NSI STATISTICAL SURVEYS

RESOURCES AND DELIVERIES (2)

➤ **Problems in data collection**

More significant and difficult problems to solve occurred in providing data for biomass:

- Incomplete coverage of the production, respectively sold firewood to users of the service sector and households
- Incomplete information for charcoal, produced and consumed in the country
- Difficulties in finding producers of pellets and briquettes from wood wastes and other vegetable wastes. The production of these energy products is often performed, wherein the waste is produced, i.e. in various economic activities.

NSI STATISTICAL SURVEYS

RESOURCES AND DELIVERIES (3)

➤ **Quality control**

- Estimation is made for consumption of wood in households, based on information from the NSI survey for Households Income and Expenditure, carried out from sector Households budgets in NSI.
- Estimation is made for the consumption of charcoal, using additional information from Foreign trade division of NSI.
- Using a public internet information to contact with producers of pellets and briquettes from wood wastes and other vegetable wastes.



NSI STATISTICAL SURVEYS DELIVERIES TO END-USERS

Survey covers suppliers of energy products, delivered to end-users only via networks/mains - electricity, heat and natural gas.

- **Data providers** are the suppliers to end-users: producers, importers, traders/trading companies.
- **Questionnaire** – Annual questionnaire for deliveries. It contains aggregate data on the *amounts* of electricity, heat and natural gas, *sold to consumers in relevant economic activity. It comprises different sections for the amounts supplied to Industry and Services sectors (by 4 digit code of NACE2) and Households.*
- **Way of submitting** – Excel questionnaire via e-mail
- **Frequency** – Yearly
- **Response rate** – High
- **Problems in data collection** – In some cases it is difficult to determine the economic activity of some enterprises - end-consumers.
- **Quality control** – Comparative analysis are made with aggregated data by sectors from the Resources and deliveries survey.

NSI STATISTICAL SURVEYS

TRANSFORMATION SECTOR – ENERGY-TRANSFORMATION PROCESSES (1)

NSI carries out comprehensive surveys about transformed fuels, for which you saw detailed information in the previous presentations.

- **Data providers** are all entities which activity is:
 - Electricity and/or heat generation (*Main activity producer plants and Auto-producer plants*)
 - Lignite briquettes production
 - Coke oven coke production (since 2009 it has stopped its activity)
 - Blast furnace gas obtain (since 2009 it has stopped its activity)
 - Petroleum products production
 - Charcoal production
 - Production of pellets and briquettes from wood wastes and other vegetable wastes.



NSI STATISTICAL SURVEYS

TRANSFORMATION SECTOR – ENERGY-TRANSFORMATION PROCESSES (2)

- **Questionnaire** – Annual questionnaires, specific for each energy transformation processes.
- **Way of submitting** – Excel questionnaire via e-mail
- **Frequency** – Yearly
- **Response rate** – High
- **Problems in data collection** – Lack of register of producers of pellets and briquettes from biomass, and therefore incomplete information on this processes
- **Quality control**
 - Checks of the efficiency to be under 100% - ratio between output and input in energy-transforming processes.



QUESTIONNAIRES

ANNUAL QUESTIONNAIRE FOR FUEL AND ENERGY CONSUMPTION (1)

- Data are to be reported for all energy products according to PRODENERGY classification:
 - Opening and Closing stock levels
 - Receipts and Total consumption for enterprise's activities

- Data are to be reported in specific units of measure and in value - only for the consumed amounts of energy products for the economic activity of the enterprise.

QUESTIONNAIRES

ANNUAL QUESTIONNAIRE FOR FUEL AND ENERGY CONSUMPTION (2)

Additional indicators for energy products

Additional indicators for some energy products are included in the questionnaire for implementation of the requirements of Regulation 1099/2008 to report energy consumption as ***non-energy use*** and as ***final energy consumption***:

- ***For natural gas*** – data on “Total consumption” are requested, but also including amounts of gas consumed as:
 - non-energy use
 - transport fuel
- ***For electricity*** - data on “Total consumption” are requested, but also including of which:
 - for transport



QUESTIONNAIRES

ANNUAL QUESTIONNAIRE FOR FUEL AND ENERGY CONSUMPTION (3)

- ***For diesel oil*** - Data on “Total consumption” are requested, but also including of which:
 - for stationary engines, and for agriculture and construction machinery.

According to the methodology of Energy balance, this quantities have to be reported as final energy consumption in the relevant sector.

QUESTIONNAIRES

ANNUAL QUESTIONNAIRE FOR FUEL AND ENERGY CONSUMPTION (4)

- **For LPG** - Data on “Total consumption” are requested, but also including of which:
- for transport.

According to the methodology of Energy balance, the quantity “**for transport**” have to be reported as final energy consumption **in Transport sector** and the difference between “Total consumption” and “for transport” are reported as final energy consumption in the relevant sector.

For all other products, which can be used for non-energy use only, or these products can be used for energy use only, are requested as “Total consumption” only.

QUESTIONNAIRES

ANNUAL QUESTIONNAIRE FOR RESOURCES AND DELIVERIES

- The report should be submitted by suppliers (producers, importers, exporters, big traders) of energy products according to the PRODENERGY classification.

It includes data on:

- Opening and closing stock levels
 - Imports and exports
 - Quantities, delivered to or received from other operators
 - ***Deliveries to service sector*** (all entities with economic activity over 53 on NACE Rev.2)
 - ***Deliveries to households***
 - ***Deliveries to Domestic and International aviation***
- Last three indicators are used for compiling of energy consumption in energy balances.

CALCULATION OF DATA ON ENERGY USE: NON-ENERGY CONSUMPTION AND FINAL ENERGY CONSUMPTION

- Data from each flow is aggregated at national level.
- Aggregated data are base for calculation of the quantities ***of each of the fuel/energy by economic activity*** in specific units of measure, ***for energy and for non-energy use***, using the following formula:

FEC = TC – I – OU – NEU, where:

FEC – Final energy consumption

TC – Total consumption

I – Input in energy sector (in all transformation processes)

OU – Own uses of Energy sector (in all transformation processes)

NEU – Non-energy use



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THANK YOU FOR YOUR ATTENTION !

For further questions, please contact at:

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