HELLENIC REPUBLIC

HELLENIC STATISTICAL AUTHORITY   Piraeus, 16 April 2024

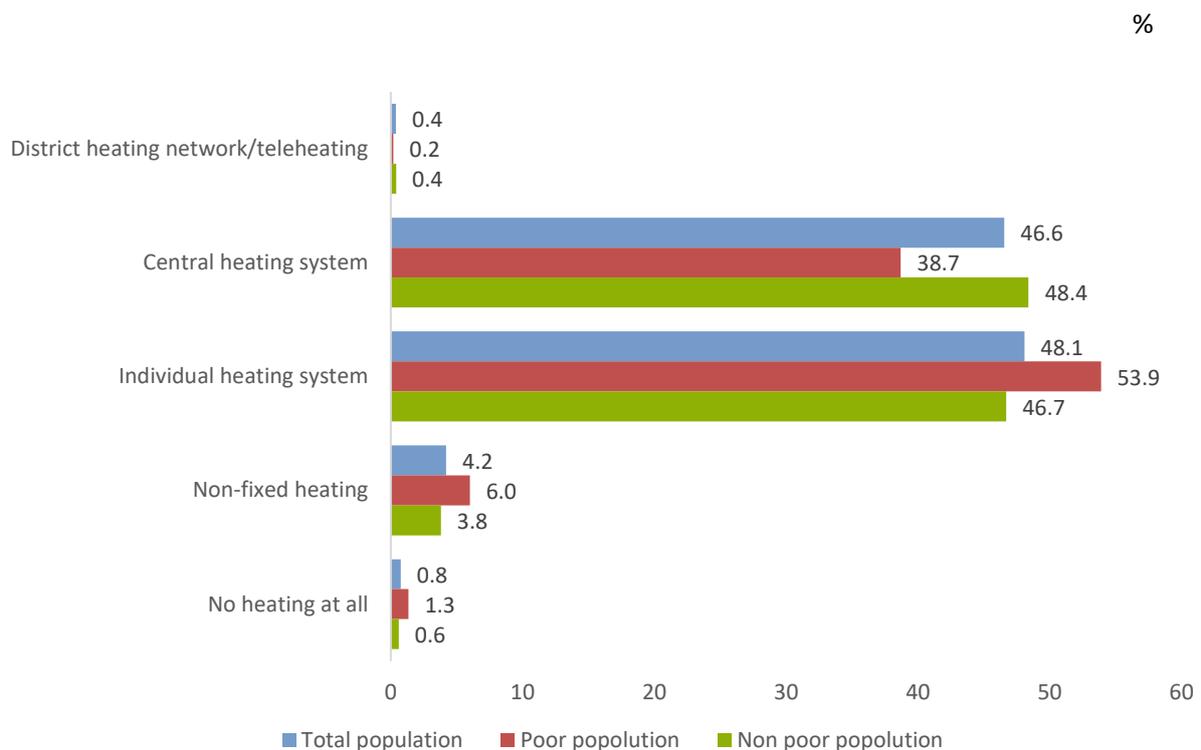# HOUSEHOLD ENERGY EFFICIENCY AND HOUSING DIFFICULTIES INDICATORS
2023 Survey on Income and Living Conditions
(Income reference period: 2022)

The Hellenic Statistical Authority (EL.STAT.) announces the indicators on household Energy Efficiency and Housing difficulties in Greece, based on the available data of the 2023 Survey on Income and Living Conditions of Households (SILC) **with income reference period the year 2022.**

A. Household Energy Efficiency

- Based on the survey results, a central heating system (oil or natural gas radiators) is used by 46.6% of the total population to heat their dwellings, 48.1% use an individual heating system (wood or gas stoves, electric air conditioners, heat accumulators, individual oil boilers), 4.2% use non-stationary heating (electric radiator, air heater, halogen stove, etc.), 0.4% use district heating while 0.8% live in a house that is not heated (Graph 1, Table A.1).

Graph 1. Heating system used, by population status (total, poor, non-poor population): 2023

%

	Total population	Poor popolution	Non poor popolution
District heating network/teleheating	0.4	0.2	0.4
Central heating system	46.6	38.7	48.4
Individual heating system	48.1	53.9	46.7
Non-fixed heating	4.2	6.0	3.8
No heating at all	0.8	1.3	0.6

According to the survey results and by population status (poor and non-poor population):

- 38.7% of the poor population use a central heating system to heat their dwelling, 53.9% use individual heating, 6.0% non-fixed heating, 0.2% district heating, while 1.3% live in a dwelling that it is not heated (Graph 1, Table A.1).

- 48.4% of the non-poor population use a central heating system to heat their dwelling, 46.7% use individual heating, 3.8% non-fixed heating, 0.4% district heating and 0.6% live in a dwelling that it is not heated (Graph 1, Table A.1).

Graph 2. Main energy source, by population status (total, poor, non-poor population): 2023
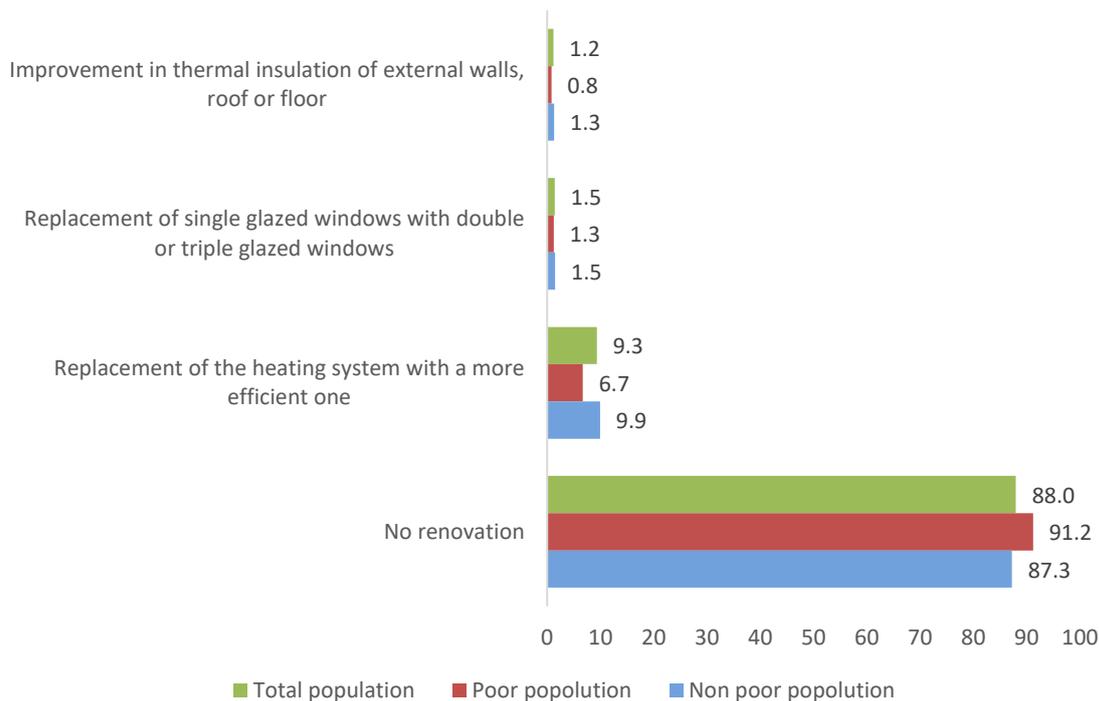
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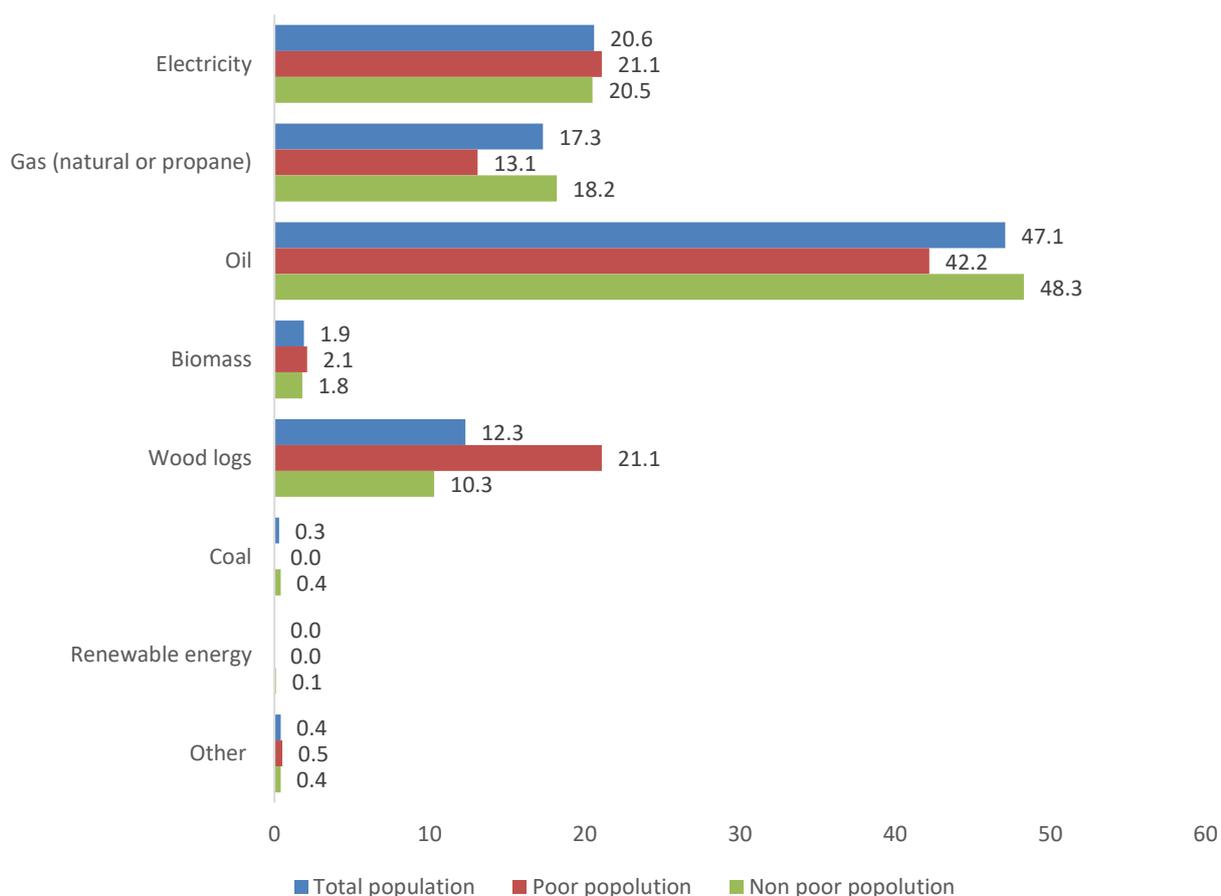
- The largest percentage of the total population (47.1%) declared oil as the main source of heating energy. The percentage of the non-poor population that reported that energy source is estimated at 48.3%, while for the poor population it is estimated at 42.2% (Graph 2, Table A.2).

- 21.1% of the poor population declared that they heat with firewood. The percentage of the non-poor population is estimated at 10.3% (Graph 2, Table A.2).

- 20.6% of the total population declared electricity as the main source of energy for heating their dwelling. The corresponding percentages for the poor and non-poor population amount to 21.1% and 20.5% (Graph 2, Table A.2).

- 17.3% of the total population reported that the use natural gas as main source of energy for heating their dwellings. The corresponding shares for the poor and non-poor population are 13.1% and 18.2% (Graph 2, Table A.2).

Graph 3. Renovation (thermal insulation, windows, or heating system), by population status (total, poor, non-poor population): 2023

%

Improvement in thermal insulation of external walls, roof or floor
- 1.2
- 0.8
- 1.3

Replacement of single glazed windows with double or triple glazed windows
- 1.5
- 1.3
- 1.5

Replacement of the heating system with a more efficient one
- 9.3
- 6.7
- 9.9

No renovation
- 88.0
- 91.2
- 87.3

0 10 20 30 40 50 60 70 80 90 100

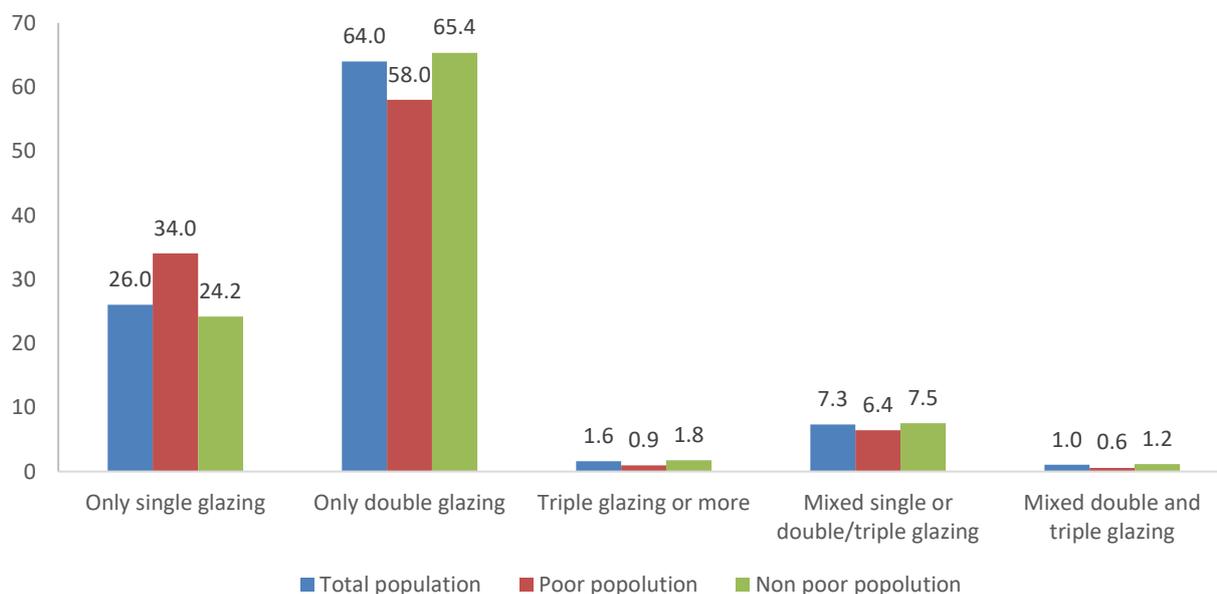■ Total population   ■ Poor popolution   ■ Non poor popolution

- The largest percentage of the total population (88.0%) declared that they have not made any improvements to the dwelling in the last five years concerning thermal insulation or the heating system. The rates for the non-poor population and the poor population are estimated at 87.3% and 91.2%,respectively (Graph 3, Table A.3).

Graph 4. Type of windows, by population status (total, poor, non-poor population): 2023

%

	Only single glazing	Only double glazing	Triple glazing or more	Mixed single or double/triple glazing	Mixed double and triple glazing
Total population	26.0	64.0	1.6	7.3	1.0
Poor popolution	34.0	58.0	0.9	6.4	0.6
Non poor popolution	24.2	65.4	1.8	7.5	1.2

■ Total population   ■ Poor popolution   ■ Non poor popolution

- The largest percentage of the total population (64.0%) declared that they have double glazing. The corresponding percentage for the non-poor population is estimated at 65.4% and for the poor population at 58.0% (Graph 4, Table A.6).

- 1.6% of the total population declared that they have triple glazing or more, whereas the corresponding percentage for the poor and the non-poor population is estimated at 0.9% and 1.8% (Graph 4, Table A.6).

- 72.0% of the total population reported that they have an adequate heating system and thermal insulation to keep their dwelling warm, while for the poor population the share is 53.1% (Table A.4).

- 71.2% of the total population stated that they have a cooling system and insulation to keep their dwelling cool to keep their dwelling warm, while for the poor population the share is 52.4% (Table A.5).

B. Housing Difficulties

- 98.1% of the population 16 years old and over state that they have not experienced housing difficulties, whereas 1.9% state that they have such experience. Of these, 89.0% stayed temporarily with friends or relatives, 6.3% stayed in emergency or other temporary accommodation, 3.6% stayed in a place not intended for residence and 1.1% slept rough or in a public space (Table B.1).

- Financial problems/insufficient income are recorded as the main reason for experiencing housing difficulties by 52.5% of the population 16 years old and over with such experience, followed by unemployment (13.8%) (Table B.2).

- Finding a job has helped 41.8% of the population 16 years old and over who have experienced, without wanting to, housing difficulties to move to a permanent house (Table B.3).

TABLES

(any differences in totals are due to rounding)

Table A.1

Heating system used, by population status (total, poor, non-poor population): 2023

%

Heating system used	Population		
	Total	Poor	Non poor
District heating network/teleheating	0.4	0.2	0.4
Central heating system	46.6	38.7	48.4
Individual heating system	48.1	53.9	46.7
Non-fixed heating	4.2	6.0	3.8
No heating at call	0.8	1.3	0.6

Table A.2

Main energy source, by population status (total, poor, non-poor population): 2023

%

Main energy source	Population		
	Total	Poor	Non poor
Electricity	20.6	21.1	20.5
Gas (natural or propane)	17.3	13.1	18.2
Oil	47.1	42.2	48.3
Biomass	1.9	2.1	1.8
Wood logs	12.3	21.1	10.3
Coal	0.3	0.0	0.4
Renewable energy	0.0	0.0	0.1
Other	0.4	0.5	0.4

Table A.3

Renovation in the last 5 years in terms of thermal insulation, windows or heating system, by population status (total, poor, non-poor population): 2023

%

Renovation (thermal insulation, windows or heating system)	Population		
	Total	Poor	Non poor
Improvement in thermal insulation of external walls, roof or floor	1.2	0.8	1.3
Replacement of single glazed windows with double or triple glazed windows	1.5	1.3	1.5
Replacement of the heating system with a more efficient one	9.3	6.7	9.9
No renovation	88.0	91.2	87.3

Table A.4

Ability to keep the dwelling comfortably warm during winter, by population status (total, poor, non-poor population): 2023

%

Ability to keep the dwelling comfortably warm during winter	Population		
	Total	Poor	Non poor
Yes	72.0	53.1	76.4
No	28.0	46.9	23.6

Table A.5

Ability to keep the dwelling comfortably cool during summer, by population status (total, poor, non-poor population): 2023

%

Ability to keep the dwelling comfortably cool during summer	Population		
	Total	Poor	Non poor
Yes	71.2	52.4	75.7
No	28.8	47.6	24.3

Table A.6

Type of windows by population status (total, poor, non-poor population): 2023

%

Type of windows	Population		
	Total	Poor	Non poor
Only single glazing	26.0	34.0	24.2
Only double glazing	64.0	58.0	65.4
Triple glazing or more	1.6	0.9	1.8
Mixed single or double/triple glazing	7.3	6.4	7.5
Mixed double and triple glazing	1.0	0.6	1.2

Table B.1

Experience of housing difficulties

	%
1.Past experience	**1.9**
From them:	
• Stayed with friends or relatives temporarily	89.0
• Stayed in emergency or other temporary accommodation	6.3
• Stayed in a place not intended as a permanent home	3.6
• Slept rough or in a public space	1.1
2.No past experience	**98.1**

Table B.2

Main reason for past or present housing difficulties

Main reason	%
Relationship or family problems	11.7
Health problems	2.5
Unemployment	13.8
End of rental contact	1.9
Uninhabitable accommodation	7.8
Leaving an institution after a long stay and no home to go to	0.6
Financial problems/insufficient income	52.5
Other	9.2

Table B.3

Exit from housing difficulties

Main reason for past housing difficulties	%
Existing, new or renewed relationship with family or partner	8.6
Addressed health problems	1.8
Gained employment	41.8
Moved into social or subsidized private housing	5.6
Other	39.6
Still experiencing housing difficulties	2.6

EXPLANATORY NOTES

European Union - Statistics on Income and Living Conditions - EU-SILC

The Survey on Income and Living Conditions (EU-SILC) is part of a European Statistical Programme in which all Member States participate, and which replaced, in 2003, the European Household Panel Survey with a view to improving the quality of statistical data concerning poverty and social exclusion. The basic aim of the survey is to study, both at national and European level, the households' living conditions mainly in relation to their income. This survey is the basic source for comparable statistics on income distribution and social exclusion at European level. The use of commonly accepted questionnaires, primary target variables and concepts – definitions ensure data comparability.

Legal basis

The survey is in compliance with the Regulation (EU) No 2019/1700 of the European Parliament and of the Council concerning Social Statistics and is conducted upon Decision of the President of ELSTAT.

Income reference period used

The income reference period is a fixed twelve-month period, namely the previous calendar year.

Coverage

The survey covers all private households throughout the Country, irrespective of their size or socio-economic characteristics. The following are excluded from the survey:

- Institutional households of all types (boarding houses, elderly homes, hospitals, prisons, rehabilitation centres, camps, etc.). More generally, households with more than five lodgers are considered institutional households.
- Households with foreigners serving in diplomatic missions.

Methodology

The survey is a *simple rotational design* survey, which was selected as the most suitable for single cross- sectional and longitudinal survey. The final sampling unit is the household. The sampling units are the households and their members.

The sample for any year consists of 4 replications, which have been in the survey for 1-4 years. Except for the first three years of survey, any replication remains in the survey for 4 years. Each year, one of the 4 replications from the previous year is dropped and a new one is added. In order to have a complete sample the first year of survey, the four panels began simultaneously. For the EU-SILC longitudinal component, the people who were selected initially are interviewed for a period of four years, equal to the duration of each panel.

EU-SILC survey is based on a two-stage stratified sampling of households from a frame of sampling which has been created on the basis of the results of the 2011 population census and covers completely the reference population.

There are two levels of area stratification in the sampling design.

The first level is the geographical stratification based on the division of the total country area into thirteen (13) standard administrative regions corresponding to the European NUTS II level. The two major city agglomerations of Greater Athens area and Greater Thessaloniki area constitute two separate major geographical strata.

The second level of stratification entails grouping municipalities and communes within each NUTS II Regions by degree of urbanization, i.e., according to their population size. The scaling of urbanization was finally designed in four groups:
- >= 30,000 inhabitants
- 5,000-29,999 inhabitants
- 1,000-4,999 inhabitants
- 0-999 inhabitants

Sample selection schemes.

i) In this stage, from any ultimate stratum (crossing of region with the degree of urbanization), -say stratum h, n_h primary units were drawn; where the number n_h of draws was approximately proportional to the population size X_h of the stratum (number of households according to the 2011 population census).

ii) In this stage from each primary sampling unit (selected area) the sample of ultimate units (households) is selected. In the second stage a sample of dwellings

is drawn. In most cases, there is one to one relation between household and dwelling. If the selected dwelling consists of one or more households, then all of them are interviewed.

The survey was designed in 2003 to provide reliable estimates of interest at the national level. The original design was gradually modified from 2015 in order to achieve the main objectives of the European strategy "Europe 2020" as well as national needs. In 2019, the sample design based on the results of the "Study of the current sampling design of the Survey of Income and Living Conditions (SILC) with the objective to increase/adjust the sample at regional (NUTSII) level" in order to improve the estimates of regional EU-SILC indicators.

Sample size In 2023, the survey was conducted on a final sample of 10,717 households and on 22,936 members of those households – 20,177 of them aged 16 years and over. The average household size was calculated at 2.1 members per household.

Weightings For the estimation of the survey characteristics. the data of each person and household of the sample were multiplied by a reductive factor. The reductive factor results as product of the following three factors (weights):

a. The reverse probability of selection of the individual, that coincides with the reverse probability of selection of the household.

b. The reverse of the response rate of households inside the strata.

c. A corrective factor, which is determined in a way that:

i) The estimation of persons by gender and age groups that will result by geographic region (NUTSII) coincides with the corresponding number that was calculated with projection based on vital statistics (2021 population census, births, deaths, migration) for the reference year of the survey.

ii) The estimation of the number of households by size class (1, 2, 3, or 4+ members) and by tenure status coincides with the corresponding numbers of the reference year of the survey based on 2021 population census.

Equivalised income Total disposable income of the household is considered the total net income (that is. income after deducting taxes and social contributions) received by all household members.

More specifically the income components included in the survey are:
- Income from work
- Income from property
- Social transfers and pensions
- Monetary transfers from other households
- Imputed income from the use of a company car.

Equivalent available individual income is considered the total available income of household after being divided by the equivalent size of household. The equivalent size of household is calculated according to the modified scale of OECD.

It is pointed out that in the distribution per person it is suggested that each member of the household possesses the same income that corresponds to the equivalised disposable income. This means that each member of the household enjoys the same level of living. Consequently, in the distribution per person, the income that is attributed to each person does not represent wages, but an indicator of level of living. The total available income of the household is calculated as the sum of income of the household's members (income from salaried services, from self-employment, pensions, benefits of unemployment income from property, familial benefits, regular pecuniary transfers etc.), that is to say, the total of net earnings coming from all the sources of income after the abstraction of any benefits to other households. To this sum, the tax should also be added pertaining to the tax that potentially was returned and concerned the income declaration of the previous year.

Equivalence scale Equivalent size refers to the OECD modified scale which gives a weight of 1.0 to the first adult, 0.5 to other persons aged 14 or over who are living in the household and 0.3 to each child aged under 14. Example: The income of household with two adults and two children under 14 years of age is divided by 1+0.5+2X0.3=2.1. Accordingly, the income of the household with 2 adults is divided by 1+0.5=1.5 and the income of a

household with 2 adults and 2 children aged 14 and over is divided by 1+0.5 +(2X0.5) =2.5. etc.

Population status *Non poor population:* The percentage of population over the poverty threshold.

Poor population: The percentage of population under the poverty threshold.

Variables The variables used to assess household efficiency are:

- Heating system used.
- Main energy source.
- Renovation (thermal insulation, windows or heating system).
- Ability to keep the dwelling comfortably warm during winter.
- Ability to keep the dwelling comfortably cool during summer.
- Type of windows.
- Year of construction.

The variables used to measure housing difficulties, for household members aged 16 and over, are:

- Past experience of housing difficulties.
- Duration of the most recent experience of housing difficulties.
- Main reason for past housing difficulties.
- Other reason for past housing difficulties.
- Exit from housing difficulties.

References For further information on the survey please visit ELSTAT's webpage at
Survey on income and Living Conditions