



# Example of household survey: case of Norway

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Bruno Lapillonne, Vice President, Enerdata

ttp://www.ssb.no/english/subjects/01/03/10/husenergi en/

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For practical and cost reasons, Statistics Norway has chosen to add energy questions to its annual survey of consumer expenditure.

The survey of consumer expenditure contains a lot of information relevant for analyses and statistics on household energy consumption (eg household size, house type, year of construction, dwelling area and purchases of energy).

Addition of questions regarding energy and types of heating equipment, to conducting analyses and estimations of the residential energy consumption and heating equipment.

The survey of consumer expenditure is based on computer assisted personal interviews and detailed accounting of private expenditures during a two week period, from a representative sample of private households. The questions on energy are included in the personal interview.

Information from registers on household income and education level are obtained separately and combined with the household data at a later time.

- •Electricity consumption is collected from the electricity supplier.
- Sample off 2200 households
- Response rate of about 50%



The questionnaire used in the annual survey of consumer expenditure is sent to a representative sample of 2200 households. The response rate is about 50 per cent. **See appendix 2 for some of the questions that are relevant for energy statistics purposes** 

The households' income and education are obtained from registers

All data combined together, by using the household number as the key for matching the data sets Additional questionnaire on energy is attached to the Survey of consumer expenditure every second or third year. Example on questionnaire in appendix 1 (can vary somewhat from year to year)

The household's electricity consumption is collected from the household's electricity plant (the grid supplier)

**Questionnaire in Appendix 3** 



Revisions, controls and calculations (we use the software SAS for this purpose) One program is used for calculations of heating equipment combinations and main heating source, while another program is used for energy calculations

> **Analyses and statistics.** The statistics cover, for instance, average energy consumption in different

Correction of biases in the sample, due to nonrespondents and other bias in the sample. The correct are done by weighting the sample. Household groups with a high non-response : get a higher weight than o represented household groups when average figures are estimated.

#### Additional questions to the survey of consumer expenditure

"Energy consumption in the household"

Reason for non-response:

**Enrg1:** We would now like to ask you some questions on energy consumption and heating equipment in your present dwelling.

	Number	Provided <sup>1</sup>	Main Heat
	How many are there in the dwelling?	When approximately was the equipment acquired?	Is this used as a main heating source?
1. Electric space heaters			
2. Rooms with electric floor heating			
3. Stoves for oil/kerosene			
4.1 Stove for fuel wood /solid fuels that can			
be closed			
4.2 Stove for pellets			
4.3 Open stove for fuel wood			
4.4 Gas stove			
5. Combined stove for fuel wood and oil /			
kerosene			
6. If heat pump, state:			
- the number of ambient air heat pumps			
- Geothermal or ground source heat pump			
(the number of rooms with radiators or			
water-borne floor heating)			
7. If individual or common central heating,			
specify the number of rooms with radiators			
or water-borne floor heating (may check			
several alternatives):			
- oil			
- electricity			
- fuel wood/wood chippings/pellets			
- district heating			
- unknown/don't know			
8. Other heating equipment. Specify (for			
instance gas stove):			



Enrg2: Do you share a meter for electricity consumption with other apartments or houses?

Question "Enrg3" is only asked to households who has answered "Yes" on question spm25b1 and / or question 25b2 in the survey of consumer expenditure; Does your monthly rent include heating/lighting.
Enrg3: What is the monthly cost for heating or other energy consumption that is included in the rent? NOK (give approximately figure or "Don't know")

Enrg4: Is the dwelling uninhabited for more than one month during the winter? Yes No

- Question "Enrg5" is not asked to households who live in a detached house or farm house.

**Enrg5**: Is the water in the dwelling heated in a hot water unit shared with other apartments, or by district heating?

**Enrg6:** Following the dry autumn of 2002, we have gone through a period characterised by a considerable increase in electricity prices. Have you done anything in order to reduce your electricity consumption? (The alternatives below are mentioned as examples)? (Yes/No) Yes -> Enrg7, No-> Enrg8

Enrg7: What have you done to reduce your electricity consumption? (May check several alternatives) 1 Regulated the temperature, for instance by lowering the temperature during the night \_\_\_\_\_

2 Use other types of energy than electricity for heating \_

3 Have conducted energy saving efforts in the dwelling, for instance adding newer insulation, only heating in some parts of the dwelling etc.

4 Other →> Specify\_\_\_\_\_



Enrg8: Which electricity plant is your present power supplier? Name\_

Enrg8b: Have the household had more than one power supplier on the present address since January 2003? \_\_Yes->Enrg8c \_\_No->Enrg9a

Enrg8c: Please specify which power suppliers? May specify 9 suppliers.

Enrg9a: To get a better basis for statistics and research on energy consumption we would like to ask your permission to collect information from the electricity plant on electricity consumption and type of power contract for your dwelling in 2004. The information will be treated as confidential and will only be used for research and statistical purposes. Do you give us permission to request this information? \_\_Yes, I do->Enrg9b \_\_No, I don't -> Enrg10

Enrg9b: The subscriber's name, i.e. the person who receives the electricity invoice?

Enrg9c: Meter number (can be found on the electricity invoice, meter reading card or in the fuse box)\_\_\_\_\_

Enrg10. If the household has answered yes to question 30a in the consumer expenditure survey "Do you own a cottage/holiday house" -> Enrg 10a. If not; End the interview.