

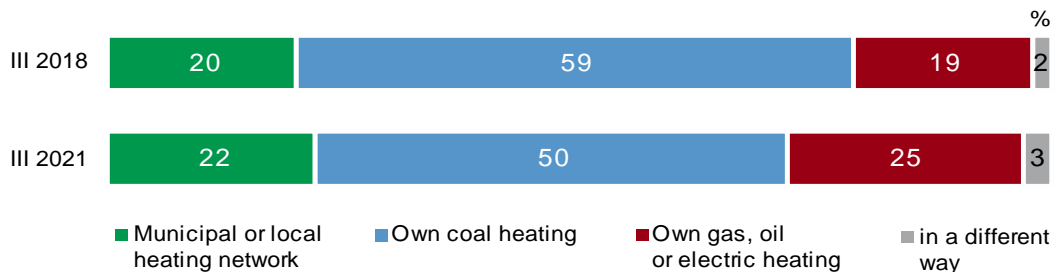
## **Modernization of energy installations: needs and plans**

Recently, activities aimed at counteracting smog have been intensified in Poland, including its main cause, i.e. emissions from households caused by the use of low-quality fuels and ineffective heating installations. The EU CAFE directive (Clean Air for Europe) obliges the Member States to ensure adequate air quality. The problem of smog is also increasingly noticed by citizens and local communities. Local governments introduce restrictions and bans on the operation of heating installations and types of fuels. Replacement of heating installations and other modernization projects (e.g. building insulation) are supported by various financial instruments, of which the Clean Air program is currently the most popular. From 2019, owners of single-family houses can also use the tax break. Financial incentives in the form of subsidies, low-interest loans and tax relief are also used to develop microgeneration of energy from renewable energy sources.

Declarations of respondents show that the process of modernization of heating installations in households is progressing quite dynamically, although coal boilers are still the most commonly used. Over the past three years (March 2018 to March 2021), the percentage of respondents using coal-fired stoves and boilers to heat their homes or apartments has decreased by 9 percentage points, from 59% to 50%. During this time, the number of people using their own gas, oil or electric heating increased significantly from 19% to 25%. There was also a slight increase in the percentage of people using the

municipal or local (e.g. housing) heating network (a rise from 20% to 22%). People using a different type of fuel (3%) burn wood or pellets, or, less often, use heat pumps.

**How is your flat / house heated? If more than one source is used, please indicate what provides the most heat.**

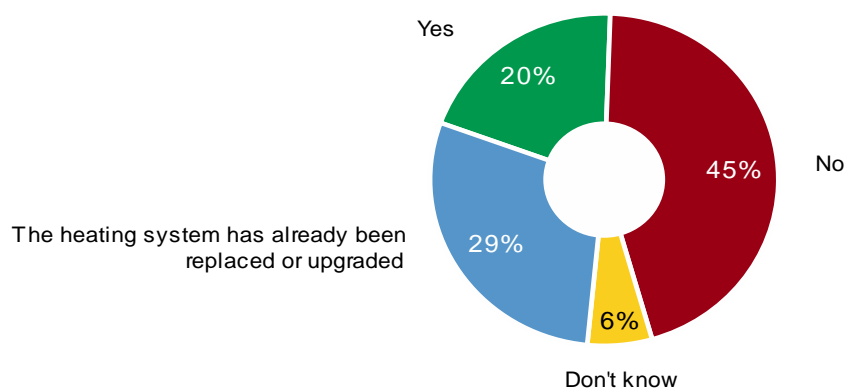


People burning coal mostly use older types of stoves, which burn with ordinary coal, sludge, fine coal, etc. (57%, i.e. 28% of all respondents). Two-fifths of them (40%, i.e. 20% of the total), according to their own declarations, use a newer type of boiler.

More than one-fourth of people (29%) living in residence not connected to the heating network claim that the heating installation in their household has already been replaced. One-fifth (20%) plan to modernize the heating system in the next two years. So far, 45% of residents who do not use network heating do not plan to replace their heating installation.

**Is the replacement or modernization of heating, e.g. a stove or boiler, planned in your apartment / house in the next two years?**

*Responses of people in households not connected to the heating network.*



Modernization of the heating installation in the next two years is planned mainly in places where coal stoves and boilers are used: it is declared by a total of 27% of respondents whose houses are heated with coal. This applies to the greatest extent to older type of boilers, which are fired with ordinary coal, sludge, fine coal, etc.: 36% of users claim it is their

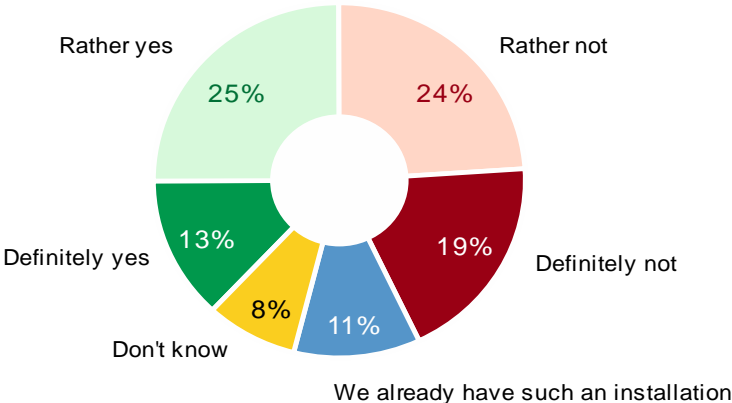
intention to modernize their heating. However, a change of the heating system is also planned by 14% of users of newer type of boilers, although nearly half (47%) declare that the heating system in their home has already been replaced. People who use their own gas, oil or electric heating (10%) or otherwise heat their home (8%) less often plan to modernize their heating system in the near future. In case of these groups, more than two fifths (41% and 44% respectively) claim that the heating system in their home has already been modernized.

Plans for the modernization of the heating system are quite frequent and, if implemented, the percentage of households in Poland using coal stoves that do not meet the current standards would decrease by over a third within two years. Less optimistic, judging from the declarations of the respondents, are the prospects for the development of the heating network. Only a few (2% of respondents whose households are not connected to the heating network) say that in the next two years their residence will be connected.

There is a lot of interest in prosumer energy in households that have conditions for independent energy production. The use of installations enabling production of energy from renewable sources in their house is considered by nearly two fifths of such households (38%, i.e. 23% of the total number of respondents), and one-tenth (11%, i.e. 7% of the total) already have it.

**Does your household consider making installations enabling the use of renewable energy sources in your main house or in an outbuilding?**

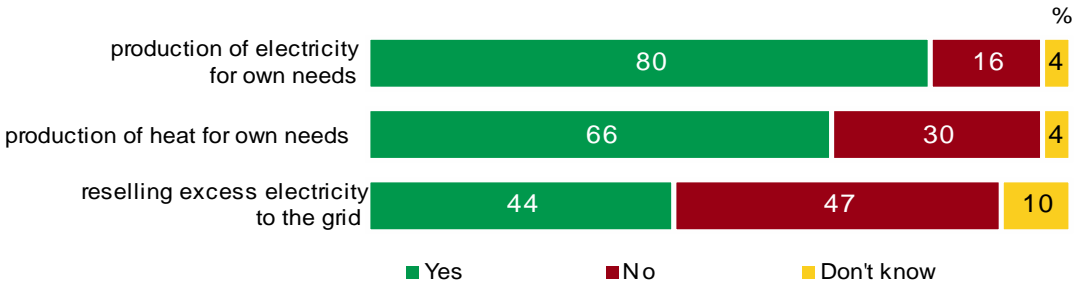
*Responses of people living in houses as their owners, co-owners or members of the owners' family.*



Respondents in households planning to use installations enabling energy generation from renewable sources or using such an installation already most often indicate that it would be used to produce electricity for their own needs (80%, i.e. 23% of all respondents). There is less interest in generating thermal energy in this way (66%, i.e. 19% of all respondents), and even less willingness to sell surplus electricity to the grid (44%, i.e. 13% of all respondents).

**What type of energy production does your household consider / has implemented?**

*Responses of people living in houses as their owners, co-owners or members of the owners' family.*



More information about this topic can be found in CBOS report in Polish: "Thermal Modernization – Needs and Plans", April 2021. Fieldwork for national sample: March 2021, N=1154. The random sample is representative for adult population of Poland.