Datenbeschreibung

RWI – Leibniz-Institut für Wirtschaftsforschung

FDZ Data Description: The German Heating and Housing Panel (GHHP) – Wave 2

Kathrin Kaestner, Marielena Krieg, Martina Milcetic and Leander Holtz

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Leibniz-Institut für Wirtschaftsforschung

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1. Introduction

Despite the urgent need for a sound evaluation of the effectiveness of climate protection instruments in the building sector to meet the greenhouse gas reduction targets set by the climate protection act (Bundes-Klimaschutzgesetz, KSG) in Germany, suitable data is scarce. Often, the link between existing information from the building stock, final energy requirements and socioeconomic household characteristics, as well as attitudes is missing.

This data gap is being filled by the German Heating and Housing Panel (GHHP): By annually collecting data on the building stock, the heating energy costs of private households, and the socioeconomic characteristics of respondents in repeated systematic surveys conducted as part of the Kopernikus project Ariadne funded by the German Federal Ministry of Education and Research, a sound empirical analysis of the heating sector in Germany can be undertaken. The longitudinal nature of the GHHP enables the identification of general trends, such as in modernization activity and household consumption patterns, allowing to analyze barriers to modernizations and more broadly distributional effects of climate change mitigation instruments and public acceptance thereof by household characteristics (Frondel et al. 2021). In addition, the GHHP establishes a comprehensive database on the building stock and heating energy demand of private households.

The first survey of the GHHP took place in 2021.[1] This data description provides a brief overview of the second survey wave of the GHHP which took place in 2022. The following section 2 describes the data collection and the sample. Section 3 presents the socioeconomic features of the households in the GHHP. Section 4 presents an application example. Information on how the data can be accessed can be found in section 5 and a codebook is annexed.

2. Data Collection

The second round of the GHHP was conducted between September 29 and November 3, 2022. As the focus of the second survey was on households' heating behavior and their reaction to the Energy Crisis, caused by the beginning of the war of Russia in Ukraine, the survey period was intentionally chosen such that it largely overlapped with the heating period, beginning in October

[1] *For more information on the data of wave 1, see Frondel et al. (2023) and https://www.rwi-essen.de/en/research-advice/further/research-data-center-ruhr-fdz/data-sets/microdata/german-heating-and-housing-panel.*

in Germany. This was done to make it easier for the respondents to answer the questions about their heating behavior.

Together with the first wave conducted between July and September 2021, the surveys are part of the Kopernikus project “Ariadne - Evidence-based Assessment for the Design of the German Energy Transition”, funded by the German Federal Ministry of Education and Research (BMBF), see https://ariadneprojekt.de/. Like the first wave, the second survey was designed by the RWI – Leibniz Institute for Economic Research in cooperation with the project partners Potsdam Institute for Climate Impact Research (PIK) and German Economic Institute. The survey was then conducted in collaboration with the opinion research institute forsa. To build up a panel, the respondents of the first wave 2021 were invited to again participate in the second survey in 2022. With 12,408 of the original roughly 15,000 respondents, approximately 80 % of the original participants of the first wave respondents were retained for the second wave. To achieve the targeted sample size of about 15,000 participants, an additional 2,913 respondents were newly recruited (Table 1). For both waves, the participants are part of the forsa.omninet panel, a panel with approximately 100,000 members. Panel members are recruited as part of forsa.omniTel, a multi-topic telephone survey conducted by forsa in which 500 people are interviewed daily and selected so that the forsa.omninet panel is representative of the German-speaking online population aged 14 and older. The panel members were invited by a short e-mail. In addition to the link to the questionnaire, the invitation contained a brief introduction to the overarching theme of the survey and stated the (moderate) number of bonus points that participants will receive if they complete the questionnaire in full and can be paid out in the form of vouchers or a raffle ticket from "Aktion Mensch". Alternatively, the amount can be donated to UNICEF.

Table 1: Comparison of Wave 1 and Wave 2

	Wave 1	Wave 2
Total Households	16,903	16,935
Households who completed the survey, thereof	15,416	15,321
Households from previous wave		- 12,408
Newly recruited		- 2,913
Households that dropped out	1,487	1,614

Like the first survey, also the second wave explicitly targets "heads of households” who are defined as those individuals who typically make the financial decisions for the household. Since household heads usually also have the best overview of the building stock, energy costs and in-

vestments made, they are particularly well suited to answering the survey. As many of the research questions are primarily relevant to owners, they were overweighted in the sample: 66.6% of households surveyed live in owner-occupied properties, while only 33.4% of the respondents rent a house or apartment. Due to the intentional overweighting of owners, the ownership rate in the sample is significantly higher than that in Germany, which was 41.9% in 2022 according to the Supplementary Microcensus Survey (Destatis 2024a). As will be shown in the following, the households participating in the second wave are very similar to the ones in the first wave in terms of household and building characteristics. This is not surprising given that about 80% of respondents have also participated in wave 1.

The questionnaire consists of several modules (see Table 2 for an overview). As in the first wave, Module 1 collects data on the housing situation and building characteristics. However, in wave 2, these questions are only asked households that newly joined the panel or are repeated participants but indicated to have moved or refurbished their home since the previous survey. For the majority of households, the information on the building stock from the first wave can be used, as these households are repeated participants who did not move. In the published data set, information about the building characteristics from wave 1 is directly included for those households.

The first module is again followed by a module on past and planned building retrofits and a section on households' heating costs. For repeated households that indicated to have conducted an energy retrofit since the last survey, the information on the building stock in the published data set is already updated accordingly. These modules will be asked repeatedly in every coming survey wave. Because the query of building characteristics and heating technology is based on the structure of the renovation configurator of the Federal Ministry for Economic Affairs and Energy (BMWK 2015) and the "Short Procedure Energy Profile for the Simple Energy Evaluation of Buildings" of the Institute Living and Environment (Loga et al. 2005) (see also https://www.iwu.de/forschung/energie/kurzverfahren-energieprofil/https://www.iwu.de/forschung/energie/kurzverfahren-energieprofil/), this information can be used to calculate the final energy demand of the building.

In the second survey wave, this module is followed by a set of questions concerning barriers to and assessments of modernization measures (Module 2). The second module further comprises a section on rent, heating and ancillary cost which were particularly relevant in the course of the Russian attack on Ukraine and consequently rising energy costs. Both homeowners and tenants are asked to state their expectations concerning the cost of heating in the future and

their intended heating behavior for the coming heating period. This is then followed by an experiment on the effect of an energy saving bonus. Afterwards, information on the presence of an energy certificate and an estimation of the energy performance of the building participants live in is acquired. Lastly, participants indicate their long-term expectations regarding the evolution of the costs of the main energy source of their heating system.

Module 3 comprises a conjoint experiment on modernization decisions. Due to the already comprehensive scope of the main survey, this experiment was conducted in the course of a follow-up survey that took place from November 21 to November 28, 2022. The focus of this second survey was a module on mobility, which is not part of the GHHP. In the section with the conjoint experiment on modernization decisions, the household heads are asked to choose between different modernization option. In each decision, the following features are varied: household's current rent, heating, and energy costs, as well as the measure's characteristics in terms of modernization cost, available funding and its effect on the building's energy efficiency. Afterwards, information on the relevance of these different characteristics for the decision are gathered. In the main survey, the final sections included – like in the first wave – an elicitation of the participants' acceptance of different political climate protection measures. Finally, as before, environmental attitudes of newly recruited respondents are elicited. The survey ends with questions on socioeconomic features.

Table 2: Comparison of Wave 1 and Wave 2

Section	Content
Module 1 :	
a & ist	Building & household characteristics **(building characteristics taken from wave 1 if repeated household that did not move, updated if renovated since last survey)**
san	Energetic renovations conducted and planned
Ea & bel	Energy certificates & beliefs concerning efficiency & consumption
Module 2:	
Effizienz_belief	Obstacles and beliefs concerning modernization (W2: Module 2)
m	Rent, heating energy and ancillary costs
kosten_next	Heating energy costs in the future
kosten_reaktion	Reaction towards increasing prices & thermostat; intentions towards upcoming heating period
Ea	Energy performance and energy performance certificate
kosten_belief	Energy cost baseline beliefs

	co	Acceptance of instruments
	pk	Environmental attitudes (only for new recruits)
	So	Socioeconomic data
Module 3:		Conjoint experiment on modernization decisions for tenants and landlords
	v	Landlord survey
	kosten_belief_x	Beliefs about long-term energy cost development
	ea	Building energy certicficate
	bel	Energy efficiency class and final energy consumption of building rented out
	sd	Meta variables for conjoint experiment
	choice_task	Experiment questions
	post_choice	Post experiment questions

3. Socioeconomic Features of Surveyed Households

3.1. Distribution of households across federal states

The distribution of households across the federal states is largely like the distribution of households according to the Microcensus 2022 (Destatis 2024b). The three federal states with the largest share are North Rhine-Westphalia (21.3%), Bavaria (15.6%) and Baden-Württemberg (13.0%) (Table 3 and Figure 1).

Figure 1: Distribution of households across the states in the sample and in Germany according to Microcensus 2022. Source: Destatis (2024b).

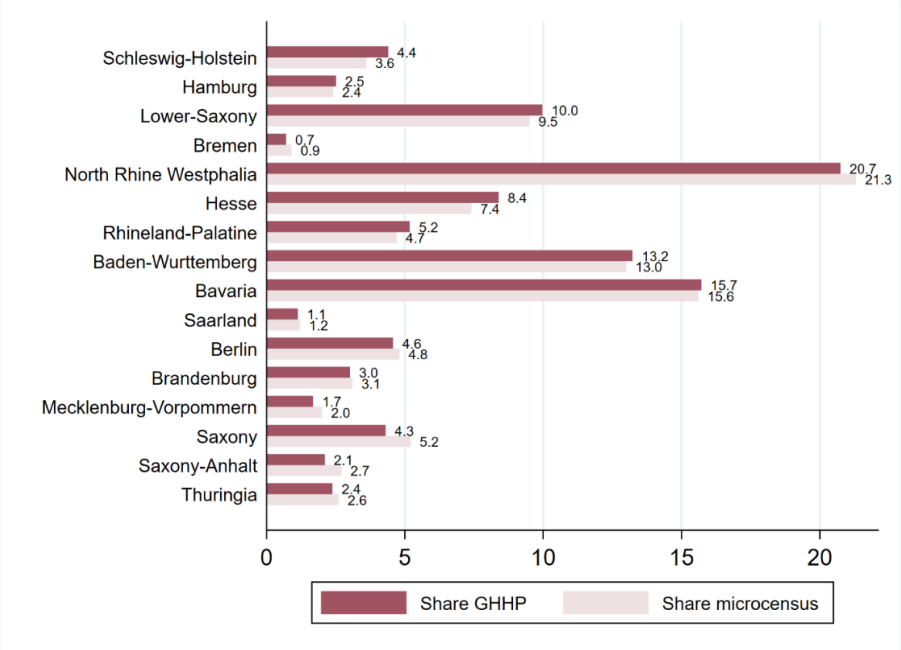


Table 3: Distribution of households across states in the GHHP sample and in the German Microcensus 2022. Source: Destatis (2024b)

Federal State	Number of households in GHHP	Share of households in GHHP	Share in German Microcensus 2022
Baden-Württemberg	2,027	13.2%	13%
Bavaria	2,408	15.7%	15.6%
Berlin	701	4.6%	4.8%
Brandenburg	461	3.0%	3.1%
Bremen	108	0.7%	0.9%
Hamburg	384	2,5%	2.4%
Hesse	1,285	8.4%	7.4%
Mecklenburg-Vorpommern	257	1.7%	2.0%
Lower Saxony	1,527	10.0%	9.5%
North Rhine-Westphalia	3,178	20.7%	21.3%
Rhineland-Palatine	793	5.2%	4.7%
Saarland	173	1.1%	1.2%
Saxony	659	4.3%	5.2%
Saxony-Anhalt	322	2.1%	2.7%
Schleswig-Holstein	673	4.4%	3.6%
Thuringia	365	2.4%	2.6%
Total	15,321	100%	100%

3.2. Age

The study participants are between 18 and 94 years old. Respondents between the ages of 55 and 64 form the largest age group with a share of 24.7%, while the age group between 65 and 74 has a slightly lower share of 23.8% (Figure 2). Compared to the population of main income earners in Microcensus which is the closest comparison available to our definition of “heads of households”, persons aged between 55 and 74 are thus overrepresented in the sample (share in the 2022 Microcensus: 33.4% (Destatis 2024b). Persons between the ages of 25 and 34 are underrepresented with a share of 5.8% (share in the 2022 Microcensus: 14.7%). Since younger people tend to live in rented homes and own less property, this smaller share can also be partly attributed to the fact that the survey oversampled households that own their property.

Figure 2: Age distribution of surveyed household heads in the GHHP sample.

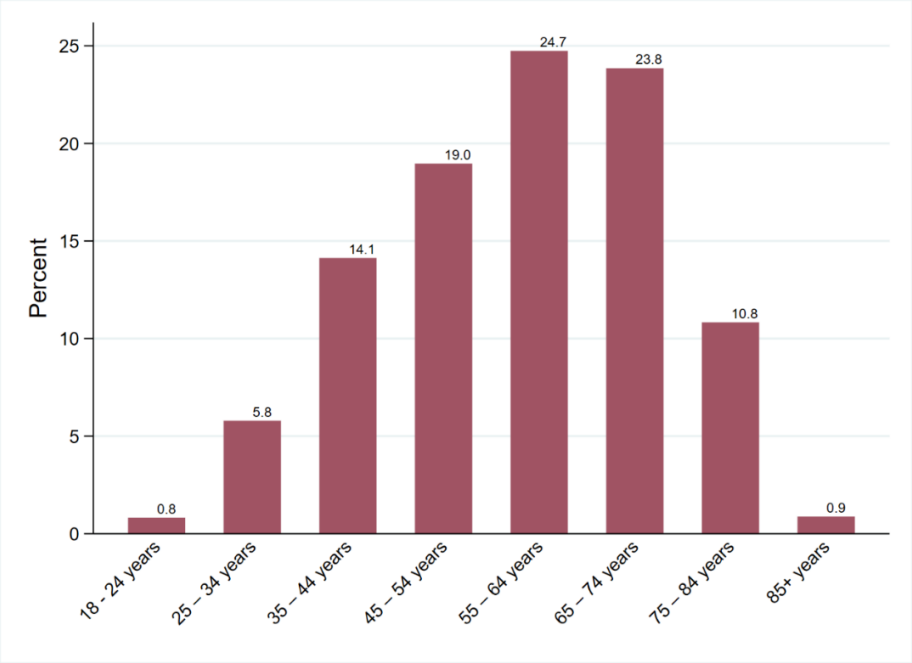
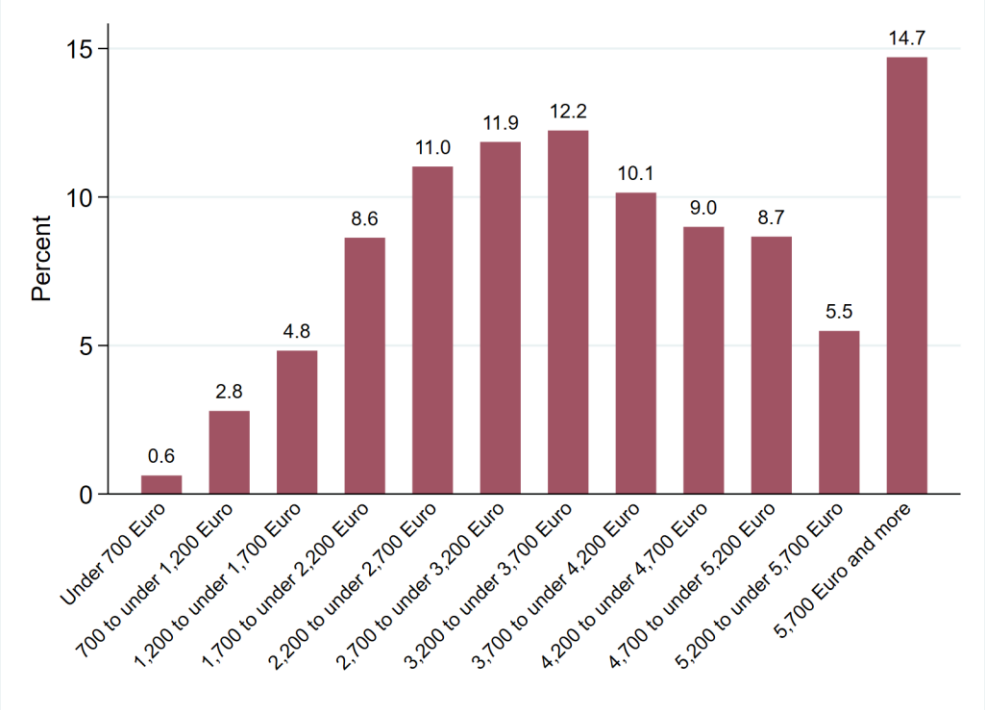


Figure 3: Distribution of monthly household net income in the GHHP sample.



Note: *Answer to the question: "What is the total monthly net income of your household? This refers to the sum of wages, salary, income from self-employment, pension or retirement benefits, in each case after deduction of taxes and social security contributions. Please also add income from public assistance, income from renting, leasing, housing allowance, child benefit and other income."*

3.3. Income

When looking at household net incomes, incomes are classified from "under 700 euros" in 500 euro increments to "5,700 euros and more." Households with a net income of more than 5,700 euros form the largest income group in the sample with a share of 14.7% (Figure 3).

When comparing the sample distribution with the income distribution in the population, it is noticeable that the lower income strata are underrepresented in the sample, while the higher income strata are strongly overrepresented. For example, the income group from 2,700 to 5,200 euros has a share of 51.9% in the sample (Table 4), while incomes between 2,500 and 5,000 euros have a share of 37.2% in the population according to the Microcensus 2022 (Destatis 2025). This difference is related to the deliberate oversampling of owners in the sample. Note here that the median income of renters in the sample is in the class of 2,700 to 3,200 euros, but the median income of owners is in the class of 3,700 to 4,200 euros.

Table 4: Comparison of the distribution of household incomes between the GHHP sample and the German population according to the 2022 Microcensus. Source: Destatis (2025).

Share in GHHP		Share in Microcensus 2022	
Under 700 Euro	0.6%	Under 500 Euro	1.7%
700 – 1.200 Euro	2.8%	500 – 1.250 Euro	12.5%
1.200 – 2.700 Euro	24.5%	1.250 – 2.500 Euro	32.5%
2.700 – 5.200 Euro	51.9%	2.500 – 5.000 Euro	37.2%
Over 5.200 Euro	20.2%	Over 5.000 Euro	16.1%

3.4. Household size

Households with two persons are the largest group within the sample (48.9%), while according to the Microcensus 2022 they represent only 33.5% of the population (Table 5). Single-person households are the second largest group in the sample (23.5%), but the largest group within the population (40.6%).

Table 5: Distribution of household size in the GHHP sample and according to the 2022 Microcensus. Source: Destatis (2024b).

Household size	Share in GHHP	Share in Microcensus 2022
1 Person	23.5%	41.5%
2 Persons	48.9%	33.5%
3 Persons	13.2%	11.8%
4 Persons	10.6%	9.5%
5 and more persons	3.8%	3.7%

3.5. Education

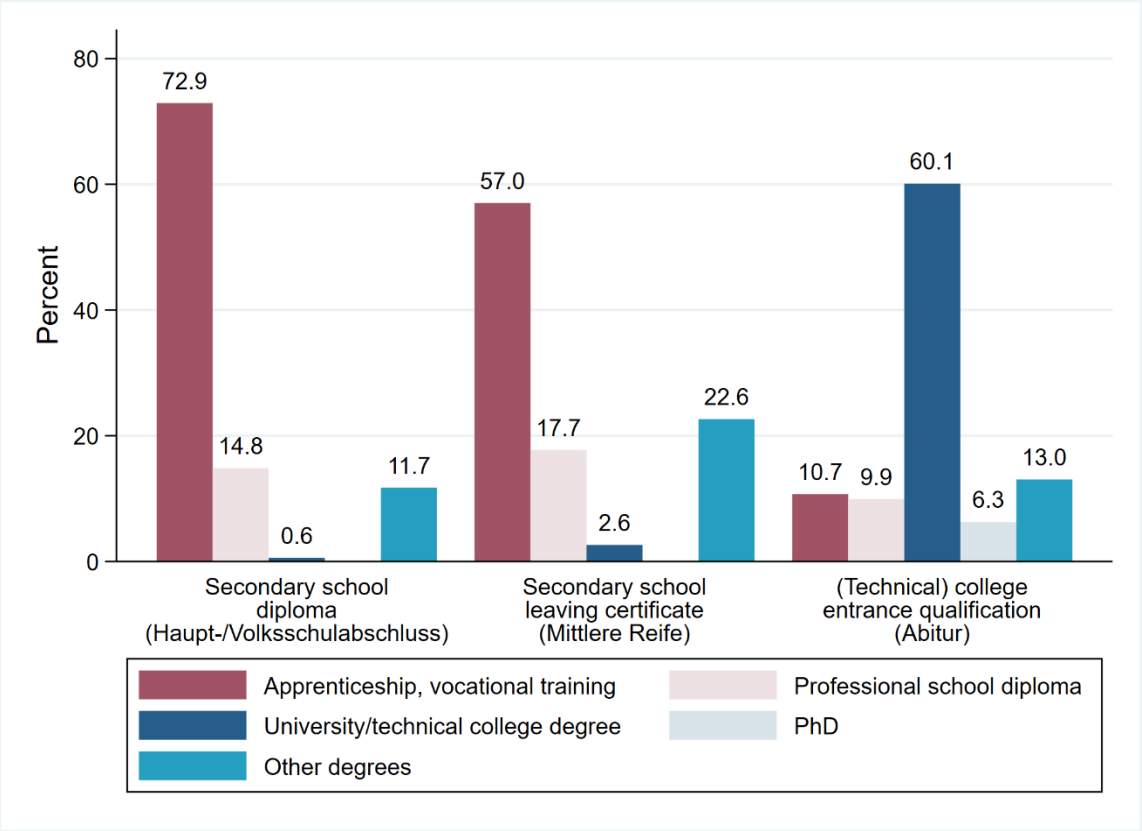
Compared to the Microcensus 2022, the sample of the GHHP is more educated. While around 60% of the household heads in the second wave have a (technical) university entrance qualification, this amounts to only 38.8% of main income earners in the Microcensus (Table 6, Destatis 2024b). Among the 61.7% of respondents with a technical/higher education entrance qualification, 60.1% have a university or technical college degree (Figure 4). This amounts to 36.7% of all respondents.

Of people who have technical/higher education entrance qualification more than 60% can show a university degree (Figure 4). This means that among respondents who have completed university-level education, 6.3% went on to earn a PhD. Of the 30.37% of respondents with a secondary school diploma, 57% report an apprenticeship as their highest vocational qualification. Only 2.6% of respondents' intermediate secondary school leaving certificate obtained a (technical) college degree afterwards. Among the 8.8% of respondents with the lower secondary/elementary school leaving certificate, apprenticeship or vocational training is the most common degree (72.9%).

Table 6: Highest level of education in the GHHP sample and according to the Microcensus 2022. Source: Destatis (2024b).

Highest school degree	Share in GHHP	Share in Microcensus 2022
Without school-leaving qualification / <7 years	0.14%	4.3%
Secondary / elementary school diploma	8.82%	26.5%
Secondary school leaving certificate (Mittlere Reife)	30.37%	30.2%
Technical / university entrance qualification / Abitur	60.67%	38.8%

Figure 4: Distribution of the highest vocational training/(technical) college degree, broken down by highest school-leaving qualification.

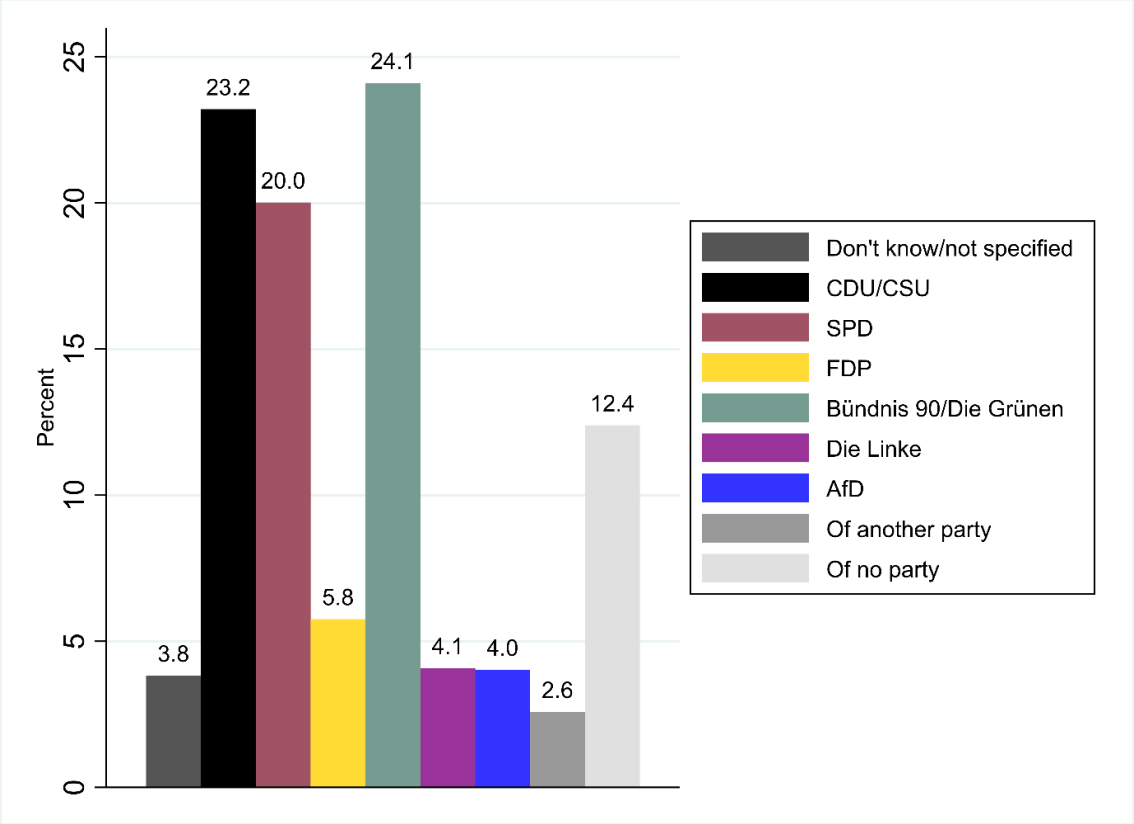


Note: *Answer to the question, "What is your highest high school degree?"*

3.6. Political position

In terms of political positions, the sample deviates from the results of the so-called Sunday questions (Sonntagsfrage) in September to November 2022 conducted by infratest dimap (2024). More respondents of the GHHP are inclined towards the Greens and CDU and less towards the SPD. The inclination towards the AfD is by ten percentage points lower in the GHHP than the fraction of people who would elect them if the federal elections took place next Sunday. This is likely since the Sunday question measures the current voting inclination, while the survey focusses on the respondents' inclination towards a particular party.

Figure 5: Political position

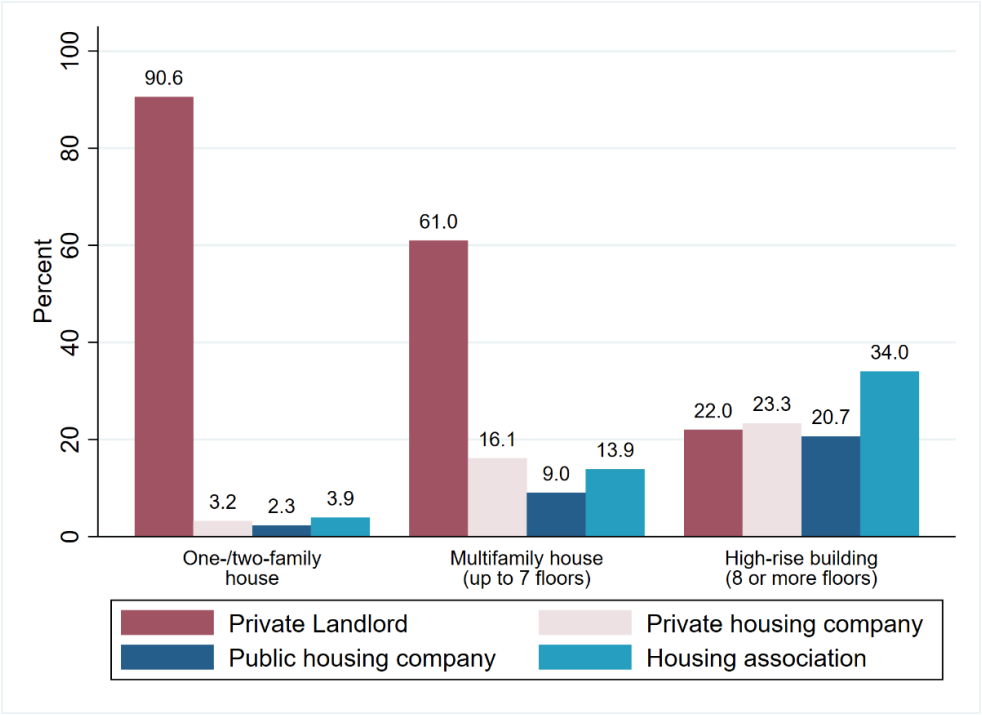


Note: *Answer to the question, "Do you - in general - lean towards a particular party? And if so, which one?"*

3.7. Housing situation

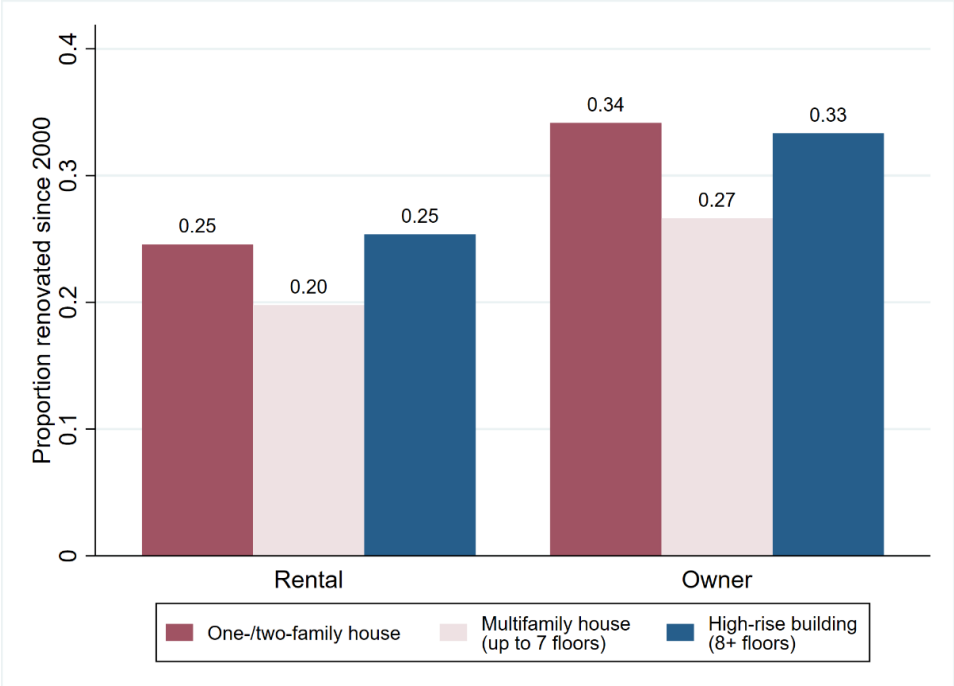
Two-thirds (66.6%) of the surveyed households own their homes, whereas one-third (33.4%) live in rental housing. A majority of tenants (67.5%) report that their landlord is a private individual. The second most common rental type are private housing companies, with a much smaller share of 13%. The rest of the tenants surveyed live for rent with public housing companies (7.7%) or housing associations (11.9%). When distinguished by building type, 90.6% of tenants in single/two-family houses rent from private individuals (Figure 6). In apartment buildings, 61% of respondents rent from private individuals, while in high-rise buildings only 22% rent from private individuals. Here, most respondents rent from housing associations (34%), followed by private (23.3%) and public housing companies (20.7%).

Figure 6: Type of landlord of people living for rent by building type in the GHHP sample.



Note: *If the respondent indicated living for rent, answer to the question, "What is true about your landlord/landlady?"*

Figure 7 Percentage of respondents who indicated that at least one modernization measure had been implemented since 2000, for tenants and owners by building type



4. Application Example – Premium Programs and Energy-saving Intentions

To foster energy conservation among private households, premium programs for energy savings have been a widely suggested instrument in the economic literature. Using an incentive-compatible survey experiment which was included in wave 2 of the GHHP with almost 4,500 participants, Gerster et al. (2025) analyze the incentive effect of a savings premium that is paid out if a household reaches a predefined energy conservation target. The results suggest that energy savings premia tend to be ineffective in getting households to reach ambitious conservation targets: About 42% of the households opt against generous premium payments of up to EUR 1,500 – in favor of a fixed payment of only EUR 100. Only 11% of all participants are motivated to save more energy if the premium is generous enough. By contrast, about 47% of the households opt for the premium, rather than the unconditional payment of EUR 100, even if the premium is the less financially attractive option. This result suggests the interpretation of savings premia as a commitment device, as monetary incentives seem to be less important. Taken together, the results suggest that policy makers should primarily support motivated households to reach their conservation goals, rather than trying to persuade less motivated households with generous premium payments.

5. Data Access

The data set is available as a Scientific Use File at the FDZ Ruhr, the research data centre at RWI – Leibniz Institute for Economic Research. The data access is only granted for scientific, non-commercial studies and to affiliate researchers of scientific institutions. It requires a signed data usage agreement which can be applied for on the FDZ website. The data can be obtained as a Stata ® dataset (.dta) or csv. file. The users are requested to cite the source correctly and to inform FDZ Ruhr about publications with the data. The dataset consists of all waves described here. When using the dataset, please cite it as:

Frondel, M., Gerster, A., Henger, R., Kaestner, K., Oberst, C., Pahle, M., Singhal, P., Sommer, S., & Schwarz, A. (2025). The German Heating and Housing Panel (GHHP) - Wave 2 (Version 2) [Data set]. RWI – Leibniz Institute for Economic Research. https://doi.org/10.7807/GHHP:EXPERIMENT:V2

Frondel, M., Gerster, A., Henger, R., Kaestner, K., Oberst, C., Pahle, M., Singhal, P., Sommer, S., & Schwarz, A. (2025). The German Heating and Housing Panel (GHHP) - Wave 2 (Version 2) [Data set]. RWI – Leibniz Institute for Economic Research. https://doi.org/10.7807/GHHP:BUILDING:V2

Furthermore, we recommend citing this data description.

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German Heating and Housing Panel (GHHP) - Wave 2 Codebook

BMBF Kopernikus-Project ARIADNE

Leander Holtz, Kathrin Kaestner, Martina Milcetic, Jan Schweers

16. Juli 2025

RWI – Leibniz Institute for Economic Research
Essen, Germany

1 General variables

Name of variable: key

Description: Unique identifier

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: dquelle

Description: Dummy Sample Source

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

1 Repeating participants
2 New participants from W2

Name of variable: compl

Description: Interview-Status

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

1 Complete

Name of variable: gemkey

Description: Municipality Code ('Gemeindekennziffer')

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: plz

Description: Postal code

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: bland

Description: Federal State

Missings and Encoding:

Don't know/not specified (-1): 0
Not asked (-2): 0

1 Schleswig-Holstein
2 Hamburg
3 Lower-Saxony
4 Bremen
5 North Rhine Westphalia
6 Hesse
7 Rhineland-Palatine
8 Baden-Wurttemberg
9 Bavaria
10 Saarland
11 Berlin
12 Brandenburg
13 Mecklenburg-Vorpommern
14 Saxony
15 Saxony-Anhalt
16 Thuringia

Name of variable: ges

Description: Gender

Missings and Encoding:

Don't know/not specified (-1): 0
Not asked (-2): 0

1 Male
2 Female

Name of variable: a1

Description: Household size

Missings and Encoding:

Don't know/not specified (-1): 45
Not asked (-2): 0

1 1 Person
2 2 People
3 3 people
4 4 people
5 5 or more

Name of variable: a1_num

Description: A1 numeric: Household size

Descriptives:

Min.:	1.00	Max.:	19.00
1. Qu.:	2.00	3. Qu.:	3.00
Mean:	2.24	Median:	2.00

Missings and Encoding:
Don't know/not specified (-1): 45
Not asked (-2): 0

Name of variable: a1u1

Description: Moved since last survey

Missings and Encoding:
Don't know/not specified (-1): 20
Not asked (-2): 2913

0 No
1 Yes

Name of variable: a2

Description: Usage type building

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

1 Rental
2 Property

Name of variable: a2_1a

Description: Landlord type

Missings and Encoding:
Don't know/not specified (-1): 74
Not asked (-2): 10198

1 Private Landlord
2 Private housing company
3 Public housing company
4 Housing association

Name of variable: a4

Description: Building type

Missings and Encoding:

Don't know/not specified (-1): 8
Not asked (-2): 0

1 Detached one-/ two-family house
2 Terraced/semi-detached house
3 Multifamily house (up to 7 floors)
4 High-rise building (8 or more floors)
5 In a (former and/or converted) industry building
6 In a 'Datsche/Datscha', a holiday- or garden house, a caravan or similar
7 In another type of building

Name of variable: a5

Description: Move-in period

Missings and Encoding:

Don't know/not specified (-1): 102
Not asked (-2): 0

1 1950 or earlier
2 1951-1975
3 1976-2000
4 2001-2021

Name of variable: a5_num

Description: a5 numeric: Move-in year

Descriptives:

Min.:	1900.00	Max.:	2022.00
1. Qu.:	1993.00	3. Qu.:	2015.00
Mean:	2002.12	Median:	2005.00

Missings and Encoding:

Don't know/not specified (-1): 102
Not asked (-2): 0

Name of variable: a6

Description: Planned peroiod of residence

Missings and Encoding:

Don't know/not specified (-1): 999	1 Less than a year
Not asked (-2): 0	2 1-2 years
	3 3-5 years
	4 6-10 years
	5 More than 10 years

Name of variable: a7

Description: Renting out apartments and/or houses

Missings and Encoding:

Don't know/not specified (-1): 27	0 No
Not asked (-2): 0	1 Yes

Name of variable: a7a_1

Description: Number of apartments rented out

Missings and Encoding:

Don't know/not specified (-1): 41	1 0
Not asked (-2): 12353	2 1
	3 2
	4 3
	5 4
	6 5 or more

Name of variable: a7a_2

Description: Number of houses rented out

Missings and Encoding:

Don't know/not specified (-1): 153	1 0
Not asked (-2): 12353	2 1
	3 2
	4 3
	5 4
	6 5 or more

Name of variable: a7a_1_num

Description: a7a_1 numeric: Number of rented apartments

Descriptives:

Min.:	0.00	Max.:	50.00
1. Qu.:	1.00	3. Qu.:	2.00
Mean:	2.43	Median:	1.00

Missings and Encoding:
Don't know/not specified (-1): 41
Not asked (-2): 12353

Name of variable: a7a_2_num

Description: a7a_2 numeric: Number of houses rented out

Descriptives:

Min.:	0.00	Max.:	50.00
1. Qu.:	0.00	3. Qu.:	1.00
Mean:	0.41	Median:	0.00

Missings and Encoding:
Don't know/not specified (-1): 153
Not asked (-2): 12353

Name of variable: a8

Description: Owns second/holiday-apartment/-house

Missings and Encoding:
Don't know/not specified (-1): 36
Not asked (-2): 0

1 No
2 Yes, second apartment/house
3 Yes, holiday apartment/-house/-haus
4 Yes, both

Name of variable: a8a

Description: Time spent in primary residence (months)

Missings and Encoding:
Don't know/not specified (-1): 41
Not asked (-2): 14128

1 1-3 months
2 4-6 months
3 7-9 months
4 10-12 months

Name of variable: a8a_num

Description: a8a numeric: Number of months in primary residence

Descriptives:

Min.:	1.00	Max.:	12.00
1. Qu.:	10.00	3. Qu.:	12.00
Mean:	10.00	Median:	11.00

Missings and Encoding:
Don't know/not specified (-1): 41
Not asked (-2): 14128

---

2 Module 1: Household and building characteristics

Name of variable: ist1

Description: Adjacency to other buildings
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:
Don't know/not specified (-1): 28
Not asked (-2): 0

1 Detached building, i.e. no directly adjacent buildings
2 On one side directly adjacent neighbouring building
3 On two sides directly adjacent neighbouring buildings

Name of variable: ist2

Description: Floor plan
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:
Don't know/not specified (-1): 63
Not asked (-2): 0

1 Compact
2 Elongated, angled or more complicated

Name of variable: ist3

Description: Number of residential units
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 192	1 1
Not asked (-2): 0	2 2
	3 3
	4 4
	5 5
	6 6 to 10
	7 11 or more

Name of variable: ist3_num

Description: Number of residential units numeric

Descriptives:

Min.:	1.00	Max.:	50.00
1. Qu.:	1.00	3. Qu.:	6.00
Mean:	5.47	Median:	2.00

Missings and Encoding:
Don't know/not specified (-1): 192
Not asked (-2): 0

Name of variable: ist4

Description: Number of floors (without basement and attic)
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 74	1 1
Not asked (-2): 0	2 2
	3 3
	4 4
	5 5
	6 6 to 10
	7 11 or more

Name of variable: ist4_num

Description: ist4 numeric: Number of floors (without basement and attic)

Descriptives:

Min.:	1.00	Max.:	45.00
1. Qu.:	2.00	3. Qu.:	3.00
Mean:	2.62	Median:	2.00

Missings and Encoding:
Don't know/not specified (-1): 74
Not asked (-2): 0

Name of variable: ist5

Description: Size of heated living space in house/apartment (m^2) (without heated basement, attic, business and work premises) used by own household
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:
Don't know/not specified (-1): 213
Not asked (-2): 0

1 1-25
2 26-50
3 51-75
4 76-100
5 101-125
6 126-150
7 151 or more

Name of variable: ist5a

Description: Size of heated living space of entire building (m^2) (without heated basement, attic, business and work premises)
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:
Don't know/not specified (-1): 196
Not asked (-2): 12105

1 1-50
2 51-100
3 101-500
4 151-200
5 201-300
6 301-400
7 401-500
8 501 or more

Name of variable: ist5_num

Description: Size of heated living space in house/apartment (m^2) (without heated basement, attic, business and work premises) - numerical

Descriptives:

Min.:	2.00	Max.:	999.00
1. Qu.:	80.00	3. Qu.:	143.00
Mean:	119.19	Median:	110.00

Missings and Encoding:
Don't know/not specified (-1): 213
Not asked (-2): 0

Name of variable: ist5a_num

Description: ist5a numeric: Size of heated living space of entire building (m^2) (without heated basement, business and work premises) - numerical

Descriptives:

Min.:	14.00	Max.:	6500.00
1. Qu.:	150.00	3. Qu.:	246.50
Mean:	221.07	Median:	190.00

Missings and Encoding:
Don't know/not specified (-1): 196
Not asked (-2): 12105

Name of variable: ist6

Description: Year of construction of building
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 551	1 Until 1918
Not asked (-2): 0	2 1919-1948
	3 1949-1957
	4 1958-1968
	5 1969-1978
	6 1979-1983
	7 1984-1994
	8 1995-2001
	9 2002-2004
	10 2005-2006
	11 2007-2008
	12 2009-2013
	13 2014-2015
	14 2016-2019
	15 As of 2020

Name of variable: ist7

Description: Roof shape

Missings and Encoding:

Don't know/not specified (-1): 71	1 Pitched roof
Not asked (-2): 0	2 Flat roof or flat pitched roof

Name of variable: ist7_1a

Description: Heated attic
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 306	1 Attic completely heated
Not asked (-2): 2708	2 Attic partly heated
	3 Attic unheated

Name of variable: ist7_1b

Description: Dormer windows and other roof structures
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 382	0 No dormer windows and other roof structures
Not asked (-2): 2708	1 Dormer windows and other roof structures

Name of variable: ist8

Description: Heated basement
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 215
Not asked (-2): 0

1 Fully heated basement
2 Partly heated basement
3 Unheated basement
4 No basement

Name of variable: ist9_1

Description: Roof construction
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 1011
Not asked (-2): 0

1 Massive (e.g. masonry walls, concrete walls and ceilings)
2 Wood (e.g. wooden beam ceilings, wooden beam roof trusses, half-timbered or prefabricated wooden house walls)

Name of variable: ist9_2

Description: Construction top floor ceiling
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 619
Not asked (-2): 2708

1 Massive (e.g. masonry walls, concrete walls and ceilings)
2 Wood (e.g. wooden beam ceilings, wooden beam roof trusses, half-timbered or prefabricated wooden house walls)

Name of variable: ist9_3

Description: Construction exterior walls
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 167
Not asked (-2): 0

1 Massive (e.g. masonry walls, concrete walls and ceilings)
2 Wood (e.g. wooden beam ceilings, wooden beam roof trusses, half-timbered or prefabricated wooden house walls)

Name of variable: ist9_4

Description: Construction basement ceiling/floor to the ground (if there is no basement)
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 642
Not asked (-2): 0

1 Massive (e.g. masonry walls, concrete walls and ceilings)
2 Wood (e.g. wooden beam ceilings, wooden beam roof trusses, half-timbered or prefabricated wooden house walls)

Name of variable: ist10

Description: Year of installation of current windows
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 1198
Not asked (-2): 0

1 Until 1918
2 1919-1948
3 1949-1957
4 1958-1968
5 1969-1978
6 1979-1983
7 1984-1994
8 1995-2001
9 2002-2004
10 2005-2006
11 2007-2008
12 2009-2013
13 2014-2015
14 2016-2019
15 As of 2020

Name of variable: ist11

Description: Predominant glazing of windows
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 229
Not asked (-2): 0

1 Windows single glazed
2 Wooden windows with double glazing
3 Plastic windows with double glazing
4 Aluminum windows with double glazing
5 Windows with triple glazing

Name of variable: ist12

Description: Predominant heating system
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 462
Not asked (-2): 0

1 Boiler/heater (central)
2 Heat pump (central)
3 District/local heating (central)
4 Apartment-by-apartment heating (supplying individual residential units with their own energy generator, e.g., gas floor heating)
5 Room-by-room heating (supplying individual rooms, e.g., with night storage heaters)

Name of variable: ist12a

Description: Decision-making in the house in terms of central heating system

Missings and Encoding:

Don't know/not specified (-1): 34
Not asked (-2): 11899

1 Residents of own apartment (e.g. yourself)
2 Residents of other apartments
3 Residents of own apartment together with residents of other apartments
4 Real estate company
5 Public sector
6 Housing cooperative
7 7

Name of variable: ist12_1a

Description: Central heating fuel
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 651
Not asked (-2): 5614

1 Natural gas
2 Liquid gas
3 Heating oil
4 Logs/pellets
5 Other

Name of variable: ist12_2a

Description: Type of heat generation of heat pump
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 392
Not asked (-2): 13973

1 Alone, so only heat pump
2 Heat pump with heating rod
3 Heat pump with boiler
4 Heating rod only

Name of variable: ist12_2b

Description: Heat source of heat pump
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 406
Not asked (-2): 13973

1 Outside air
2 Ground/groundwater

Name of variable: ist12_3a

Description: District heating / local heating supply
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 876
Not asked (-2): 13126

1 Boiler/heating plant (heat generation only)
2 Combined heat and power (CHP) plant primarily for electricity generation (e.g., cogeneration plant, heat share less than 50%)
3 Combined heat and power (CHP) plant primarily for heat generation (heat share greater than 50%)
4 Other

Name of variable: ist12_5a

Description: Type of space heating for room-by-room heating
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 8	1 Individual furnaces with heating oil
Not asked (-2): 14882	2 Individual furnaces with coal
	3 Individual furnaces with wood
	4 Gas space heaters
	5 Electric heaters or night storage

Name of variable: ist13

Description: Commissioning year of heating system
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 2140	1 Until 1978
Not asked (-2): 0	2 1979-1982
	3 1983-1986
	4 1987-1989
	5 1990-1994
	6 1995-1999
	7 2000-2001
	8 2002-2004
	9 2005-2006
	10 2007-2008
	11 2009-2013
	12 2014-2015
	13 2016-2019
	14 As of 2020

Name of variable: ist13a

Description: Insulation of heating distribution pipes
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 1701	0 No
Not asked (-2): 4685	1 Yes

Name of variable: ist13a_1

Description: Year of insulation of distribution pipes
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 727
Not asked (-2): 7603

1 Before 1977
2 Between 1977 and 2001
3 As of 2002

Name of variable: ist14

Description: Type of hot water supply
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 837
Not asked (-2): 0

1 Combined with central heating
2 Central gas storage water heater
3 Central electric storage
4 Basement air/exhaust air heat pump
5 Gas floor heating
6 Instantaneous gas water heater
7 Instantaneous electric water heater
8 Electric storage/small storage

Name of variable: ist14a

Description: Commissioning year of hot water supply device
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 609
Not asked (-2): 11489

1 Until 1978
2 1979-1982
3 1983-1986
4 1987-1989
5 1990-1994
6 1995-1999
7 2000-2001
8 2002-2004
9 2005-2006
10 2007-2008
11 2009-2013
12 2014-2015
13 2016-2019
14 As of 2020

Name of variable: ist14b

Description: Hot water circulation
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 2506	1 Without hot water circulation
Not asked (-2): 4059	2 With hot water circulation

Name of variable: ist14c

Description: Insulation of hot water pipes
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 1578	0 No
Not asked (-2): 6541	1 Yes

Name of variable: ist14c_1a

Description: Year of insulation of hot water pipes
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 376	1 Before 1977
Not asked (-2): 9838	2 Between 1977 and 2001
	3 As of 2002

Name of variable: ist15_1

Description: Insulation of roof
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 2655	1 Not at all
Not asked (-2): 0	2 Somewhat (about 1/4 of the area)
	3 About half
	4 Mostly (about 3/4 of the area)
	5 Completely

Name of variable: ist15_2

Description: Insulation of top floor ceiling
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 2386	1 Not at all
Not asked (-2): 2708	2 Somewhat (about 1/4 of the area)
	3 About half
	4 Mostly (about 3/4 of the area)
	5 Completely

Name of variable: ist15_3

Description: Insulation of exterior walls
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 2350	1 Not at all
Not asked (-2): 0	2 Somewhat (about 1/4 of the area)
	3 About half
	4 Mostly (about 3/4 of the area)
	5 Completely

Name of variable: ist15_4

Description: Insulation of the basement ceiling/floor to ground (if no basement)
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 4223	1 Not at all
Not asked (-2): 0	2 Somewhat (about 1/4 of the area)
	3 About half
	4 Mostly (about 3/4 of the area)
	5 Completely

Name of variable: ist16

Description: Photovoltaic and/or solar thermal system

Missings and Encoding:

Don't know/not specified (-1): 98	1 Solar thermal system
Not asked (-2): 0	2 Photovoltaic system
	3 Solar thermal and photovoltaic system
	4 Neither

Name of variable: ist16_1

Description: Building has solar thermal system

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: ist16_2

Description: Building has photovoltaic system

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: ist16_3

Description: Building has neither solar thermal system nor photovoltaic

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: ist16_4

Description: don't know/not specified whether solar thermal system or photovoltaic on building

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: ist16a_1

Description: Solar thermal system used for heating

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 13207	1 Yes

Name of variable: ist16a_2

Description: Solar thermal system used for warm water
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 13207	1 Yes

Name of variable: ist16a_3

Description: don't know/not specified usage of solar thermal system

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 13207	1 Yes

Name of variable: ist17

Description: Connection for energy sources options at property

Missings and Encoding:

Don't know/not specified (-1): 368	1 Gas connection
Not asked (-2): 5115	2 No gas connection, but street has gas pipeline
	3 Street has no gas pipeline
	4 District heating connection
	5 No district heating connection, but street has district heating pipeline
	6 Street has no district heating pipeline
	7 Gas and district heating connection
	8 Gas-, but no district heating connection
	9 Gas, but no district heating connection, where street has district heating pipe
	10 District heating, but no gas connection, where street has gas pipe
	11 District heating connection, but street has no gas pipe

Name of variable: ist17_1

Description: Building has gas connection

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 5115	1 Yes

Name of variable: ist17_2

Description: Building has no gas connection but street has gas pipeline

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 5115	1 Yes

Name of variable: ist17_3

Description: Street has no gas pipeline

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 5115	1 Yes

Name of variable: ist17_4

Description: Building has district heating connection

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 5115	1 Yes

Name of variable: ist17_5

Description: Building has no district heating connection but the street has district heating pipeline

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 5115	1 Yes

Name of variable: ist17_6

Description: Street has no district heating pipeline

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 5115	1 Yes

Name of variable: ist17_7

Description: don't know/not specified connections

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 5115	1 Yes

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3 Energy Retrofits

Name of variable: san1_1

Description: Insulation of roof since 2000

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san1_2

Description: Insulation of top floor ceiling since 2000

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san1_3

Description: Insulation of exterior walls (incl. basement walls) since 2000

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san1_4

Description: Insulation of basement ceiling/floor to ground (if no basement) since 2000

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san1_5

Description: Renovation of windows since 2000

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san1_6

Description: Optimization of existing heating system since 2000

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san1_7

Description: Installation of new equipment for heat generation since 2000

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san1_8

Description: Other modernization measures since 2000

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san1_9

Description: No modernization measure carried out since 2000

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san1_10

Description: Don't know/not specified modernization measures since 2000

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san1_1_since21

Description: Insulation of roof since 2021

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 2913	1 Yes

Name of variable: san1_2_since21

Description: Insulation of top floor ceiling since 2021

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 2913	1 Yes

Name of variable: san1_3_since21

Description: Insulation of exterior walls (incl. basement walls) since 2021

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 2913	1 Yes

Name of variable: san1_4_since21

Description: Insulation of basement ceiling/floor to ground (if no basement) since 2021

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 2913	1 Yes

Name of variable: san1_5_since21

Description: Renovation of windows since 2021

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 2913	1 Yes

Name of variable: san1_6_since21

Description: Optimization of the existing heating system since 2021

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 2913	1 Yes

Name of variable: san1_7_since21

Description: Installation of new appliances for heat generation since 2021

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 2913	1 Yes

Name of variable: san1_8_since21

Description: Miscellaneous since 2021

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 2913	1 Yes

Name of variable: san1_9_since21

Description: No modernization measures carried out since 2021

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 2913	1 Yes

Name of variable: san1_10_since21

Description: Don't know/not specified

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 2913	1 Yes

Name of variable: san1a_11

Description: Newly applied insulation of roof: Start of implementation

Missings and Encoding:

Don't know/not specified (-1): 776
Not asked (-2): 12007

1 2000
2 2001
3 2002
4 2003
5 2004
6 2005
7 2006
8 2007
9 2008
10 2009
11 2010
12 2011
13 2012
14 2013
15 2014
16 2015
17 2016
18 2017
19 2018
20 2019
21 2020
22 2021
23 2022

Name of variable: san1a_21

Description: Newly applied insulation of top floor ceiling: Start of implementation

Missings and Encoding:

Don't know/not specified (-1): 338
Not asked (-2): 13687

1 2000
2 2001
3 2002
4 2003
5 2004
6 2005
7 2006
8 2007
9 2008
10 2009
11 2010
12 2011
13 2012
14 2013
15 2014
16 2015
17 2016
18 2017
19 2018
20 2019
21 2020
22 2021
23 2022

Name of variable: san1a_31

Description: Newly applied insulation of exterior walls: Start of implementation

Missings and Encoding:

Don't know/not specified (-1): 621
Not asked (-2): 13077

1 2000
2 2001
3 2002
4 2003
5 2004
6 2005
7 2006
8 2007
9 2008
10 2009
11 2010
12 2011
13 2012
14 2013
15 2014
16 2015
17 2016
18 2017
19 2018
20 2019
21 2020
22 2021
23 2022

Name of variable: san1a_41

Description: Newly applied insulation of basement ceiling/floor to the ground (if no basement): Start of implementation

Missings and Encoding:

Don't know/not specified (-1): 237
Not asked (-2): 14387

1 2000
2 2001
3 2002
4 2003
5 2004
6 2005
7 2006
8 2007
9 2008
10 2009
11 2010
12 2011
13 2012
14 2013
15 2014
16 2015
17 2016
18 2017
19 2018
20 2019
21 2020
22 2021
23 2022

Name of variable: san1a_51

Description: Renovation of windows: Start of implementation

Missings and Encoding:

Don't know/not specified (-1): 1184
Not asked (-2): 9934

1 2000
2 2001
3 2002
4 2003
5 2004
6 2005
7 2006
8 2007
9 2008
10 2009
11 2010
12 2011
13 2012
14 2013
15 2014
16 2015
17 2016
18 2017
19 2018
20 2019
21 2020
22 2021
23 2022

Name of variable: san1a_61

Description: Optimization of heating system: Start of implementation

Missings and Encoding:

Don't know/not specified (-1): 708
Not asked (-2): 11431

1 2000
2 2001
3 2002
4 2003
5 2004
6 2005
7 2006
8 2007
9 2008
10 2009
11 2010
12 2011
13 2012
14 2013
15 2014
16 2015
17 2016
18 2017
19 2018
20 2019
21 2020
22 2021
23 2022

Name of variable: san1a_71

Description: Installation of new equipment for heat generation: Start of implementation

Missings and Encoding:

Don't know/not specified (-1): 1101
Not asked (-2): 9666

1 2000
2 2001
3 2002
4 2003
5 2004
6 2005
7 2006
8 2007
9 2008
10 2009
11 2010
12 2011
13 2012
14 2013
15 2014
16 2015
17 2016
18 2017
19 2018
20 2019
21 2020
22 2021
23 2022

Name of variable: san1a_12

Description: Newly applied insulation of roof: Cost

Missings and Encoding:

Don't know/not specified (-1): 1258
Not asked (-2): 12007

1 below 1.000 Euro
2 1.000 - below 3.000 Euro
3 3.000 - below 5.000 Euro
4 5.000 - below 10.000 Euro
5 10.000 - below 15.000 Euro
6 15.000 - below 20.000 Euro
7 20.000 - below 30.000 Euro
8 30.000 - below 40.000 Euro
9 40.000 - below 60.000 Euro
10 60.000 Euro or more

Name of variable: san1a_22

Description: Newly applied insulation of top floor ceiling: Cost

Missings and Encoding:

Don't know/not specified (-1): 700
Not asked (-2): 13687

1 below 1.000 Euro
2 1.000 - below 3.000 Euro
3 3.000 - below 5.000 Euro
4 5.000 - below 10.000 Euro
5 10.000 - below 15.000 Euro
6 15.000 - below 20.000 Euro
7 20.000 - below 30.000 Euro
8 30.000 - below 40.000 Euro
9 40.000 - below 60.000 Euro
10 60.000 Euro or more

Name of variable: san1a_32

Description: Newly applied insulation of exterior walls: Cost

Missings and Encoding:

Don't know/not specified (-1): 1157
Not asked (-2): 13077

1 below 1.000 Euro
2 1.000 - below 3.000 Euro
3 3.000 - below 5.000 Euro
4 5.000 - below 10.000 Euro
5 10.000 - below 15.000 Euro
6 15.000 - below 20.000 Euro
7 20.000 - below 30.000 Euro
8 30.000 - below 40.000 Euro
9 40.000 - below 60.000 Euro
10 60.000 Euro or more

Name of variable: san1a_42

Description: Newly applied insulation of basement ceiling/floor to the ground (if no basement): Cost

Missings and Encoding:

Don't know/not specified (-1): 475
Not asked (-2): 14387

1 below 1.000 Euro
2 1.000 - below 3.000 Euro
3 3.000 - below 5.000 Euro
4 5.000 - below 10.000 Euro
5 10.000 - below 15.000 Euro
6 15.000 - below 20.000 Euro
7 20.000 - below 30.000 Euro
8 30.000 - below 40.000 Euro
9 40.000 - below 60.000 Euro
10 60.000 Euro or more

Name of variable: san1a_52

Description: Renovation of windows: Cost

Missings and Encoding:

Don't know/not specified (-1): 1963
Not asked (-2): 9934

1 below 1.000 Euro
2 1.000 - below 3.000 Euro
3 3.000 - below 5.000 Euro
4 5.000 - below 10.000 Euro
5 10.000 - below 15.000 Euro
6 15.000 - below 20.000 Euro
7 20.000 - below 30.000 Euro
8 30.000 - below 40.000 Euro
9 40.000 - below 60.000 Euro
10 60.000 Euro or more

Name of variable: san1a_62

Description: Optimization of heating system: Cost

Missings and Encoding:

Don't know/not specified (-1): 1116
Not asked (-2): 11431

1 below 1.000 Euro
2 1.000 - below 3.000 Euro
3 3.000 - below 5.000 Euro
4 5.000 - below 10.000 Euro
5 10.000 - below 15.000 Euro
6 15.000 - below 20.000 Euro
7 20.000 - below 30.000 Euro
8 30.000 - below 40.000 Euro
9 40.000 - below 60.000 Euro
10 60.000 Euro or more

Name of variable: san1a_72

Description: Installation of new equipment for heat generation: Cost

Missings and Encoding:

Don't know/not specified (-1): 1781
Not asked (-2): 9666

1 below 1.000 Euro
2 1.000 - below 3.000 Euro
3 3.000 - below 5.000 Euro
4 5.000 - below 10.000 Euro
5 10.000 - below 15.000 Euro
6 15.000 - below 20.000 Euro
7 20.000 - below 30.000 Euro
8 30.000 - below 40.000 Euro
9 40.000 - below 60.000 Euro
10 60.000 Euro or more

Name of variable: san1a_13_1

Description: Newly applied insulation of roof: Funding by the Federal Office of Economics and Export Control (BAFA)

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 12007	1 Yes

Name of variable: san1a_13_2

Description: Newly applied insulation of roof: Credit Institute for Reconstruction (KfW) fund
Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 12007	1 Yes

Name of variable: san1a_13_3

Description: Newly applied insulation of roof: Other funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 12007	1 Yes

Name of variable: san1a_13_4

Description: Newly applied insulation of roof: No funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 12007	1 Yes

Name of variable: san1a_13_5

Description: Newly applied insulation of roof: don't know/not specified funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 12007	1 Yes

Name of variable: san1a_23_1

Description: Newly applied insulation of top floor ceiling: Funding by the Federal Office of Economics and Export Control (BAFA)

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 13687	1 Yes

Name of variable: san1a_23_2

Description: Newly applied insulation of top floor ceiling: Credit Institute for Reconstruction (KfW) fund

Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 13687	1 Yes

Name of variable: san1a_23_3

Description: Newly applied insulation of top floor ceiling: Other funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 13687	1 Yes

Name of variable: san1a_23_4

Description: No funding: Newly applied insulation of top floor ceiling

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 13687	1 Yes

Name of variable: san1a_23_5

Description: Newly applied insulation of top floor ceiling: don't know/not specified funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 13687	1 Yes

Name of variable: san1a_33_1

Description: Newly applied insulation of exterior walls: Funding by the Federal Office of Economics and Export Control (BAFA)

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 13077	1 Yes

Name of variable: san1a_33_2

Description: Newly applied insulation of exterior walls: Credit Institute for Reconstruction (KfW) fund

Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 13077	1 Yes

Name of variable: san1a_33_3

Description: Newly applied insulation of exterior walls: Other funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 13077	1 Yes

Name of variable: san1a_33_4

Description: Newly applied insulation of exterior walls: No funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 13077	1 Yes

Name of variable: san1a_33_5

Description: Newly applied insulation of exterior walls: don't know/not specified funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 13077	1 Yes

Name of variable: san1a_43_1

Description: Newly applied insulation of basement ceiling/floor to the ground (if no basement): Funding by the Federal Office of Economics and Export Control (BAFA)

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 14387	1 Yes

Name of variable: san1a_43_2

Description: Newly applied insulation of basement ceiling/floor to the ground (if no basement): Credit Institute for Reconstruction (KfW) fund

Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 14387	1 Yes

Name of variable: san1a_43_3

Description: Newly applied insulation of basement ceiling/floor to the ground (if no basement): Other funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 14387	1 Yes

Name of variable: san1a_43_4

Description: Newly applied insulation of basement ceiling/floor to the ground (if no basement): No funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 14387	1 Yes

Name of variable: san1a_43_5

Description: Newly applied insulation of basement ceiling/floor to the ground (if no basement): don't know/not specified funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 14387	1 Yes

Name of variable: san1a_53_1

Description: Renovation of windows: Subsidy from the Federal Office of Economics and Export Control (BAFA)

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 9934	1 Yes

Name of variable: san1a_53_2

Description: Renovation of windows: KfW funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 9934	1 Yes

Name of variable: san1a_53_3

Description: Renovation of windows: Other funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 9934	1 Yes

Name of variable: san1a_53_4

Description: Renovation of windows: No funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 9934	1 Yes

Name of variable: san1a_53_5

Description: Renovation of windows: don't know/not specified funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 9934	1 Yes

Name of variable: san1a_63_1

Description: Optimization of heating system: Funding by the Federal Office of Economics and Export Control (BAFA)

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 11431	1 Yes

Name of variable: san1a_63_2

Description: Optimization of heating system: KfW funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 11431	1 Yes

Name of variable: san1a_63_3

Description: Optimization of heating system: Other funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 11431	1 Yes

Name of variable: san1a_63_4

Description: Optimization of heating system: No funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 11431	1 Yes

Name of variable: san1a_63_5

Description: Optimization of heating system: don't know/not specified funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 11431	1 Yes

Name of variable: san1a_73_1

Description: New heat generation equipment: Subsidy from the Federal Office of Economics and Export Control (BAFA)

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 9666	1 Yes

Name of variable: san1a_73_2

Description: New heat generation equipment: KfW funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 9666	1 Yes

Name of variable: san1a_73_3

Description: New heat generation equipment: Other funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 9666	1 Yes

Name of variable: san1a_73_4

Description: New heat generation equipment: No funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 9666	1 Yes

Name of variable: san1a_73_5

Description: New heat generation equipment: Don't know/not specified funding

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 9666	1 Yes

Name of variable: san1a_1a

Description: Implementation of modernization measures as a complete refurbishment in the course of a Credit Institute for Reconstruction (KfW) efficiency house refurbishment

Comment: Variable is used for the calculation of final energy demand

Missings and Encoding:

Don't know/not specified (-1): 220	1 Yes, as KfW-Efficiency-house 55
Not asked (-2): 13962	2 Yes, as KfW-Efficiency-house 70
	3 Yes, as KfW-Efficiency-house 85
	4 Yes, as KfW-Efficiency-house 100
	5 Yes, as KfW-Efficiency-house 115
	6 No, as a single measure

Name of variable: san1_5a

Description: Year of installation windows before renovation

Missings and Encoding:

Don't know/not specified (-1): 810	1 Until 1918
Not asked (-2): 9933	2 1919-1948
	3 1949-1957
	4 1958-1968
	5 1969-1978
	6 1979-1983
	7 1984-1994
	8 1995-2001
	9 2002-2004
	10 2005-2006
	11 2007-2008
	12 2009-2013
	13 2014-2015
	14 2016-2019
	15 As of 2020

Name of variable: san1_5b

Description: Material window frame and type of glazing before renovation

Missings and Encoding:

Don't know/not specified (-1): 542	1 Windows single glazed
Not asked (-2): 9933	2 Wooden windows with double glazing
	3 Plastic windows with double glazing
	4 Aluminum windows with double glazing
	5 Windows with triple glazing

Name of variable: san1_6a_1

Description: San1_6a: Insulation of heating piping according to energy saving regulation EnEV

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 11627	1 Yes

Name of variable: san1_6a_2

Description: San1_6a: Insulation of the hot water distribution pipes in accordance with the German energy saving regulation EnEV

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 11627	1 Yes

Name of variable: san1_6a_3

Description: San1_6a: Installation of a high-efficiency pump

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 11627	1 Yes

Name of variable: san1_6a_4

Description: San1_6a: Implementation of a hydraulic balancing

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 11627	1 Yes

Name of variable: san1_6a_5

Description: San1_6a: Other: Condensing boiler

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 11627	1 Yes

Name of variable: san1_6a_6

Description: San1_6a: Don't know/not specified

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 11627	1 Yes

Name of variable: san1_7a_1

Description: San1_7a: Newly built in/replaced boiler/Heater (central)

Missings and Encoding:

Don't know/not specified (-1): 314	1 Newly built in
Not asked (-2): 9666	2 Replaced
	3 Not applicable

Name of variable: san1_7a_2

Description: San1_7a: Newly built in/replaced electric heat pump/exhaust air heat pump

Missings and Encoding:

Don't know/not specified (-1): 546	1 Newly built in
Not asked (-2): 9666	2 Replaced
	3 Not applicable

Name of variable: san1_7a_3

Description: San1_7a: Newly built in/replaced solar thermal system

Missings and Encoding:

Don't know/not specified (-1): 292	1 Newly built in
Not asked (-2): 9666	2 Replaced
	3 Not applicable

Name of variable: san1_7a_4

Description: San1_7a: Newly built in/replaced gas instantaneous water heater

Missings and Encoding:

Don't know/not specified (-1): 409	1 Newly built in
Not asked (-2): 9666	2 Replaced
	3 Not applicable

Name of variable: san1_7a_5

Description: San1_7a: Newly built in/replaced electric instantaneous water heater

Missings and Encoding:

Don't know/not specified (-1): 399	1 Newly built in
Not asked (-2): 9666	2 Replaced
	3 Not applicable

Name of variable: san1_7a_6

Description: San1_7a: Newly built in/replaced electric storage tank/small storage tank for water heating

Missings and Encoding:

Don't know/not specified (-1): 453	1 Newly built in
Not asked (-2): 9666	2 Replaced
	3 Not applicable

Name of variable: san1_7a_7

Description: San1_7a: Newly built in/replaced first connection to district heating network or local heating

Missings and Encoding:

Don't know/not specified (-1): 373	1 Newly built in
Not asked (-2): 9666	3 Not applicable

Name of variable: san1a_7a_1

Description: San1_7a_1a: Year of installation (central) boiler/heater (before refurbishment)

Missings and Encoding:

Don't know/not specified (-1): 206	1 Until 1978
Not asked (-2): 12872	2 1979-1982
	3 1983-1986
	4 1987-1989
	5 1990-1994
	6 1995-1999
	7 2000-2001
	8 2002-2004
	9 2005-2006
	10 2007-2008
	11 2009-2013
	12 2014-2015
	13 2016-2019
	14 As of 2020

Name of variable: san1a_7a_2

Description: San1_7a_1a: Year of installation electric heat pump/exhaust air heat pump (before refurbishment)

Missings and Encoding:

Don't know/not specified (-1): 56
Not asked (-2): 15084

1 Until 1978
2 1979-1982
3 1983-1986
4 1987-1989
5 1990-1994
6 1995-1999
7 2000-2001
8 2002-2004
9 2005-2006
10 2007-2008
11 2009-2013
12 2014-2015
13 2016-2019
14 As of 2020

Name of variable: san1a_7a_3

Description: San1_7a_1a: Year of installation solar thermal system (before refurbishment)

Missings and Encoding:

Don't know/not specified (-1): 10
Not asked (-2): 15256

1 Until 1978
2 1979-1982
3 1983-1986
4 1987-1989
5 1990-1994
6 1995-1999
8 2002-2004
9 2005-2006
10 2007-2008
11 2009-2013
12 2014-2015
13 2016-2019

Name of variable: san1a_7a_4

Description: San1_7a_1a: Year of installation gas instantaneous water heater (before refurbishment)

Missings and Encoding:

Don't know/not specified (-1): 79
Not asked (-2): 14884

1 Until 1978
2 1979-1982
3 1983-1986
4 1987-1989
5 1990-1994
6 1995-1999
7 2000-2001
8 2002-2004
9 2005-2006
10 2007-2008
11 2009-2013
12 2014-2015
13 2016-2019
14 As of 2020

Name of variable: san1a_7a_5

Description: San1_7a_1a: Year of installation electric instantaneous water heater (before refurbishment)

Missings and Encoding:

Don't know/not specified (-1): 71
Not asked (-2): 14899

1 Until 1978
2 1979-1982
3 1983-1986
4 1987-1989
5 1990-1994
6 1995-1999
7 2000-2001
8 2002-2004
9 2005-2006
10 2007-2008
11 2009-2013
12 2014-2015
13 2016-2019
14 As of 2020

Name of variable: san1a_7a_6

Description: San1_7a_1a: Year of installation electric storage tank/small storage tank for water heating (before refurbishment)

Missings and Encoding:

Don't know/not specified (-1): 39
Not asked (-2): 15073

1 Until 1978
2 1979-1982
3 1983-1986
4 1987-1989
5 1990-1994
6 1995-1999
7 2000-2001
8 2002-2004
9 2005-2006
10 2007-2008
11 2009-2013
12 2014-2015
13 2016-2019
14 As of 2020

Name of variable: san1a_7b_1

Description: Fuel for heating the boiler/heater before renovation

Missings and Encoding:

Don't know/not specified (-1): 57
Not asked (-2): 12872

1 Natural gas
2 Liquid gas
3 Heating oil
4 Logs/pellets
5 Other

Name of variable: san1_7b

Description: Purpose of new installation of heat generating device

Missings and Encoding:

Don't know/not specified (-1): 58
Not asked (-2): 10526

1 Only for heating
2 Only for warm water
3 For heating and warm water

Name of variable: san1b_1

Description: Extent of insulation of the roof before renovation

Missings and Encoding:

Don't know/not specified (-1): 388
Not asked (-2): 12007

1 Not at all
2 Somewhat (about 1/4 of the area)
3 About half
4 Mostly (about 3/4 of the area)
5 Completely

Name of variable: san1b_2

Description: Extent of insulation of the top floor ceiling before renovation

Missings and Encoding:

Don't know/not specified (-1): 198	1 Not at all
Not asked (-2): 13687	2 Somewhat (about 1/4 of the area)
	3 About half
	4 Mostly (about 3/4 of the area)
	5 Completely

Name of variable: san1b_3

Description: Extent of insulation of external walls before renovation (incl. basement wall)

Missings and Encoding:

Don't know/not specified (-1): 324	1 Not at all
Not asked (-2): 13077	2 Somewhat (about 1/4 of the area)
	3 About half
	4 Mostly (about 3/4 of the area)
	5 Completely

Name of variable: san1b_4

Description: Extent of insulation of the basement ceiling/floor to the ground before renovation

Missings and Encoding:

Don't know/not specified (-1): 137	1 Not at all
Not asked (-2): 14387	2 Somewhat (about 1/4 of the area)
	3 About half
	4 Mostly (about 3/4 of the area)
	5 Completely

Name of variable: san2

Description: Use of energy consulting since 2000

Missings and Encoding:

Don't know/not specified (-1): 478	0 No
Not asked (-2): 0	1 Yes

Name of variable: san2_since21

Description: Utilization of energy consulting since 2021

Missings and Encoding:

Don't know/not specified (-1): 175	0 No
Not asked (-2): 2913	1 Yes

Name of variable: san2a

Description: Timing of energy consulting

Missings and Encoding:

Don't know/not specified (-1): 74	1 2000-2010
Not asked (-2): 14147	2 2011-2020
	3 2021-2022

Name of variable: san2a_num

Description: Timing of energy consulting - numeric

Descriptives:

Min.:	2000.00	Max.:	2022.00
1. Qu.:	2021.00	3. Qu.:	2022.00
Mean:	2019.75	Median:	2022.00

Missings and Encoding:

Don't know/not specified (-1): 74
Not asked (-2): 14147

Name of variable: san2b1_since21

Description: Energy consulting on saving electricity since 2021

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san2b2_since21

Description: Energy consulting on thermal behavior and ventilation since 2021

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san2b3_since21

Description: Energy consulting Change of energy supplier since 2021

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san2b4_since21

Description: Energy consulting on heating cost billing since 2021

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san2b5_since21

Description: No other energy consulting since 2021

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san2b6_since21

Description: Don't know/no information whether other energy consulting since 2021

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san2ba

Description: Time of other energy consulting- month

Missings and Encoding:

Don't know/not specified (-1): 191	1 September 2021
Not asked (-2): 14142	2 October 2021
	3 November 2021
	4 December 2021
	5 January 2022
	6 February 2022
	7 March 2022
	8 April 2022
	9 May 2022
	10 June 2022
	11 July 2022
	12 August 2022
	13 September 2022
	14 October 2022

Name of variable: san3_1

Description: Planned insulation of roof by 2030

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san3_2

Description: Planned insulation of the top floor ceiling by 2030

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san3_3

Description: Planned insulation of exterior wall (incl. basement wall) by 2030

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san3_4

Description: Planned insulation of basement ceiling/floor to ground by 2030

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san3_5

Description: Planned renovation of windows by 2030

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san3_6

Description: Planned optimization of existing heating system by 2030

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san3_7

Description: Planned installation of new equipment for heat generation by 2030

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san3_8

Description: Other planned modernizations until 2030

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san3_9

Description: No modernization measure planned until 2030

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san3_10

Description: Planned renovations until 2030: don't know/not specified

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: san3a

Description: Implementation of the planned measure by 2030 in the course of a KfW Efficiency house refurbishment

Missings and Encoding:

Don't know/not specified (-1): 1425	1 Yes, as KfW-Efficiency-house 55
Not asked (-2): 9122	2 Yes, as KfW-Efficiency-house 70
	3 Yes, as KfW-Efficiency-house 85
	4 Yes, as KfW-Efficiency-house 100
	5 Yes, as KfW-Efficiency-house 115

Name of variable: san4_2

Description: Agreement: Energy costs in Germany are high

Missings and Encoding:

Don't know/not specified (-1): 216	1 Don't agree at all
Not asked (-2): 0	2 Don't agree
	3 Neither agree nor disagree
	4 Agree
	5 Agree completely

Name of variable: san4_3

Description: Agreement: Heating energy costs for private households will rise in the future

Missings and Encoding:

Don't know/not specified (-1): 181
Not asked (-2): 0

1 Don't agree at all
2 Don't agree
3 Neither agree nor disagree
4 Agree
5 Agree completely

Name of variable: san4_9

Description: I find it difficult to get reliable and timely information about my heating energy costs

Missings and Encoding:

Don't know/not specified (-1): 499
Not asked (-2): 0

1 Don't agree at all
2 Don't agree
3 Neither agree nor disagree
4 Agree
5 Agree completely

Name of variable: san4_10

Description: The heating infrastructure in my home enables me to control my heating energy consumption effectively

Missings and Encoding:

Don't know/not specified (-1): 460
Not asked (-2): 0

1 Don't agree at all
2 Don't agree
3 Neither agree nor disagree
4 Agree
5 Agree completely

Name of variable: san5_1

Description: Hindering factor: Uncertainty about the level of state support programs

Missings and Encoding:

Don't know/not specified (-1): 732	1 Don't agree at all
Not asked (-2): 5123	2 Don't agree
	3 Neither agree nor disagree
	4 Agree
	5 Agree completely

Name of variable: san5_2

Description: Hindering factor: A lack of reliable information

Missings and Encoding:

Don't know/not specified (-1): 583	1 Don't agree at all
Not asked (-2): 5123	2 Don't agree
	3 Neither agree nor disagree
	4 Agree
	5 Agree completely

Name of variable: san5_3

Description: Hindering factor: The difficulty of finding a suitable craft business (shortage of skilled workers)

Missings and Encoding:

Don't know/not specified (-1): 659	1 Don't agree at all
Not asked (-2): 5123	2 Don't agree
	3 Neither agree nor disagree
	4 Agree
	5 Agree completely

Name of variable: san5_4

Description: Hindering factor: Rising prices in the construction industry

Missings and Encoding:

Don't know/not specified (-1): 572	1 Don't agree at all
Not asked (-2): 5123	2 Don't agree
	3 Neither agree nor disagree
	4 Agree
	5 Agree completely

Name of variable: san5_5

Description: Hindering factor: Uncertainty about the price development of various energy sources

Missings and Encoding:

Don't know/not specified (-1): 546
Not asked (-2): 5123

1 Don't agree at all
2 Don't agree
3 Neither agree nor disagree
4 Agree
5 Agree completely

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4 Module 2: Obstacles and assessment of modernization

Name of variable: efb1_1

Description: Estimated annual savings from insulating the roof

Missings and Encoding:

Don't know/not specified (-1): 684
Not asked (-2): 12334

1 No savings (already implemented)
2 0 - below 15 Euro
3 15 - below 25 Euro
4 25 - below 50 Euro
5 50 - below 75 Euro
6 75 - below 100 Euro
7 100 - below 150 Euro
8 150 - below 200 Euro
9 200 - below 250 Euro
10 250 - below 300 Euro
11 300 - below 400 Euro
12 400 - below 500 Euro
13 500 - below 600 Euro
14 600 - below 1000 Euro
15 1000 - below 1500 Euro
16 1500 - below 2000 Euro
17 2000 - below 3000 Euro
18 More than 3000 Euro

Name of variable: efb1_2

Description: Estimated annual savings through insulation of the top storey ceiling

Missings and Encoding:

Don't know/not specified (-1): 192
Not asked (-2): 14796

1 No savings (already implemented)
2 0 - below 15 Euro
3 15 - below 25 Euro
4 25 - below 50 Euro
5 50 - below 75 Euro
6 75 - below 100 Euro
7 100 - below 150 Euro
8 150 - below 200 Euro
9 200 - below 250 Euro
10 250 - below 300 Euro
11 300 - below 400 Euro
12 400 - below 500 Euro
13 500 - below 600 Euro
14 600 - below 1000 Euro
15 1000 - below 1500 Euro
16 1500 - below 2000 Euro

Name of variable: efb1_3

Description: Estimated annual savings by insulating the outer wall (incl. cellar wall)

Missings and Encoding:

Don't know/not specified (-1): 897
Not asked (-2): 12273

1 No savings (already implemented)
2 0 - below 15 Euro
3 15 - below 25 Euro
4 25 - below 50 Euro
5 50 - below 75 Euro
6 75 - below 100 Euro
7 100 - below 150 Euro
8 150 - below 200 Euro
9 200 - below 250 Euro
10 250 - below 300 Euro
11 300 - below 400 Euro
12 400 - below 500 Euro
13 500 - below 600 Euro
14 600 - below 1000 Euro
15 1000 - below 1500 Euro
16 1500 - below 2000 Euro
17 2000 - below 3000 Euro
18 More than 3000 Euro

Name of variable: efb1_4

Description: Estimated annual savings by insulating the cellar ceiling/floor to the ground (if there is no cellar)

Missings and Encoding:

Don't know/not specified (-1): 1021
Not asked (-2): 12323

1 No savings (already implemented)
2 0 - below 15 Euro
3 15 - below 25 Euro
4 25 - below 50 Euro
5 50 - below 75 Euro
6 75 - below 100 Euro
7 100 - below 150 Euro
8 150 - below 200 Euro
9 200 - below 250 Euro
10 250 - below 300 Euro
11 300 - below 400 Euro
12 400 - below 500 Euro
13 500 - below 600 Euro
14 600 - below 1000 Euro
15 1000 - below 1500 Euro
16 1500 - below 2000 Euro
17 2000 - below 3000 Euro
18 More than 3000 Euro

Name of variable: efb1_5

Description: Estimated annual savings through window refurbishment

Missings and Encoding:

Don't know/not specified (-1): 650
Not asked (-2): 12300

1 No savings (already implemented)
2 0 - below 15 Euro
3 15 - below 25 Euro
4 25 - below 50 Euro
5 50 - below 75 Euro
6 75 - below 100 Euro
7 100 - below 150 Euro
8 150 - below 200 Euro
9 200 - below 250 Euro
10 250 - below 300 Euro
11 300 - below 400 Euro
12 400 - below 500 Euro
13 500 - below 600 Euro
14 600 - below 1000 Euro
15 1000 - below 1500 Euro
16 1500 - below 2000 Euro
17 2000 - below 3000 Euro
18 More than 3000 Euro

Name of variable: efb1_6

Description: Estimated annual savings through optimization of the existing heating system

Missings and Encoding:

Don't know/not specified (-1): 843
Not asked (-2): 12359

1 No savings (already implemented)
2 0 - below 15 Euro
3 15 - below 25 Euro
4 25 - below 50 Euro
5 50 - below 75 Euro
6 75 - below 100 Euro
7 100 - below 150 Euro
8 150 - below 200 Euro
9 200 - below 250 Euro
10 250 - below 300 Euro
11 300 - below 400 Euro
12 400 - below 500 Euro
13 500 - below 600 Euro
14 600 - below 1000 Euro
15 1000 - below 1500 Euro
16 1500 - below 2000 Euro
17 2000 - below 3000 Euro
18 More than 3000 Euro

Name of variable: efb1_7

Description: Estimated annual savings by installing a new boiler (switching from heating oil to gas)

Missings and Encoding:

Don't know/not specified (-1): 1201
Not asked (-2): 12240

1 No savings (already implemented)
2 0 - below 15 Euro
3 15 - below 25 Euro
4 25 - below 50 Euro
5 50 - below 75 Euro
6 75 - below 100 Euro
7 100 - below 150 Euro
8 150 - below 200 Euro
9 200 - below 250 Euro
10 250 - below 300 Euro
11 300 - below 400 Euro
12 400 - below 500 Euro
13 500 - below 600 Euro
14 600 - below 1000 Euro
15 1000 - below 1500 Euro
16 1500 - below 2000 Euro
17 2000 - below 3000 Euro
18 More than 3000 Euro

Name of variable: efb1_8

Description: Estimated annual savings by installing a heat pump

Missings and Encoding:

Don't know/not specified (-1): 1448
Not asked (-2): 12370

1 No savings (already implemented)
2 0 - below 15 Euro
3 15 - below 25 Euro
4 25 - below 50 Euro
5 50 - below 75 Euro
6 75 - below 100 Euro
7 100 - below 150 Euro
8 150 - below 200 Euro
9 200 - below 250 Euro
10 250 - below 300 Euro
11 300 - below 400 Euro
12 400 - below 500 Euro
13 500 - below 600 Euro
14 600 - below 1000 Euro
15 1000 - below 1500 Euro
16 1500 - below 2000 Euro
17 2000 - below 3000 Euro
18 More than 3000 Euro

Name of variable: efb1_9

Description: Estimated annual savings through the installation of a solar thermal system

Missings and Encoding:

Don't know/not specified (-1): 1238
Not asked (-2): 12318

1 No savings (already implemented)
2 0 - below 15 Euro
3 15 - below 25 Euro
4 25 - below 50 Euro
5 50 - below 75 Euro
6 75 - below 100 Euro
7 100 - below 150 Euro
8 150 - below 200 Euro
9 200 - below 250 Euro
10 250 - below 300 Euro
11 300 - below 400 Euro
12 400 - below 500 Euro
13 500 - below 600 Euro
14 600 - below 1000 Euro
15 1000 - below 1500 Euro
16 1500 - below 2000 Euro
17 2000 - below 3000 Euro
18 More than 3000 Euro

Name of variable: efb1_10

Description: Estimated annual savings by installing an instantaneous water heater / electric storage tank for hot water production

Missings and Encoding:

Don't know/not specified (-1): 1364
Not asked (-2): 12359

1 No savings (already implemented)
2 0 - below 15 Euro
3 15 - below 25 Euro
4 25 - below 50 Euro
5 50 - below 75 Euro
6 75 - below 100 Euro
7 100 - below 150 Euro
8 150 - below 200 Euro
9 200 - below 250 Euro
10 250 - below 300 Euro
11 300 - below 400 Euro
12 400 - below 500 Euro
13 500 - below 600 Euro
14 600 - below 1000 Euro
15 1000 - below 1500 Euro
16 1500 - below 2000 Euro
17 2000 - below 3000 Euro
18 More than 3000 Euro

Name of variable: efb1_11

Description: Estimated annual savings through connection to district heating

Missings and Encoding:

Don't know/not specified (-1): 1995
Not asked (-2): 12265

1 No savings (already implemented)
2 0 - below 15 Euro
3 15 - below 25 Euro
4 25 - below 50 Euro
5 50 - below 75 Euro
6 75 - below 100 Euro
7 100 - below 150 Euro
8 150 - below 200 Euro
9 200 - below 250 Euro
10 250 - below 300 Euro
11 300 - below 400 Euro
12 400 - below 500 Euro
13 500 - below 600 Euro
14 600 - below 1000 Euro
15 1000 - below 1500 Euro
16 1500 - below 2000 Euro
17 2000 - below 3000 Euro
18 More than 3000 Euro

Name of variable: efb2_1

Description: Financial difficulty - Insulation of the roof

Missings and Encoding:

Don't know/not specified (-1): 60
Not asked (-2): 14693

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb2_2

Description: Financial difficulty - Insulation of the top floor

Missings and Encoding:

Don't know/not specified (-1): 22
Not asked (-2): 15195

2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb2_3

Description: Financial difficulty - Insulation of the outer wall (incl. cellar wall)

Missings and Encoding:

Don't know/not specified (-1): 81
Not asked (-2): 14520

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb2_4

Description: Financial difficulty - Insulation of the cellar ceiling/floor to the ground (if there is no cellar)

Missings and Encoding:

Don't know/not specified (-1): 101
Not asked (-2): 14558

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb2_5

Description: Financial difficulty - Renovation of the windows

Missings and Encoding:

Don't know/not specified (-1): 34
Not asked (-2): 14514

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb2_6

Description: Financial difficulty - Optimization of the existing heating system

Missings and Encoding:

Don't know/not specified (-1): 88
Not asked (-2): 14460

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb2_7

Description: Financial difficulty - Installation of a new boiler (change from heating oil to gas)

Missings and Encoding:

Don't know/not specified (-1): 234
Not asked (-2): 14662

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb2_8

Description: Financial difficulty - Installation of a heat pump

Missings and Encoding:

Don't know/not specified (-1): 94
Not asked (-2): 14149

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb2_9

Description: Financial difficulty - Installation of a solar thermal system

Missings and Encoding:

Don't know/not specified (-1): 104
Not asked (-2): 14139

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb2_10

Description: Financial difficulty - Installation of an instantaneous water heater / electric

Missings and Encoding:

Don't know/not specified (-1): 184
Not asked (-2): 14353

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb2_11

Description: Financial difficulty - Connection to district heating

Missings and Encoding:

Don't know/not specified (-1): 325
Not asked (-2): 14095

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb3_1

Description: Non-financial difficulty - Insulation of the roof

Missings and Encoding:

Don't know/not specified (-1): 54
Not asked (-2): 14693

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb3_2

Description: Non-financial difficulty - Insulation of the top floor

Missings and Encoding:

Don't know/not specified (-1): 23
Not asked (-2): 15195

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb3_3

Description: Non-financial difficulty - Insulation of the outer wall (incl. cellar wall)

Missings and Encoding:

Don't know/not specified (-1): 78
Not asked (-2): 14520

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb3_4

Description: Non-financial difficulty - Insulation of the cellar ceiling/floor to the ground

Missings and Encoding:

Don't know/not specified (-1): 104
Not asked (-2): 14558

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb3_5

Description: Non-financial difficulty - Renovation of the windows

Missings and Encoding:

Don't know/not specified (-1): 37	1 Extremely simple
Not asked (-2): 14514	2 Very simple
	3 Rather simple
	4 Neither simple nor difficult
	5 Rather difficult
	6 Very difficult
	7 Extremely difficult

Name of variable: efb3_6

Description: Non-financial difficulty - Optimization of the existing heating system

Missings and Encoding:

Don't know/not specified (-1): 74	1 Extremely simple
Not asked (-2): 14460	2 Very simple
	3 Rather simple
	4 Neither simple nor difficult
	5 Rather difficult
	6 Very difficult
	7 Extremely difficult

Name of variable: efb3_7

Description: Non-financial difficulty - Installation of a new boiler (change from heating oil to gas)

Missings and Encoding:

Don't know/not specified (-1): 227	1 Extremely simple
Not asked (-2): 14662	2 Very simple
	3 Rather simple
	4 Neither simple nor difficult
	5 Rather difficult
	6 Very difficult
	7 Extremely difficult

Name of variable: efb3_8

Description: Non-financial difficulty - Installation of a heat pump

Missings and Encoding:

Don't know/not specified (-1): 89
Not asked (-2): 14149

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb3_9

Description: Non-financial difficulty - Installation of a solar thermal system

Missings and Encoding:

Don't know/not specified (-1): 97
Not asked (-2): 14139

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb3_10

Description: Non-financial difficulty - Installation of an instantaneous water heater / electric storage tank for hot water generation

Missings and Encoding:

Don't know/not specified (-1): 154
Not asked (-2): 14353

1 Extremely simple
2 Very simple
3 Rather simple
4 Neither simple nor difficult
5 Rather difficult
6 Very difficult
7 Extremely difficult

Name of variable: efb3_11

Description: Non-financial difficulty - Connection to district heating

Missings and Encoding:

Don't know/not specified (-1): 265	1 Extremely simple
Not asked (-2): 14095	2 Very simple
	3 Rather simple
	4 Neither simple nor difficult
	5 Rather difficult
	6 Very difficult
	7 Extremely difficult

Name of variable: efb4_1a

Description: Ranking of Financial difficulty - Insulation of the roof

Missings and Encoding:

Don't know/not specified (-1): 177	1 Rank 1
Not asked (-2): 14693	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_1b

Description: Ranking of Structural risks - Insulation of the roof

Missings and Encoding:

Don't know/not specified (-1): 177	1 Rank 1
Not asked (-2): 14693	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_1c

Description: Ranking of Organizational and time expenditure - Insulation of the roof

Missings and Encoding:

Don't know/not specified (-1): 177	1 Rank 1
Not asked (-2): 14693	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_1d

Description: Ranking of Inconvenience during implementation - Insulation of the roof

Missings and Encoding:

Don't know/not specified (-1): 177	1 Rank 1
Not asked (-2): 14693	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_1e

Description: Ranking of Physical exertion - Insulation of the roof

Missings and Encoding:

Don't know/not specified (-1): 177	1 Rank 1
Not asked (-2): 14693	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_2a

Description: Ranking of Financial difficulty - Insulation of the top floor

Missings and Encoding:

Don't know/not specified (-1): 48	1 Rank 1
Not asked (-2): 15195	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_2b

Description: Ranking of Structural risks - Insulation of the top floor

Missings and Encoding:

Don't know/not specified (-1): 48	1 Rank 1
Not asked (-2): 15195	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_2c

Description: Ranking of Organizational and time expenditure - Insulation of the top floor

Missings and Encoding:

Don't know/not specified (-1): 48	1 Rank 1
Not asked (-2): 15195	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_2d

Description: Ranking of Inconvenience during implementation - Insulation of the top floor

Missings and Encoding:

Don't know/not specified (-1): 48	1 Rank 1
Not asked (-2): 15195	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_2e

Description: Ranking of Physical exertion - Insulation of the top floor

Missings and Encoding:

Don't know/not specified (-1): 48	1 Rank 1
Not asked (-2): 15195	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_3a

Description: Ranking of Financial difficulty - Insulation of the outer wall

Missings and Encoding:

Don't know/not specified (-1): 205	1 Rank 1
Not asked (-2): 14520	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_3b

Description: Ranking of Structural risks - Insulation of the outer wall

Missings and Encoding:

Don't know/not specified (-1): 205	1 Rank 1
Not asked (-2): 14520	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_3c

Description: Ranking of Organizational and time expenditure - Insulation of the outer wall

Missings and Encoding:

Don't know/not specified (-1): 205	1 Rank 1
Not asked (-2): 14520	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_3d

Description: Ranking of Inconvenience during implementation - Insulation of the outer wall

Missings and Encoding:

Don't know/not specified (-1): 205	1 Rank 1
Not asked (-2): 14520	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_3e

Description: Ranking of Physical exertion - Insulation of the outer wall

Missings and Encoding:

Don't know/not specified (-1): 205	1 Rank 1
Not asked (-2): 14520	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_4a

Description: Ranking of Financial difficulty - Insulation of the cellar ceiling/floor to the ground

Missings and Encoding:

Don't know/not specified (-1): 244	1 Rank 1
Not asked (-2): 14558	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_4b

Description: Ranking of Structural risks - Insulation of the cellar ceiling/floor to the ground

Missings and Encoding:

Don't know/not specified (-1): 244	1 Rank 1
Not asked (-2): 14558	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_4c

Description: Ranking of Organizational and time expenditure - Insulation of the cellar ceiling/floor to the ground

Missings and Encoding:

Don't know/not specified (-1): 244	1 Rank 1
Not asked (-2): 14558	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_4d

Description: Ranking of Inconvenience during implementation - Insulation of the cellar ceiling/floor to the ground

Missings and Encoding:

Don't know/not specified (-1): 244	1 Rank 1
Not asked (-2): 14558	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_4e

Description: Ranking of Physical exertion - Insulation of the cellar ceiling/floor to the gr

Missings and Encoding:

Don't know/not specified (-1): 244	1 Rank 1
Not asked (-2): 14558	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_5a

Description: Ranking of Financial difficulty - Renovation of the windows

Missings and Encoding:

Don't know/not specified (-1): 171	1 Rank 1
Not asked (-2): 14514	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_5b

Description: Ranking of Structural risks - Renovation of the windows

Missings and Encoding:

Don't know/not specified (-1): 171	1 Rank 1
Not asked (-2): 14514	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_5c

Description: Ranking of Organizational and time expenditure - Renovation of the windows

Missings and Encoding:

Don't know/not specified (-1): 171	1 Rank 1
Not asked (-2): 14514	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_5d

Description: Ranking of Inconvenience during implementation - Renovation of the windows

Missings and Encoding:

Don't know/not specified (-1): 171	1 Rank 1
Not asked (-2): 14514	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_5e

Description: Ranking of Physical exertion - Renovation of the windows

Missings and Encoding:

Don't know/not specified (-1): 171	1 Rank 1
Not asked (-2): 14514	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_6a

Description: Ranking of Financial difficulty - Optimization of the existing heating system

Missings and Encoding:

Don't know/not specified (-1): 239	1 Rank 1
Not asked (-2): 14460	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_6b

Description: Ranking of Structural risks - Optimization of the existing heating system

Missings and Encoding:

Don't know/not specified (-1): 239	1 Rank 1
Not asked (-2): 14460	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_6c

Description: Ranking of Organizational and time expenditure - Optimization of the existing heating system

Missings and Encoding:

Don't know/not specified (-1): 239	1 Rank 1
Not asked (-2): 14460	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_6d

Description: Ranking of Inconvenience during implementation - Optimization of the existing heating system

Missings and Encoding:

Don't know/not specified (-1): 239	1 Rank 1
Not asked (-2): 14460	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_6e

Description: Ranking of Physical exertion - Optimization of the existing heating system

Missings and Encoding:

Don't know/not specified (-1): 239	1 Rank 1
Not asked (-2): 14460	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_7a

Description: Ranking of Financial difficulty - Installation of a new boiler

Missings and Encoding:

Don't know/not specified (-1): 341	1 Rank 1
Not asked (-2): 14662	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_7b

Description: Ranking of Structural risks - Installation of a new boiler

Missings and Encoding:

Don't know/not specified (-1): 341	1 Rank 1
Not asked (-2): 14662	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_7c

Description: Ranking of Organizational and time expenditure - Installation of a new boiler

Missings and Encoding:

Don't know/not specified (-1): 341	1 Rank 1
Not asked (-2): 14662	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_7d

Description: Ranking of Inconvenience during implementation - Installation of a new boiler

Missings and Encoding:

Don't know/not specified (-1): 341	1 Rank 1
Not asked (-2): 14662	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_7e

Description: Ranking of Physical exertion - Installation of a new boiler

Missings and Encoding:

Don't know/not specified (-1): 341	1 Rank 1
Not asked (-2): 14662	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_8a

Description: Ranking of Financial difficulty - Installation of a heat pump

Missings and Encoding:

Don't know/not specified (-1): 284	1 Rank 1
Not asked (-2): 14149	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_8b

Description: Ranking of Structural risks - Installation of a heat pump

Missings and Encoding:

Don't know/not specified (-1): 284	1 Rank 1
Not asked (-2): 14149	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_8c

Description: Ranking of Organizational and time expenditure - Installation of a heat pump

Missings and Encoding:

Don't know/not specified (-1): 284	1 Rank 1
Not asked (-2): 14149	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_8d

Description: Ranking of Inconvenience during implementation - Installation of a heat pump

Missings and Encoding:

Don't know/not specified (-1): 284	1 Rank 1
Not asked (-2): 14149	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_8e

Description: Ranking of Physical exertion - Installation of a heat pump

Missings and Encoding:

Don't know/not specified (-1): 284	1 Rank 1
Not asked (-2): 14149	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_9a

Description: Ranking of Financial difficulty - Installation of a solar thermal system

Missings and Encoding:

Don't know/not specified (-1): 296	1 Rank 1
Not asked (-2): 14139	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_9b

Description: Ranking of Structural risks - Installation of a solar thermal system

Missings and Encoding:

Don't know/not specified (-1): 296	1 Rank 1
Not asked (-2): 14139	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_9c

Description: Ranking of Organizational and time expenditure - Installation of a solar thermal system

Missings and Encoding:

Don't know/not specified (-1): 296	1 Rank 1
Not asked (-2): 14139	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_9d

Description: Ranking of Inconvenience during implementation - Installation of a solar thermal system

Missings and Encoding:

Don't know/not specified (-1): 296	1 Rank 1
Not asked (-2): 14139	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_9e

Description: Ranking of Physical exertion - Installation of a solar thermal system

Missings and Encoding:

Don't know/not specified (-1): 296	1 Rank 1
Not asked (-2): 14139	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_10a

Description: Ranking of Financial difficulty - Installation of an instantaneous water heater / electric storage tank for hot water generation

Missings and Encoding:

Don't know/not specified (-1): 355	1 Rank 1
Not asked (-2): 14353	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_10b

Description: Ranking of Structural risks - Installation of an instantaneous water heater / electric storage tank for hot water generation

Missings and Encoding:

Don't know/not specified (-1): 355	1 Rank 1
Not asked (-2): 14353	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_10c

Description: Ranking of Organizational and time expenditure - instantaneous water heater / electric storage tank for hot water generation

Missings and Encoding:

Don't know/not specified (-1): 355	1 Rank 1
Not asked (-2): 14353	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_10d

Description: Ranking of Inconvenience during implementation - instantaneous water heater / electric storage tank for hot water generation

Missings and Encoding:

Don't know/not specified (-1): 355	1 Rank 1
Not asked (-2): 14353	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_10e

Description: Ranking of Physical exertion - Installation of an instantaneous water heater / e

Missings and Encoding:

Don't know/not specified (-1): 355	1 Rank 1
Not asked (-2): 14353	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_11a

Description: Ranking of Financial difficulty - Connection to district heating

Missings and Encoding:

Don't know/not specified (-1): 577	1 Rank 1
Not asked (-2): 14095	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_11b

Description: Ranking of Structural risks - Connection to district heating

Missings and Encoding:

Don't know/not specified (-1): 577	1 Rank 1
Not asked (-2): 14095	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_11c

Description: Ranking of Organizational and time expenditure - Connection to district heating

Missings and Encoding:

Don't know/not specified (-1): 577	1 Rank 1
Not asked (-2): 14095	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_11d

Description: Ranking of Inconvenience during implementation - Connection to district heating

Missings and Encoding:

Don't know/not specified (-1): 577	1 Rank 1
Not asked (-2): 14095	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

Name of variable: efb4_11e

Description: Ranking of Physical exertion - Connection to district heating

Missings and Encoding:

Don't know/not specified (-1): 577	1 Rank 1
Not asked (-2): 14095	2 Rank 2
	3 Rank 3
	4 Rank 4
	5 Rank 5

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5 Rent, heating energy and ancillary costs

Name of variable: m1

Description: Current rent per month (categorized, tenant)

Missings and Encoding:

Don't know/not specified (-1): 192	1 0 Euro
Not asked (-2): 10198	2 1-200 Euro
	3 201 - 400 Euro
	4 401-600 Euro
	5 601-800 Euro
	6 801-1000 Euro
	7 1001 - 1201 Euro
	8 1201 - 1400 Euro
	9 1401 - 1600 Euro
	10 more than 1600 Euro

Name of variable: m1_num

Description: Numeric: Current rent per month (tenant)

Descriptives:

Min.:	0.00	Max.:	6500.00
1. Qu.:	540.00	3. Qu.:	950.00
Mean:	778.90	Median:	705.00

Missings and Encoding:
Don't know/not specified (-1): 192
Not asked (-2): 10198

Name of variable: m1a

Description: Heating costs included in the rent? (tenant)

Missings and Encoding:
Don't know/not specified (-1): 16
Not asked (-2): 10390

0 No
1 Yes

Name of variable: m1b

Description: Electricity costs included in the rent (tenant)

Missings and Encoding:
Don't know/not specified (-1): 22
Not asked (-2): 10390

0 No
1 Yes

Name of variable: m1b1

Description: Average electricity costs per month (categorized, tenant)

Missings and Encoding:
Don't know/not specified (-1): 478
Not asked (-2): 10198

1 0 Euro
2 1-20 Euro
3 21-40 Euro
4 41-60 Euro
5 61-80 Euro
6 81-100 Euro
7 more than 100 Euro

Name of variable: m1b1_num

Description: Numeric: Average electricity costs per month (categorized, tenant)

Descriptives:

Min.:	0.00	Max.:	1750.00
1. Qu.:	50.00	3. Qu.:	93.00
Mean:	78.79	Median:	67.00

Missings and Encoding:
Don't know/not specified (-1): 478
Not asked (-2): 10198

Name of variable: m1c

Description: Other ancillary costs included in the rent (tenant)?

Missings and Encoding:
Don't know/not specified (-1): 40
Not asked (-2): 10390

0 No
1 Yes

Name of variable: m1c1

Description: Average other ancillary costs per month (categorized, tenant)

Missings and Encoding:
Don't know/not specified (-1): 1990
Not asked (-2): 10198

1 0 Euro
2 1-20 Euro
3 21-40 Euro
4 41-60 Euro
5 61-80 Euro
6 81-100 Euro
7 more than 100 Euro

Name of variable: m1c1_num

Description: Numeric: Average other ancillary costs per month (categorized, tenant)

Descriptives:

Min.:	0.00	Max.:	2842.00
1. Qu.:	50.00	3. Qu.:	140.00
Mean:	107.91	Median:	90.00

Missings and Encoding:
Don't know/not specified (-1): 1990
Not asked (-2): 10198

Name of variable: m1d

Description: Type of rental agreement (tenant)

Missings and Encoding:

Don't know/not specified (-1): 25	1 Open-ended rental agreement
Not asked (-2): 10198	2 Index-linked rent
	3 Graduated rent (not yet expired)
	4 Fixed-term tenancy agreement
	5 Miscellaneous

Name of variable: m1e

Description: Assessment of the extent to which the rent corresponds to the local comparative rent (tenant)

Missings and Encoding:

Don't know/not specified (-1): 1023	1 More than 20 2 More than 10 3 Approximately
Not asked (-2): 10198	at the level of the comparative rent
	4 More than 10 5 More than 20

Name of variable: mtn

Description: Change in rent in the last 3 years (tenant)

Missings and Encoding:

Don't know/not specified (-1): 183	1 Yes, increased
Not asked (-2): 10198	2 No, remained the same
	3 Yes, decreased

Name of variable: ist18

Description: Monthly advance payment for heating and hot water (tenant)

Missings and Encoding:

Don't know/not specified (-1): 785	1 0 Euro
Not asked (-2): 10198	2 1-25 Euro
	3 26-50 Euro
	4 51-100 Euro
	5 101-150 Euro
	6 More than 150 Euro

Name of variable: ist18_num

Description: Ist18 numeric - heating and warm water monthly advance payment - tenant

Descriptives:

Min.:	0.00	Max.:	5250.00
1. Qu.:	85.00	3. Qu.:	200.00
Mean:	159.72	Median:	140.00

Missings and Encoding:
Don't know/not specified (-1): 785
Not asked (-2): 10198

Name of variable: ist18_1a

Description: Use of invoice/rental contract for specifying monthly heating and hot water cost (tenant)

Missings and Encoding:
Don't know/not specified (-1): 21
Not asked (-2): 10983

0 No
1 Yes

Name of variable: ist18_1b

Description: Certainty in estimating monthly advance payment (tenant)

Missings and Encoding:
Don't know/not specified (-1): 13
Not asked (-2): 12272

1 Very uncertain
2 Uncertain
3 Neither certain not certain
4 Certain
5 Very certain

Name of variable: ist1814c

Description: Allocation of heating costs between tenants and landlords (tenant)

Missings and Encoding:

Don't know/not specified (-1): 511	1 I pay and bear my own heating costs completely alone (100%, 0% landlord)
Not asked (-2): 10198	2 I pay a share of my own heating costs based on consumption and the other share is divided according to a scale (e.g. living space, number of rental units, etc.) in a shared house (100% tenant, 0% landlord)
	3 The landlord pays and bears the heating costs in full (0% tenant, 100% landlord)
	4 Other allocation, in which I or the house community bear the heating costs proportionately with __% (remaining share borne by the landlord)

Name of variable: i181c4_num

Description: Numerical: Proportion of heating costs carried by household (tenant)

Descriptives:

Min.:	10.00	Max.:	95.00
1. Qu.:	40.00	3. Qu.:	50.00
Mean:	48.51	Median:	50.00

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 15228

Name of variable: ist18a

Description: Joint billing of hot water with other heating costs? (tenant)

Missings and Encoding:

Don't know/not specified (-1): 521	0 No
Not asked (-2): 10198	1 Yes

Name of variable: ist18_1c

Description: Frequency of billing for heating and hot water costs (tenant)

Missings and Encoding:

Don't know/not specified (-1): 332	1 Yearly
Not asked (-2): 10198	2 Half-yearly
	3 Quarterly
	4 Every two months
	5 Monthly

Name of variable: ist18_1d

Description: Month of the annual statement of heating and hot water costs (tenant)

Missings and Encoding:

Don't know/not specified (-1): 409	1 January
Not asked (-2): 10733	2 Febuary
	3 March
	4 April
	5 May
	6 June
	7 July
	8 August
	9 September
	10 October
	11 November
	12 December

Name of variable: ist18_1e_1_since21

Description: Year of the last statement of heating and hot water costs (tenant)

Missings and Encoding:

Don't know/not specified (-1): 559	1 2021
Not asked (-2): 10198	2 2022

Name of variable: ist18_1e_2_since21

Description: Month of the last statement of heating and hot water costs (tenant)

Missings and Encoding:

Don't know/not specified (-1): 864
Not asked (-2): 10198

1 January 2021
2 Febuary 2021
3 March 2021
4 April 2021
5 May 2021
6 June 2021
7 July 2021
8 August 2021
9 September 2021
10 October 2021
11 November 2021
12 December 2021
13 January 2022
14 February 2022
15 March 2022
16 April 2022
17 May 2022
18 June 2022
19 July 2022
20 August 2022
21 September 2022
22 October 2022

Name of variable: ist19

Description: Annual heating and hot water costs (homeowner)

Missings and Encoding:

Don't know/not specified (-1): 1502
Not asked (-2): 5123

1 less than 300 Euros
2 301-400 Euro
3 401-500 Euro
4 501-600 Euro
5 601-700 Euro
6 701-800 Euro
7 801-900 Euro
8 901-1000 Euro
9 1001-1500 Euro
10 1501-2000 Euro
11 more than 2000 Euro

Name of variable: ist19_num

Description: ist19 numeric: Annual heating and hot water costs (homeowner)

Descriptives:

Min.:	0.00	Max.:	60055.00
1. Qu.:	1100.00	3. Qu.:	2500.00
Mean:	2052.20	Median:	1700.00

Missings and Encoding:
Don't know/not specified (-1): 1502
Not asked (-2): 5123

Name of variable: ist19_1a

Description: Use of invoice for specifying annual heating and hot water costs (homeowner)

Missings and Encoding:
Don't know/not specified (-1): 13
Not asked (-2): 6625

0 No
1 Yes

Name of variable: ist19_1b

Description: Certainty in estimating annual heating and hot water costs (homeowner)

Missings and Encoding:
Don't know/not specified (-1): 14
Not asked (-2): 9921

1 Very uncertain
2 Uncertain
3 Neither certain not certain
4 Certain
5 Very certain

Name of variable: ist19a

Description: Joint billing of hot water with other heating costs (homeowner)

Missings and Encoding:
Don't know/not specified (-1): 824
Not asked (-2): 5123

0 No
1 Yes

Name of variable: ist19_1c

Description: Frequency of billing for heating and hot water costs (homeowner)

Missings and Encoding:
Don't know/not specified (-1): 921
Not asked (-2): 5123

1 Yearly
2 Half-yearly
3 Quarterly
4 Every two months
5 Monthly

Name of variable: ist19_1d

Description: Month of the annual bill for heating and hot water costs (homeowner)

Missings and Encoding:

Don't know/not specified (-1): 897	1 January
Not asked (-2): 6735	2 Febuary
	3 March
	4 April
	5 May
	6 June
	7 July
	8 August
	9 September
	10 October
	11 November
	12 December

Name of variable: ist19_1e_1_since21

Description: Year of the last bill for heating and hot water costs (homeowner)

Missings and Encoding:

Don't know/not specified (-1): 1039	1 2021
Not asked (-2): 5123	2 2022

Name of variable: ist19_1e_2_since21

Description: Month of the last bill for heating and hot water costs (homeowner)

Missings and Encoding:

Don't know/not specified (-1): 1672
Not asked (-2): 5123

1 January 2021
2 Febuary 2021
3 March 2021
4 April 2021
5 May 2021
6 June 2021
7 July 2021
8 August 2021
9 September 2021
10 October 2021
11 November 2021
12 December 2021
13 January 2022
14 February 2022
15 March 2022
16 April 2022
17 May 2022
18 June 2022
19 July 2022
20 August 2022
21 September 2022
22 October 2022

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6 Heating costs in the future

Name of variable: kn1a

Description: Estimate of cost development for next heating bill, tenant

Missings and Encoding:

Don't know/not specified (-1): 163
Not asked (-2): 10198

1 Decrease sharply
2 Tend to decrease
3 Remain about the same
4 Tend to increase
5 Increase strongly

Name of variable: kn1b_num

Description: Estimation of changes in heating and hot water costs - numerical

Descriptives:

Min.:	0.00	Max.:	400.00
1. Qu.:	25.00	3. Qu.:	101.00
Mean:	76.48	Median:	52.00

Missings and Encoding:
Don't know/not specified (-1): 2
Not asked (-2): 0

Name of variable: kn1c

Description: Estimate of cost development of next heating bill, owner

Missings and Encoding:
Don't know/not specified (-1): 277
Not asked (-2): 5123

1 Decrease sharply
2 Tend to decrease
3 Remain about the same
4 Tend to increase
5 Increase strongly

Name of variable: kn1d

Description: Estimated change in yearly heating costs for next bill, owner, in percent

Missings and Encoding:
Don't know/not specified (-1): 441
Not asked (-2): 6741

1 -21% and less
2 -11% to -20%
3 -1% to -10%
4 0%
5 +1% to +10%
6 +11% to +20%
7 +21% to +30%
8 +31% to 40%
9 +41% to +50%
10 +51% and more

Name of variable: kn1d_num

Description: Estimated change in yearly heating and hot water costs for next bill, owner, in

Descriptives:

Min.:	0.00	Max.:	800.00
1. Qu.:	420.00	3. Qu.:	500.00
Mean:	468.94	Median:	450.00

Missings and Encoding:
Don't know/not specified (-1): 441
Not asked (-2): 6741

Name of variable: eys0

Description: Fuel for heating (for by apartment heating)

Missings and Encoding:

Don't know/not specified (-1): 18
Not asked (-2): 13911

1 Natural gas, i.e. gas floor heating
2 Liquid gas
3 Heating oil
4 Logs/pellets
5 Electricity
6 Other

Name of variable: eyso1a

Description: Frequency of purchase of heating oil

Missings and Encoding:

Don't know/not specified (-1): 107
Not asked (-2): 12762

1 Every two years
2 Annual
3 Half-yearly
4 Quarterly
5 Every two months
6 Monthly
7 Irregularly, e.g. depending on the price trends
8 Not my decision

Name of variable: eyso1b1_since21

Description: Last purchase of heating oil (year)

Missings and Encoding:

Don't know/not specified (-1): 79
Not asked (-2): 13187

1 before 2019
2 2019
3 2020
4 2021
5 2022

Name of variable: eyso1b2_since21

Description: Last purchase of heating oil (month)

Missings and Encoding:

Don't know/not specified (-1): 75
Not asked (-2): 13511

1 January 2021
2 Febuary 2021
3 March 2021
4 April 2021
5 May 2021
6 June 2021
7 July 2021
8 August 2021
9 September 2021
10 October 2021
11 November 2021
12 December 2021
13 January 2022
14 February 2022
15 March 2022
16 April 2022
17 May 2022
18 June 2022
19 July 2022
20 August 2022
21 September 2022
22 October 2022

Name of variable: eyso1c_since21

Description: Change in period or quantity when purchasing heating oil since summer 2021

Missings and Encoding:

Don't know/not specified (-1): 175
Not asked (-2): 13187

0 No
1 Yes

Name of variable: eyso21

Description: Reason for changing the period or quantity when buying heating oil: Expectation of fluctuating oil prices in the future

Missings and Encoding:

Don't know/not specified (-1): 0
Not asked (-2): 14608

0 Not mentioned
1 Mentioned

Name of variable: eyso22

Description: Reason for changing the period or quantity of heating oil purchased: Environmental reasons

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14608	1 Mentioned

Name of variable: eyso23

Description: Reason for changing the period or quantity of heating oil purchased: Ukraine-Russia conflict

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14608	1 Mentioned

Name of variable: eyso24

Description: Reason for changing the period or quantity of heating oil purchased: Change in heating deamand at home

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14608	1 Mentioned

Name of variable: eyso25

Description: Reason for change in period or quantity of heating oil purchase: Other

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14608	1 Mentioned

Name of variable: eyso26

Description: Reason for change in period or quantity of heating oil purchase: Don't know/not specified

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14608	1 Mentioned

Name of variable: eysg0a

Description: Person who concludes contracts with gas suppliers for house/apartment

Missings and Encoding:

Don't know/not specified (-1): 40
Not asked (-2): 12543

1 I myself
2 Real estate company
3 Public sector
4 Housing cooperative
5 Property management/owners' association
6 Private landlord
7 Miscellaneous

Name of variable: eysg0_since21

Description: Notification of changes to gas supply costs since summer 2021

Missings and Encoding:

Don't know/not specified (-1): 35
Not asked (-2): 13665

0 No
1 Yes

Name of variable: eysg02a

Description: Time of notification of change in gas supply costs by building/apartment management or landlord

Missings and Encoding:

Don't know/not specified (-1): 24
Not asked (-2): 14827

1 September 2021
2 October 2021
3 November 2021
4 December 2021
5 January 2022
6 February 2022
7 March 2022
8 April 2022
9 May 2022
10 June 2022
11 July 2022
12 August 2022
13 September 2022
14 October 2022

Name of variable: eysg01_since21

Description: Message from gas supplier about changes to the gas contract since summer 2021, decision-maker

Missings and Encoding:

Don't know/not specified (-1): 126	0 No
Not asked (-2): 9689	1 Yes

Name of variable: eysg02b

Description: Time of notification of change to gas supply contract, decision-maker

Missings and Encoding:

Don't know/not specified (-1): 197	1 September 2021
Not asked (-2): 11113	2 October 2021
	3 November 2021
	4 December 2021
	5 January 2022
	6 February 2022
	7 March 2022
	8 April 2022
	9 May 2022
	10 June 2022
	11 July 2022
	12 August 2022
	13 September 2022
	14 October 2022

Name of variable: eysg1a1

Description: Change in gas supply contract: Price increase

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 10619	1 Mentioned

Name of variable: eysg1a2

Description: Change in gas supply contract: Price reduction

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 10619	1 Mentioned

Name of variable: eysg1a3

Description: Change in gas supply contract: Termination

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 10619	1 Mentioned

Name of variable: eysg1a4

Description: Change in gas supply contract: Other

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 10619	1 Mentioned

Name of variable: eysg1a5

Description: Change in gas supply contract: Don't know/not specified

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 10619	1 Mentioned

Name of variable: eysg99a

Description: Annual costs / monthly payment on account according to notification before change

Missings and Encoding:

Don't know/not specified (-1): 842	1 Annually
Not asked (-2): 10955	2 Monthly

Name of variable: esg99aj_num

Description: Annual costs for heating and hot water according to notification before change

Descriptives:

Min.:	15.00	Max.:	24000.00
1. Qu.:	900.00	3. Qu.:	1900.00
Mean:	1542.32	Median:	1250.00

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 14460

Name of variable: esg99am_num

Description: Monthly costs for heating and hot water according to notification before change

Descriptives:

Min.:	0.00	Max.:	2021.00
1. Qu.:	85.00	3. Qu.:	185.00
Mean:	152.44	Median:	120.00

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 12658

Name of variable: eysg99b

Description: Annual costs / monthly payment on account according to notification after change

Missings and Encoding:
Don't know/not specified (-1): 1024
Not asked (-2): 10955

1 Annually
2 Monthly
3 No change in costs

Name of variable: esg99bj_num

Description: Annual costs for heating and hot water according to notification after change

Descriptives:

Min.:	85.00	Max.:	24000.00
1. Qu.:	1500.00	3. Qu.:	3500.00
Mean:	2744.22	Median:	2400.00

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 14656

Name of variable: esg99bm_num

Description: Monthly costs for heating and hot water according to notification after change

Descriptives:

Min.:	0.00	Max.:	6250.00
1. Qu.:	140.00	3. Qu.:	300.00
Mean:	250.45	Median:	200.00

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 12874

Name of variable: eysg99c

Description: Heating energy consumption (kWh) as basis for cost forecast from notification

Missings and Encoding:
Don't know/not specified (-1): 1769
Not asked (-2): 13552

Name of variable: esg99c_num

Description: Heating energy consumption (kWh) as basis for cost forecast from notification, numerical

Descriptives:

Min.:	4.00	Max.:	80000.00
1. Qu.:	9500.00	3. Qu.:	22000.00
Mean:	16977.91	Median:	16000.00

Missings and Encoding:
Don't know/not specified (-1): 1769
Not asked (-2): 10955

Name of variable: eysg99d

Description: Monthly payment on account for heating and hot water

Missings and Encoding:
Don't know/not specified (-1): 99
Not asked (-2): 15222

Name of variable: esg99d_num

Description: Monthly payment on account for heating and hot water, Euro

Descriptives:

Min.:	50.00	Max.:	1000.00
1. Qu.:	120.00	3. Qu.:	250.00
Mean:	217.77	Median:	178.50

Missings and Encoding:
Don't know/not specified (-1): 99
Not asked (-2): 15140

Name of variable: eysg2b

Description: Frequency of searches for alternative gas supply offers

Missings and Encoding:
Don't know/not specified (-1): 64
Not asked (-2): 9689

1 Frequently
2 Sometimes
3 Rarely
4 Never

Name of variable: eysg2b1_since21

Description: Information on alternative offers for gas supply since summer 2021

Missings and Encoding:
Don't know/not specified (-1): 42
Not asked (-2): 11852

0 No
1 Yes

Name of variable: eysg2c1_since21

Description: Voluntary change of gas supplier/tariff before summer 2021: Yes, change supplier

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 9689	1 Mentioned

Name of variable: eysg2c2_since21

Description: Voluntary change of gas supplier/tariff before summer 2021: Yes, new tariff, old provider

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 9689	1 Mentioned

Name of variable: eysg2c3_since21

Description: Voluntary change of gas supplier/tariff before summer 2021: No

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 9689	1 Mentioned

Name of variable: eysg2c4_since21

Description: Voluntary change of gas supplier/tariff before summer 2021: Don't know/not specified

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 9689	1 Mentioned

Name of variable: eysg2a1

Description: Current gas supplier / gas supplier

Missings and Encoding:

Don't know/not specified (-1): 443	1 Default provider
Not asked (-2): 9689	2 Other provider

Name of variable: esg2a21_since21

Description: Voluntary change of gas supplier/tariff since summer 2021:Yes, change of supplier

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 9689	1 Mentioned

Name of variable: esg2a22_since21

Description: Voluntary change of gas supplier/tariff since summer 2021: Yes, new tariff, old provider

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 9689	1 Mentioned

Name of variable: esg2a23_since21

Description: Voluntary change of gas supplier/tariff since summer 2021: No

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 9689	1 Mentioned

Name of variable: esg2a24_since21

Description: Voluntary change of gas supplier/tariff since summer 2021: Don't know/not specified

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 9689	1 Mentioned

Name of variable: esg2c31

Description: Reason for switching provider: Favorable price

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14050	1 Mentioned

Name of variable: esg2c32

Description: Reason for switching provider: Eco tariffs

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14050	1 Mentioned

Name of variable: esg2c33

Description: Reason for switching provider: Bonus

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14050	1 Mentioned

Name of variable: esg2c34

Description: Reason for switching supplier: Ukraine-Russia conflict

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14050	1 Mentioned

Name of variable: esg2c35

Description: Reason for switching supplier: More reliable supplier

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14050	1 Mentioned

Name of variable: esg2c36

Description: Reason for changing supplier: Other

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14050	1 Mentioned

Name of variable: esg2c37

Description: Reason for switching supplier: Don't know / not specified

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14050	1 Mentioned

Name of variable: esg2c41

Description: Reason for switching tariff: Lower price

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14759	1 Mentioned

Name of variable: esg2c42

Description: Reason for switching tariff: Eco tariffs

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14759	1 Mentioned

Name of variable: esg2c43

Description: Reason for switching tariff: Ukraine-Russia conflict

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14759	1 Mentioned

Name of variable: esg2c44

Description: Reason for switching tariff: Other

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14759	1 Mentioned

Name of variable: esg2c45

Description: Reason for switching tariff: Don't know / not specified

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 14759	1 Mentioned

Name of variable: sinf

Description: Assessment of information on possibilities for short-term heating energy savings

Missings and Encoding:

Don't know/not specified (-1): 312	1 Not at all informed
Not asked (-2): 0	2 Rather not informed
	3 Neither
	4 Rather informed
	5 Very well informed

Name of variable: sbe2

Description: Perception information campaign

Missings and Encoding:

Don't know/not specified (-1): 272	0 No
Not asked (-2): 0	1 Yes

Name of variable: sbe3

Description: Knowledge of gas levy

Missings and Encoding:

Don't know/not specified (-1): 1431	1 Yes, the gas levy is XX
Not asked (-2): 0	2 Yes, heard of it, but don't know the value
	3 No, never heard of it

Name of variable: sbe3_num

Description: Knowledge of gas levy- numerical

Descriptives:

Min.:	0.00	Max.:	100.00
1. Qu.:	2.40	3. Qu.:	2.70
Mean:	3.13	Median:	2.40

Missings and Encoding:
Don't know/not specified (-1): 1431
Not asked (-2): 0

Name of variable: dprz20

Description: Random increase in heating costs, in percent

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

1 10%
2 50%
3 100%
4 200%
5 300%

Name of variable: deur20_num

Description: Expected future cost heating and warm water

Descriptives:

Min.:	0.00	Max.:	120000.00
1. Qu.:	180.00	3. Qu.:	3600.00
Mean:	2600.24	Median:	1320.00

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: ist20

Description: Difficulty of Cost increase

Missings and Encoding:
Don't know/not specified (-1): 222
Not asked (-2): 0

1 Very easy
2 Fairly easy
3 Neither easy nor difficult
4 Fairly difficult
5 Very difficult
6 Impossible

Name of variable: krs

Description: Saving to protect against financial burdens in the future

Missings and Encoding:

Don't know/not specified (-1): 246	1 Yes
Not asked (-2): 0	2 No, I inteded to save more
	3 No, and I don't inted to but its possible for my household
	4 No, this is not possible for my houshold

Name of variable: kr1a

Description: Type of thermostat

Missings and Encoding:

Don't know/not specified (-1): 151	1 Analog room thermomostat
Not asked (-2): 0	2 Digital room thermomostat
	3 Manual radiator thermostat
	4 Digital radiator thermostat
	5 Other appliances
	6 I can't control the temperature in my home

Name of variable: kr1a1

Description: Programming digital thermostat for automatic temperature change

Missings and Encoding:

Don't know/not specified (-1): 39	0 No
Not asked (-2): 12134	1 Yes

Name of variable: krr1

Description: Normally heated: Bedroom

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: krr2

Description: Normally heated: Living room

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: krr3

Description: Normally heated: Dining room

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: krr4

Description: Normally heated: Kitchen

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: krr5

Description: Normally heated: Bathroom

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: krr6

Description: Normally heated: Other rooms, e.g. study room

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: krr7

Description: Normally heated: Don't know / not specified

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: krrt1

Description: Controlled via this thermostat: Bedroom

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 1376	1 Mentioned

Name of variable: krrt2

Description: Controlled by this thermostat: Living room

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 1376	1 Mentioned

Name of variable: krrt3

Description: Controlled by this thermostat: Dining room

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 1376	1 Mentioned

Name of variable: krrt4

Description: Controlled by this thermostat: Kitchen

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 1376	1 Mentioned

Name of variable: krrt5

Description: Controlled by this thermostat: Bathroom

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 1376	1 Mentioned

Name of variable: krrt6

Description: Controlled by this thermostat: Other rooms, e.g. study room

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 1376	1 Mentioned

Name of variable: krrt7

Description: Controlled via this thermostat: Don't know / not specified

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 1376	1 Mentioned

Name of variable: krr1ad1_since21

Description: Room temperature winter 21/22 Bedroom, analog/digital thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 102	0 0 = This room is not heated
Not asked (-2): 14007	1 below 16 degrees
	2 16-18 degrees
	3 19-20 degrees
	4 21-22 degrees
	5 23+ degrees

Name of variable: krr1ad2_since21

Description: Room temperature winter 21/22 living room, analog/digital thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 271
Not asked (-2): 10179

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: krr1ad3_since21

Description: Room temperature winter 21/22 dining room, analog/digital thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 151
Not asked (-2): 12539

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: krr1ad4_since21

Description: Room temperature winter 21/22 kitchen, analog/digital thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 178
Not asked (-2): 12536

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: krr1ad5_since21

Description: Room temperature winter 21/22 bathroom, analog/digital thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 235
Not asked (-2): 11422

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: krr1ad6_since21

Description: Room temperature winter 21/22 Other rooms, analog/digital thermostat, daytime

Missings and Encoding:
Don't know/not specified (-1): 138
Not asked (-2): 12879

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: krr1ad1_num_since21

Description: Room temperature winter 21/22 Bedroom, analog/digital thermostat, daytime - numerical

Descriptives:

Min.:	0.00	Max.:	25.00
1. Qu.:	17.00	3. Qu.:	20.00
Mean:	18.33	Median:	18.00

Missings and Encoding:
Don't know/not specified (-1): 102
Not asked (-2): 14007

Name of variable: krr1ad2_num_since21

Description: Room temperature winter 21/22 living room, analog/digital thermostat, daytime - numerical

Descriptives:

Min.:	0.00	Max.:	30.00
1. Qu.:	20.00	3. Qu.:	22.00
Mean:	20.79	Median:	21.00

Missings and Encoding:
Don't know/not specified (-1): 271
Not asked (-2): 10179

Name of variable: krr1ad3_num_since21

Description: Room temperature winter 21/22 dining room, analog/digital thermostat, daytime - numerical

Descriptives:

Min.:	0.00	Max.:	30.00
1. Qu.:	20.00	3. Qu.:	22.00
Mean:	20.75	Median:	21.00

Missings and Encoding:
Don't know/not specified (-1): 151
Not asked (-2): 12539

Name of variable: krr1ad4_num_since21

Description: Room temperature winter 21/22 kitchen, analog/digital thermostat, daytime - numerical

Descriptives:

Min.:	0.00	Max.:	30.00
1. Qu.:	20.00	3. Qu.:	21.00
Mean:	20.18	Median:	20.00

Missings and Encoding:
Don't know/not specified (-1): 178
Not asked (-2): 12536

Name of variable: krr1ad5_num_since21

Description: Room temperature winter 21/22 bathroom, analog/digital thermostat, daytime - numerical

Descriptives:

Min.:	0.00	Max.:	35.00
1. Qu.:	20.00	3. Qu.:	22.00
Mean:	21.27	Median:	21.00

Missings and Encoding:
Don't know/not specified (-1): 235
Not asked (-2): 11422

Name of variable: krr1ad6_num_since21

Description: Room temperature winter 21/22 Other rooms, analog/digital thermostat, daytime - numerical

Descriptives:

Min.:	0.00	Max.:	30.00
1. Qu.:	20.00	3. Qu.:	21.00
Mean:	20.26	Median:	20.00

Missings and Encoding:
Don't know/not specified (-1): 138
Not asked (-2): 12879

Name of variable: krr1am1_since21

Description: Room temperature winter 21/22 Bedroom, manual thermostat, daytime

Missings and Encoding:
Don't know/not specified (-1): 304
Not asked (-2): 13165

0 0 = This room is not heated
1 1
2 2
3 3
4 4
5 5

Name of variable: krr1am2_since21

Description: Room temperature winter 21/22 living room, manual thermostat, daytime

Missings and Encoding:
Don't know/not specified (-1): 291
Not asked (-2): 11354

0 0 = This room is not heated
1 1
2 2
3 3
4 4
5 5

Name of variable: krr1am3_since21

Description: Room temperature winter 21/22 dining room, manual thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 114	0 0 = This room is not heated
Not asked (-2): 12543	1 1
	2 2
	3 3
	4 4
	5 5

Name of variable: krr1am4_since21

Description: Room temperature winter 21/22 kitchen, manual thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 457	0 0 = This room is not heated
Not asked (-2): 11492	1 1
	2 2
	3 3
	4 4
	5 5

Name of variable: krr1am5_since21

Description: Room temperature winter 21/22 bathroom, manual thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 254	0 0 = This room is not heated
Not asked (-2): 10800	1 1
	2 2
	3 3
	4 4
	5 5

Name of variable: krr1am6_since21

Description: Room temperature winter 21/22 Other rooms, manual thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 175	0 0 = This room is not heated
Not asked (-2): 12224	1 1
	2 2
	3 3
	4 4
	5 5

Name of variable: krr1bd1_since21

Description: Room temperature winter 21/22 Bedroom, analog/digital thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 167
Not asked (-2): 14007

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: krr1bd2_since21

Description: Room temperature winter 21/22 living room, analog/digital thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 566
Not asked (-2): 10179

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: krr1bd3_since21

Description: Room temperature winter 21/22 dining room, analog/digital thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 336
Not asked (-2): 12539

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: krr1bd4_since21

Description: Room temperature winter 21/22 kitchen, analog/digital thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 342	0 0 = This room is not heated
Not asked (-2): 12536	1 below 16 degrees
	2 16-18 degrees
	3 19-20 degrees
	4 21-22 degrees
	5 23+ degrees

Name of variable: krr1bd5_since21

Description: Room temperature winter 21/22 bathroom, analog/digital thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 470	0 0 = This room is not heated
Not asked (-2): 11422	1 below 16 degrees
	2 16-18 degrees
	3 19-20 degrees
	4 21-22 degrees
	5 23+ degrees

Name of variable: krr1bd6_since21

Description: Room temperature winter 21/22 Other rooms, analog/digital thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 321	0 0 = This room is not heated
Not asked (-2): 12879	1 below 16 degrees
	2 16-18 degrees
	3 19-20 degrees
	4 21-22 degrees
	5 23+ degrees

Name of variable: krr1bd1_num_since21

Description: Room temperature winter 21/22 Bedroom, analog/digital thermostat, at night - numerical

Descriptives:

Min.:	0.00	Max.:	25.00
1. Qu.:	16.00	3. Qu.:	19.00
Mean:	17.07	Median:	18.00

Missings and Encoding:
Don't know/not specified (-1): 167
Not asked (-2): 14007

Name of variable: krr1bd2_num_since21

Description: Room temperature winter 21/22 living room, analog/digital thermostat, at night - numerical

Descriptives:

Min.:	0.00	Max.:	30.00
1. Qu.:	16.00	3. Qu.:	20.00
Mean:	17.59	Median:	18.00

Missings and Encoding:
Don't know/not specified (-1): 566
Not asked (-2): 10179

Name of variable: krr1bd3_num_since21

Description: Room temperature winter 21/22 dining room, analog/digital thermostat, at night - numerical

Descriptives:

Min.:	0.00	Max.:	30.00
1. Qu.:	17.00	3. Qu.:	20.00
Mean:	17.97	Median:	18.00

Missings and Encoding:
Don't know/not specified (-1): 336
Not asked (-2): 12539

Name of variable: krr1bd4_num_since21

Description: Room temperature winter 21/22 kitchen, analog/digital thermostat, at night - numerical

Descriptives:

Min.:	0.00	Max.:	30.00
1. Qu.:	16.00	3. Qu.:	20.00
Mean:	17.58	Median:	18.00

Missings and Encoding:
Don't know/not specified (-1): 342
Not asked (-2): 12536

Name of variable: krr1bd5_num_since21

Description: Room temperature winter 21/22 bathroom, analog/digital thermostat, at night - numerical

Descriptives:

Min.:	0.00	Max.:	35.00
1. Qu.:	17.00	3. Qu.:	21.00
Mean:	18.44	Median:	19.00

Missings and Encoding:
Don't know/not specified (-1): 470
Not asked (-2): 11422

Name of variable: krr1bd6_num_since21

Description: Room temperature winter 21/22 Other rooms, analog/digital thermostat, at night - numerical

Descriptives:

Min.:	0.00	Max.:	30.00
1. Qu.:	16.00	3. Qu.:	20.00
Mean:	17.47	Median:	18.00

Missings and Encoding:
Don't know/not specified (-1): 321
Not asked (-2): 12879

Name of variable: krr1bm1_since21

Description: Room temperature winter 21/22 Bedroom, manual thermostat, at night

Missings and Encoding:
Don't know/not specified (-1): 111
Not asked (-2): 13165

0 0 = This room is not heated
1 1
2 2
3 3
4 4
5 5

Name of variable: krr1bm2_since21

Description: Room temperature winter 21/22 living room, manual thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 395	0 0 = This room is not heated
Not asked (-2): 7664	1 1
	2 2
	3 3
	4 4
	5 5

Name of variable: krr1bm3_since21

Description: Room temperature winter 21/22 dining room, manual thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 190	0 0 = This room is not heated
Not asked (-2): 12084	1 1
	2 2
	3 3
	4 4
	5 5

Name of variable: krr1bm4_since21

Description: Room temperature winter 21/22 kitchen, manual thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 202	0 0 = This room is not heated
Not asked (-2): 11492	1 1
	2 2
	3 3
	4 4
	5 5

Name of variable: krr1bm5_since21

Description: Room temperature winter 21/22 bathroom, manual thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 356	0 0 = This room is not heated
Not asked (-2): 8635	1 1
	2 2
	3 3
	4 4
	5 5

Name of variable: krr1bm6_since21

Description: Room temperature winter 21/22 Other rooms, manual thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 263	0 0 = This room is not heated
Not asked (-2): 11493	1 1
	2 2
	3 3
	4 4
	5 5

Name of variable: kr1b_1_since21

Description: Implemented measure winter 21/22: Reduction of room temperature overnight

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: kr1b_2_since21

Description: Implemented measure winter 21/22: Reduction of room temperature during absence

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: kr1b_3_since21

Description: Implemented measure winter 21/22: Reduction of room temperature during the day in rooms where people spend time (below comfort temperature)

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: kr1b_4_since21

Description: Implemented measure winter 21/22: Only heat the rooms that are predominantly use

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: kr1b_5_since21

Description: Implemented measure winter 21/22: Venting the radiators

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: kr1b_6_since21

Description: Implemented measure winter 21/22: Energy-saving ventilation

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: kr1b_7_since21

Description: Implemented measure winter 21/22: Switch off the entire heating system during absence

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: kr1b_8_since21

Description: Implemented measure winter 21/22: Switching off the entire heating system when present

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: kr1b_9_since21

Description: Implemented measure winter 21/22: Washing hands with cold instead of hot water

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: kr1b_10_since21

Description: Implemented measure winter 21/22: More frequent showering instead of bathing

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: kr1b_11_since21

Description: Implemented measure winter 21/22: Shower as briefly as possible

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: kr1b_12_since21

Description: Implemented measure winter 21/22: Use an economy shower head

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: kr1b_13_since21

Description: Implemented measure winter 21/22: Other

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: kr1b_14_since21

Description: Implemented measure winter 21/22: Don't know / not specified

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 0	1 Mentioned

Name of variable: kr1b0_1

Description: Measure implemented before last heating period: Reduction of room temperature overnight

Missings and Encoding:

Don't know/not specified (-1): 273	0 No
Not asked (-2): 10484	1 Yes

Name of variable: kr1b0_2

Description: Measure implemented before last heating period: Reduction of room temperature during absence

Missings and Encoding:

Don't know/not specified (-1): 407	0 No
Not asked (-2): 9186	1 Yes

Name of variable: kr1b0_3

Description: Measure implemented before last heating period: Reduction of room temperature during the day in rooms where people spend time (below comfort temperature)

Missings and Encoding:

Don't know/not specified (-1): 380	0 No
Not asked (-2): 3706	1 Yes

Name of variable: kr1b0_4

Description: Measure implemented before last heating period: Only heating the rooms that are predominantly used

Missings and Encoding:

Don't know/not specified (-1): 265	0 No
Not asked (-2): 9558	1 Yes

Name of variable: kr1b0_5

Description: Measure implemented before last heating period: Venting the radiators

Missings and Encoding:

Don't know/not specified (-1): 1211	0 No
Not asked (-2): 8142	1 Yes

Name of variable: kr1b0_6

Description: Measure implemented before last heating period: Energy-saving ventilation

Missings and Encoding:

Don't know/not specified (-1): 436	0 No
Not asked (-2): 9739	1 Yes

Name of variable: kr1b0_7

Description: Measure implemented before last heating period: Switch off the entire heating system during absence

Missings and Encoding:

Don't know/not specified (-1): 670	0 No
Not asked (-2): 4906	1 Yes

Name of variable: kr1b0_8

Description: Measure implemented before last heating period: Switch off the entire heating system when present

Missings and Encoding:

Don't know/not specified (-1): 544	0 No
Not asked (-2): 669	1 Yes

Name of variable: kr1b0_9

Description: Measure implemented before last heating period: Wash hands with cold water instead of hot water

Missings and Encoding:

Don't know/not specified (-1): 329	0 No
Not asked (-2): 6585	1 Yes

Name of variable: kr1b0_10

Description: Measure implemented before last heating period: More frequent showering instead of bathing

Missings and Encoding:

Don't know/not specified (-1): 869	0 No
Not asked (-2): 5658	1 Yes

Name of variable: kr1b1_1

Description: Start implementation of measure: Reduction of room temperature overnight

Missings and Encoding:

Don't know/not specified (-1): 198	1 ...before the 2021/2022 heating period
Not asked (-2): 4837	2 ...starting with the last heating period 2021/2022

Name of variable: kr1b1_2

Description: Start implementation of measure: Reduction of room temperature during absence

Missings and Encoding:

Don't know/not specified (-1): 287	1 ...before the 2021/2022 heating period
Not asked (-2): 6135	2 ...starting with the last heating period 2021/2022

Name of variable: kr1b1_3

Description: Start of implementation of measure: Reduction of room temperature during the day in rooms where people spend time (below comfort temperature)

Missings and Encoding:

Don't know/not specified (-1): 200	1 ...before the 2021/2022 heating period
Not asked (-2): 11615	2 ...starting with the last heating period 2021/2022

Name of variable: kr1b1_4

Description: Start implementation of measure: Only heat the rooms that are predominantly used

Missings and Encoding:

Don't know/not specified (-1): 158	1 ...before the 2021/2022 heating period
Not asked (-2): 5763	2 ...starting with the last heating period 2021/2022

Name of variable: kr1b1_5

Description: Start implementation of measure: Venting the radiators

Missings and Encoding:

Don't know/not specified (-1): 110	1 ...before the 2021/2022 heating period
Not asked (-2): 7179	2 ...starting with the last heating period 2021/2022

Name of variable: kr1b1_6

Description: Start implementation of measure: Energy-saving ventilation

Missings and Encoding:

Don't know/not specified (-1): 165	1 ...before the 2021/2022 heating period
Not asked (-2): 5582	2 ...starting with the last heating period 2021/2022

Name of variable: kr1b1_7

Description: Start implementation of measure: Switch off the entire heating system during absence

Missings and Encoding:

Don't know/not specified (-1): 150
Not asked (-2): 10415

1 ...before the 2021/2022 heating period
2 ...starting with the last heating period 2021/2022

Name of variable: kr1b1_8

Description: Start implementation of measure: Switching off the entire heating system when present

Missings and Encoding:

Don't know/not specified (-1): 50
Not asked (-2): 14652

1 ...before the 2021/2022 heating period
2 ...starting with the last heating period 2021/2022

Name of variable: kr1b1_9

Description: Start implementation of measure: washing hands with cold instead of hot water

Missings and Encoding:

Don't know/not specified (-1): 132
Not asked (-2): 8736

1 ...before the 2021/2022 heating period
2 ...starting with the last heating period 2021/2022

Name of variable: kr1b1_10

Description: Start implementing measure: Showering more frequently instead of bathing

Missings and Encoding:

Don't know/not specified (-1): 87
Not asked (-2): 9663

1 ...before the 2021/2022 heating period
2 ...starting with the last heating period 2021/2022

Name of variable: kr1b1_11

Description: Start implementing measure: Shower as briefly as possible

Missings and Encoding:

Don't know/not specified (-1): 176	1 ...before the 2021/2022 heating period
Not asked (-2): 5693	2 ...starting with the last heating period 2021/2022

Name of variable: kr1b1_12

Description: Start implementing measure: Use an economy shower head

Missings and Encoding:

Don't know/not specified (-1): 88	1 ...before the 2021/2022 heating period
Not asked (-2): 9406	2 ...starting with the last heating period 2021/2022

Name of variable: kr1b1_13

Description: Start implementing measure: Other

Missings and Encoding:

Don't know/not specified (-1): 225	1 ...before the 2021/2022 heating period
Not asked (-2): 14487	2 ...starting with the last heating period 2021/2022

Name of variable: kr1b2_since21

Description: Change in heating behavior winter 21/22 compared to previous winter

Missings and Encoding:

Don't know/not specified (-1): 318	1 Very strongly reduced
Not asked (-2): 0	2 Strongly reduced
	3 Slightly reduced
	4 Very slightly reduced
	5 Not changed at all
	6 Very slightly increased
	7 Slightly increased
	8 Strongly increased
	9 Very strongly increased

Name of variable: kr1b3_1_since21

Description: Reason for change in heating behavior (between October 2021 and February 2022): Financial reasons

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 6654	1 Mentioned

Name of variable: kr1b3_2_since21

Description: Reason for change in heating behavior (between October 2021 and February 2022): Increased energy costs

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 6654	1 Mentioned

Name of variable: kr1b3_3_since21

Description: Reason for change in heating behavior (between October 2021 and February 2022): Environmental reasons

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 6654	1 Mentioned

Name of variable: kr1b3_4_since21

Description: Reason for change in heating behavior (between October 2021 and February 2022): Change in time spent at home

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 6654	1 Mentioned

Name of variable: kr1b3_5_since21

Description: Reason for change in heating behavior (between October 2021 and February 2022): Ukraine-Russia conflict

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 6654	1 Mentioned

Name of variable: kr1b3_6_since21

Description: Reason for change in heating behavior (between October 2021 and February 2022): Change in heating requirements of household members

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 6654	1 Mentioned

Name of variable: kr1b3_7_since21

Description: Reason for change in heating behavior (between October 2021 and February 2022): Other

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 6654	1 Mentioned

Name of variable: kr1b3_8_since21

Description: Reason for change in heating behavior (between October 2021 and February 2022): Don't know / not specified

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 6654	1 Mentioned

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7 Intentions for upcoming heating periods

Name of variable: kre

Description: Planned change in heating energy consumption next winter

Missings and Encoding:

Don't know/not specified (-1): 230	1 Very strongly reduced
Not asked (-2): 0	2 Strongly reduced
	3 Slightly reduced
	4 Very slightly reduced
	5 Not changed at all
	6 Very slightly increased
	7 Slightly increased
	8 Strongly increased
	9 Very strongly increased

Name of variable: kre11

Description: Willingness to implement in the coming winter: Reduce room temperature overnight

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 2715	1 Mentioned

Name of variable: kre12

Description: Willingness to implement in the coming winter: Reduction of room temperature during absence

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 2715	1 Mentioned

Name of variable: kre13

Description: Willingness to implement in the coming winter: Reduce room temperature during the day in rooms where people spend time (below comfort temperature)

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 2715	1 Mentioned

Name of variable: kre14

Description: Willingness to implement in the coming winter: Only heat the rooms that are predominantly used

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 2715	1 Mentioned

Name of variable: kre15

Description: Willingness to implement in the coming winter: Venting the radiators

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 2715	1 Mentioned

Name of variable: kre16

Description: Willingness to implement in the coming winter: Energy-saving ventilation

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 2715	1 Mentioned

Name of variable: kre17

Description: Willingness to implement in the coming winter: Switch off the entire heating system when you are away

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 2715	1 Mentioned

Name of variable: kre18

Description: Willingness to implement in the coming winter: Switch off the entire heating system when people are present

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 2715	1 Mentioned

Name of variable: kre19

Description: Willingness to implement in the coming winter: Wash hands with cold water instead of hot water

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 2715	1 Mentioned

Name of variable: kre110

Description: Willingness to implement in the coming winter: Shower more often instead of bathing

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 2715	1 Mentioned

Name of variable: kre111

Description: Willingness to implement in the coming winter: Shower as briefly as possible

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 2715	1 Mentioned

Name of variable: kre112

Description: Willingness to implement in the coming winter: Use an economy shower head

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 2715	1 Mentioned

Name of variable: kre113

Description: Willingness to implement in the coming winter: Other

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 2715	1 Mentioned

Name of variable: kre114

Description: Willingness to implement in the coming winter: Don't know / not specified

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 2715	1 Mentioned

Name of variable: kre2d1

Description: Planned room temperature for coming winter, bedroom, analog/digital thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 69	0 0 = This room is not heated
Not asked (-2): 14417	1 below 16 degrees
	2 16-18 degrees
	3 19-20 degrees
	4 21-22 degrees
	5 23+ degrees

Name of variable: kre2d2

Description: Planned room temperature for coming winter, living room, analog/digital thermostat. at mogjt

Missings and Encoding:

Don't know/not specified (-1): 274	0 0 = This room is not heated
Not asked (-2): 11559	1 below 16 degrees
	2 16-18 degrees
	3 19-20 degrees
	4 21-22 degrees
	5 23+ degrees

Name of variable: kre2d3

Description: Planned room temperature for coming winter, dining room, analog/digital thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 175	0 0 = This room is not heated
Not asked (-2): 13290	1 below 16 degrees
	2 16-18 degrees
	3 19-20 degrees
	4 21-22 degrees
	5 23+ degrees

Name of variable: kre2d4

Description: Planned room temperature for coming winter, kitchen, analog/digital thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 164
Not asked (-2): 13322

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: kre2d5

Description: Planned room temperature for coming winter, bathroom, analog/digital thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 229
Not asked (-2): 12502

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: kre2d6

Description: Planned room temperature for coming winter, other rooms, analog/digital thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 149
Not asked (-2): 13567

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: kre2d1_num

Description: Planned room temperature for coming winter, bedroom, analog/digital thermostat, at night - numerical

Descriptives:

Min.:	0.00	Max.:	25.00
1. Qu.:	16.00	3. Qu.:	18.00
Mean:	16.34	Median:	17.00

Missings and Encoding:
Don't know/not specified (-1): 69
Not asked (-2): 14417

Name of variable: kre2d2_num

Description: Planned room temperature for coming winter, living room, analog/digital thermostat, at night - numerical

Descriptives:

Min.:	0.00	Max.:	25.00
1. Qu.:	16.00	3. Qu.:	19.00
Mean:	17.00	Median:	18.00

Missings and Encoding:
Don't know/not specified (-1): 274
Not asked (-2): 11559

Name of variable: kre2d3_num

Description: Planned room temperature for coming winter, dining room, analog/digital thermostat, at night - numerical

Descriptives:

Min.:	0.00	Max.:	29.00
1. Qu.:	16.00	3. Qu.:	19.00
Mean:	17.27	Median:	18.00

Missings and Encoding:
Don't know/not specified (-1): 175
Not asked (-2): 13290

Name of variable: kre2d4_num

Description: Planned room temperature for coming winter, kitchen, analog/digital thermostat, at night - numerical

Descriptives:

Min.:	0.00	Max.:	25.00
1. Qu.:	16.00	3. Qu.:	19.00
Mean:	16.80	Median:	18.00

Missings and Encoding:
Don't know/not specified (-1): 164
Not asked (-2): 13322

Name of variable: kre2d5_num

Description: Planned room temperature for coming winter, bathroom, analog/digital thermostat, at night - numerical

Descriptives:

Min.:	0.00	Max.:	35.00
1. Qu.:	16.00	3. Qu.:	20.00
Mean:	17.85	Median:	18.00

Missings and Encoding:
Don't know/not specified (-1): 229
Not asked (-2): 12502

Name of variable: kre2d6_num

Description: Planned room temperature for coming winter, other rooms, analog/digital thermostat, at night - numerical

Descriptives:

Min.:	0.00	Max.:	24.00
1. Qu.:	16.00	3. Qu.:	19.00
Mean:	16.71	Median:	18.00

Missings and Encoding:
Don't know/not specified (-1): 149
Not asked (-2): 13567

Name of variable: kre2m1

Description: Planned room temperature for coming winter, bedroom, manual thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 67	0 0 = This room is not heated
Not asked (-2): 13702	1 1
	2 2
	3 3
	4 4
	5 5

Name of variable: kre2m2

Description: Planned room temperature for coming winter, living room, manual thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 237	0 0 = This room is not heated
Not asked (-2): 9409	1 1
	2 2
	3 3
	4 4
	5 5

Name of variable: kre2m3

Description: Planned room temperature for coming winter, dining room, manual thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 127	0 0 = This room is not heated
Not asked (-2): 12756	1 1
	2 2
	3 3
	4 4
	5 5

Name of variable: kre2m4

Description: Planned room temperature for coming winter, kitchen, manual thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 133	0 0 = This room is not heated
Not asked (-2): 12316	1 1
	2 2
	3 3
	4 4
	5 5

Name of variable: kre2m5

Description: Planned room temperature for coming winter, bathroom, manual thermostat, at nigh

Missings and Encoding:

Don't know/not specified (-1): 216
Not asked (-2): 10116

0 0 = This room is not heated
1 1
2 2
3 3
4 4
5 5

Name of variable: kre2m6

Description: Planned room temperature for coming winter, other rooms, manual thermostat, at night

Missings and Encoding:

Don't know/not specified (-1): 130
Not asked (-2): 12300

0 0 = This room is not heated
1 1
2 2
3 3
4 4
5 5

Name of variable: kre3d1

Description: Planned room temperature coming winter, bedroom, analog/digital thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 73
Not asked (-2): 14412

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: kre3d2

Description: Planned room temperature coming winter, living room, analog/digital thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 270
Not asked (-2): 11501

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: kre3d3

Description: Planned room temperature for coming winter, dining room, analog/digital thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 167
Not asked (-2): 13263

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: kre3d4

Description: Planned room temperature for coming winter, kitchen, analog/digital thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 164
Not asked (-2): 13301

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: kre3d5

Description: Planned room temperature for coming winter, bathroom, analog/digital thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 232
Not asked (-2): 12468

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: kre3d6

Description: Planned room temperature for the coming winter, other rooms, analog/digital thermostat, daytime

Missings and Encoding:
Don't know/not specified (-1): 141
Not asked (-2): 13551

0 0 = This room is not heated
1 below 16 degrees
2 16-18 degrees
3 19-20 degrees
4 21-22 degrees
5 23+ degrees

Name of variable: kre3d1_num

Description: Planned room temperature coming winter, bedroom, analog/digital thermostat, daytime - numerical

Descriptives:

Min.:	0.00	Max.:	25.00
1. Qu.:	16.00	3. Qu.:	19.00
Mean:	17.17	Median:	18.00

Missings and Encoding:
Don't know/not specified (-1): 73
Not asked (-2): 14412

Name of variable: kre3d2_num

Description: Planned room temperature coming winter, living room, analog/digital thermostat, daytime - numerical

Descriptives:

Min.:	0.00	Max.:	28.00
1. Qu.:	19.00	3. Qu.:	21.00
Mean:	19.55	Median:	20.00

Missings and Encoding:
Don't know/not specified (-1): 270
Not asked (-2): 11501

Name of variable: kre3d3_num

Description: Planned room temperature for coming winter, dining room, analog/digital thermostat, daytime - numerical

Descriptives:

Min.:	0.00	Max.:	29.00
1. Qu.:	19.00	3. Qu.:	20.00
Mean:	19.49	Median:	20.00

Missings and Encoding:
Don't know/not specified (-1): 167
Not asked (-2): 13263

Name of variable: kre3d4_num

Description: Planned room temperature for coming winter, kitchen, analog/digital thermostat , daytime - numerical

Descriptives:

Min.:	0.00	Max.:	29.00
1. Qu.:	18.00	3. Qu.:	20.00
Mean:	19.02	Median:	19.00

Missings and Encoding:
Don't know/not specified (-1): 164
Not asked (-2): 13301

Name of variable: kre3d5_num

Description: Planned room temperature for coming winter, bathroom, analog/digital thermostat, daytime - numerical

Descriptives:

Min.:	0.00	Max.:	35.00
1. Qu.:	19.00	3. Qu.:	21.00
Mean:	19.88	Median:	20.00

Missings and Encoding:
Don't know/not specified (-1): 232
Not asked (-2): 12468

Name of variable: kre3d6_num

Description: Planned room temperature for the coming winter, other rooms, analog/digital thermostat, daytime - numerical

Descriptives:

Min.:	0.00	Max.:	24.00
1. Qu.:	18.00	3. Qu.:	20.00
Mean:	19.07	Median:	20.00

Missings and Encoding:
Don't know/not specified (-1): 141
Not asked (-2): 13551

Name of variable: kre3m1

Description: Planned room temperature for coming winter, bedroom, manual thermostat, daytime

Missings and Encoding:
Don't know/not specified (-1): 65
Not asked (-2): 13711

0 0 = This room is not heated
1 1
2 2
3 3
4 4
5 5

Name of variable: kre3m2

Description: Planned room temperature for coming winter, living room, manual thermostat, daytime

Missings and Encoding:
Don't know/not specified (-1): 264
Not asked (-2): 9396

0 0 = This room is not heated
1 1
2 2
3 3
4 4
5 5

Name of variable: kre3m3

Description: Planned room temperature for coming winter, dining room, manual thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 132
Not asked (-2): 12757

0 0 = This room is not heated
1 1
2 2
3 3
4 4
5 5

Name of variable: kre3m4

Description: Planned room temperature for coming winter, kitchen, manual thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 143
Not asked (-2): 12317

0 0 = This room is not heated
1 1
2 2
3 3
4 4
5 5

Name of variable: kre3m5

Description: Planned room temperature for coming winter, bathroom, manual thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 219
Not asked (-2): 10111

0 0 = This room is not heated
1 1
2 2
3 3
4 4
5 5

Name of variable: kre3m6

Description: Planned room temperature for coming winter, other rooms, manual thermostat, daytime

Missings and Encoding:

Don't know/not specified (-1): 142	0 0 = This room is not heated
Not asked (-2): 12289	1 1
	2 2
	3 3
	4 4
	5 5

---

8 Effect of the energy savings bonus

Name of variable: dzufab

Description: Option A or B displayed first

Missings and Encoding:

Don't know/not specified (-1): 0	1 A first, then B
Not asked (-2): 7996	2 B first then A

Name of variable: dzufxxx

Description: Minimum kWh reduction for bonus

Missings and Encoding:

Don't know/not specified (-1): 0	1 700 kWh
Not asked (-2): 7996	2 1400 kWh
	3 2800 kWh
	4 4200 kWh

Name of variable: optout

Description: Opt-out of energy saving bonus

Missings and Encoding:

Don't know/not specified (-1): 0	1 Waives EUR 100 or equivalent bonus if savings
Not asked (-2): 7935	achieved
	2 Continue

Name of variable: dzufyyy

Description: Possible bonus in euros

Missings and Encoding:

Don't know/not specified (-1): 0	1 100 EUR
Not asked (-2): 7996	2 150 EUR
	3 200 EUR
	4 300 EUR
	5 400 EUR
	6 500 EUR
	7 600 EUR
	8 800 EUR
	9 1000 EUR
	10 1200 EUR
	11 1500 EUR

Name of variable: bns2ab

Description: Selection decision between option A and B, safe 100 euros displayed first

Missings and Encoding:

Don't know/not specified (-1): 122	1 Option A: 100€ regardless of gas consumption
Not asked (-2): 12472	2 Option B: [YYY] € if gas consumption reduced by at least [XXX] kwh

---

Name of variable: bns2ba

Description: Selection decision between option A and B, safe 100 euros displayed second

Missings and Encoding:

Don't know/not specified (-1): 84	1 Option A: [YYY] € if gas consumption reduced by at least [XXX] kwh
Not asked (-2): 13524	2 Option B: 100€ regardless of gas consumption

---

9 Energy performance and energy certificate

Name of variable: ea2

Description: Has energy certificate for current residential building

Missings and Encoding:

Don't know/not specified (-1): 1775	0 No
Not asked (-2): 0	1 Yes

Name of variable: ea2_1

Description: Type of energy certificate

Missings and Encoding:

Don't know/not specified (-1): 1457	1 Demand certificate
Not asked (-2): 11430	2 Consumption certificate

Name of variable: bel0

Description: Knowledge of the current final energy value from the energy performance certificate

Missings and Encoding:

Don't know/not specified (-1): 1409	0 No
Not asked (-2): 11430	1 Yes

Name of variable: bel0_num

Description: Current Final energy value from energy performance certificate, numerical

Descriptives:

Min.:	0.00	Max.:	9999.00
1. Qu.:	54.00	3. Qu.:	128.00
Mean:	144.66	Median:	89.00

Missings and Encoding:
Don't know/not specified (-1): 1409
Not asked (-2): 11430

Name of variable: bel3

Description: Estimated efficiency class of the building

Missings and Encoding:

Don't know/not specified (-1): 0	1 A+
Not asked (-2): 1274	2 A
	3 B
	4 C
	5 D
	6 E
	7 F
	8 G
	9 H

---

10 Expected energy costs Baseline Belief

Name of variable: kbhl0_since21

Description: Expected cost change by 2030 compared to 2021: heating with heating oil

Missings and Encoding:

Don't know/not specified (-1): 87	1 The costs will increase
Not asked (-2): 12840	2 The costs will stay unchanged
	3 The costs will decrease

Name of variable: kbhl0a

Description: Expected annual costs 2030: Heating with heating oil, categorized

Missings and Encoding:

Don't know/not specified (-1): 590	1 less that 1000€
Not asked (-2): 12840	2 1000 to under 2000 euros
	3 2000 to under 3000 euros
	4 3000 to under 4000 euros
	5 4000 to under 5000 euros
	6 more than 5000€

Name of variable: kbhl0a_num

Description: Expected annual costs 2030: Heating with heating oil - numerical

Descriptives:

Min.:	5.00	Max.:	45000.00
1. Qu.:	2500.00	3. Qu.:	4000.00
Mean:	3648.60	Median:	3000.00

Missings and Encoding:
Don't know/not specified (-1): 590
Not asked (-2): 12840

Name of variable: kbgs0_since21

Description: Expected cost change by 2030 compared to 2021: heating with gas

Missings and Encoding:
Don't know/not specified (-1): 205
Not asked (-2): 7681

1 The costs will increase
2 The costs will stay unchanged
3 The costs will decrease

Name of variable: kbgs0a

Description: Expected annual costs 2030: Heating with gas, categorized

Missings and Encoding:
Don't know/not specified (-1): 2078
Not asked (-2): 7681

1 less that 1000€
2 1000 to under 2000 euros
3 2000 to under 3000 euros
4 3000 to under 4000 euros
5 4000 to under 5000 euros
6 more than 5000€

Name of variable: kbgs0a_num

Description: Expected annual costs 2030: Heating with gas - numerical

Descriptives:

Min.:	0.00	Max.:	50500.00
1. Qu.:	2000.00	3. Qu.:	3500.00
Mean:	3211.39	Median:	2600.00

Missings and Encoding:
Don't know/not specified (-1): 2078
Not asked (-2): 7681

Name of variable: kbsm0_since21

Description: Expected cost change by 2030 compared to 2021: Heating with electricity

Missings and Encoding:

Don't know/not specified (-1): 44	1 The costs will increase
Not asked (-2): 13791	2 The costs will stay unchanged
	3 The costs will decrease

Name of variable: kbsm0a

Description: Expected annual costs 2030: Heating with electricity, categorized

Missings and Encoding:

Don't know/not specified (-1): 411	1 less that 1000€
Not asked (-2): 13791	2 1000 to under 2000 euros
	3 2000 to under 3000 euros
	4 3000 to under 4000 euros
	5 4000 to under 5000 euros
	6 more than 5000€

Name of variable: kbsm0_num

Description: Expected annual costs 2030: Heating with electricity - numerical

Descriptives:

Min.:	1.00	Max.:	80000.00
1. Qu.:	1900.00	3. Qu.:	3000.00
Mean:	2597.08	Median:	2200.00

Missings and Encoding:

Don't know/not specified (-1): 411
Not asked (-2): 13791

Name of variable: kbhz0_since21

Description: Expected cost change by 2030 compared to 2021: Heating with wood

Missings and Encoding:

Don't know/not specified (-1): 9	1 The costs will increase
Not asked (-2): 14747	2 The costs will stay unchanged
	3 The costs will decrease

Name of variable: kbhz0a

Description: Expected annual costs 2030: Heating with wood, categorized

Missings and Encoding:

Don't know/not specified (-1): 107	1 less that 1000€
Not asked (-2): 14747	2 1000 to under 2000 euros
	3 2000 to under 3000 euros
	4 3000 to under 4000 euros
	5 4000 to under 5000 euros
	6 more than 5000€

Name of variable: kbhz0a_num

Description: Expected annual costs 2030: Heating with wood - numerical

Descriptives:

Min.:	50.00	Max.:	30000.00
1. Qu.:	2000.00	3. Qu.:	3200.00
Mean:	2927.95	Median:	2500.00

Missings and Encoding:

Don't know/not specified (-1): 107
Not asked (-2): 14747

Name of variable: kbfe0_since21

Description: Expected cost change by 2030 compared to 2021: Heating with district heating

Missings and Encoding:

Don't know/not specified (-1): 87	1 The costs will increase
Not asked (-2): 13142	2 The costs will stay unchanged
	3 The costs will decrease

Name of variable: kbfe0a

Description: Expected annual costs 2030: Heating with district heating, categorized

Missings and Encoding:

Don't know/not specified (-1): 728	1 less that 1000€
Not asked (-2): 13142	2 1000 to under 2000 euros
	3 2000 to under 3000 euros
	4 3000 to under 4000 euros
	5 4000 to under 5000 euros
	6 more than 5000€

Name of variable: kbfe0a_num

Description: Expected annual costs 2030: Heating with district heating - numerical

Descriptives:

Min.:	0.00	Max.:	100000.00
1. Qu.:	2000.00	3. Qu.:	3000.00
Mean:	2713.39	Median:	2500.00

Missings and Encoding:
Don't know/not specified (-1): 728
Not asked (-2): 13142

---

11 Acceptance of instruments

Name of variable: co0_1_1

Description: Agreement: Installation ban for oil boilers from 2026

Missings and Encoding:
Don't know/not specified (-1): 1398
Not asked (-2): 0

1 Don't agree at all
2 Don't agree
3 Neither agree nor disagree
4 Agree
5 Agree completely

Name of variable: co0_2_1

Description: Agreement: Tax incentives for energy-efficient renovation measures for owner-occupiers

Missings and Encoding:
Don't know/not specified (-1): 1129
Not asked (-2): 0

1 Don't agree at all
2 Don't agree
3 Neither agree nor disagree
4 Agree
5 Agree completely

Name of variable: co0_3_1

Description: Agreement: Increase the funding for the replacement of fossil heating systems

Missings and Encoding:

Don't know/not specified (-1): 1008	1 Don't agree at all
Not asked (-2): 0	2 Don't agree
	3 Neither agree nor disagree
	4 Agree
	5 Agree completely

Name of variable: co0_4_1

Description: Agreement: Free energy consulting

Missings and Encoding:

Don't know/not specified (-1): 720	1 Don't agree at all
Not asked (-2): 0	2 Don't agree
	3 Neither agree nor disagree
	4 Agree
	5 Agree completely

Name of variable: co0_a1_1

Description: Agreement: Ban on installation of gas boilers

Missings and Encoding:

Don't know/not specified (-1): 1422	1 Don't agree at all
Not asked (-2): 0	2 Don't agree
	3 Neither agree nor disagree
	4 Agree
	5 Agree completely

Name of variable: co0_a2_1

Description: Agreement: Tax incentives for energy-efficient renovation measures for landlords

Missings and Encoding:

Don't know/not specified (-1): 1061	1 Don't agree at all
Not asked (-2): 0	2 Don't agree
	3 Neither agree nor disagree
	4 Agree
	5 Agree completely

Name of variable: co0_a3_1

Description: Agreement: Mandatory use of renewable energies in new construction

Missings and Encoding:

Don't know/not specified (-1): 701	1 Don't agree at all
Not asked (-2): 0	2 Don't agree
	3 Neither agree nor disagree
	4 Agree
	5 Agree completely

Name of variable: co0_a4_1

Description: Agreement: Mandatory compliance with high efficiency standards in new buildings

Missings and Encoding:

Don't know/not specified (-1): 860	1 Don't agree at all
Not asked (-2): 0	2 Don't agree
	3 Neither agree nor disagree
	4 Agree
	5 Agree completely

Name of variable: co0_a5_1

Description: Agreement: A building climate levy: A levy based on the greenhouse gas emissions of the building

Missings and Encoding:

Don't know/not specified (-1): 1193	1 Don't agree at all
Not asked (-2): 0	2 Don't agree
	3 Neither agree nor disagree
	4 Agree
	5 Agree completely

Name of variable: co0_a6_1

Description: Acceptance: Obligation to use 65

Missings and Encoding:

Don't know/not specified (-1): 966	1 Do not agree at all
Not asked (-2): 0	2 2
	3 3
	4 4
	5 Totally agree

Name of variable: co4_1

Description: Agreement: Overall, I think the introduction of the CO2 price is a good thing

Missings and Encoding:

Don't know/not specified (-1): 875	1 Strictly reject the statement
Not asked (-2): 0	2 Reject the statement
	3 Neither
	4 Agree with the statement
	5 Strongly agree with the statement

---

12 Psychological control variables / environmental attitudes

Name of variable: pk1_1

Description: PK1_1: People have the right to adapt the environment according to their needs

Missings and Encoding:

Don't know/not specified (-1): 148	1 Strictly reject the statement
Not asked (-2): 526	2 Reject the statement
	3 Neither
	4 Agree with the statement
	5 Strongly agree with the statement

Name of variable: pk1_2

Description: PK1_2: Humans severely abuse the earth

Missings and Encoding:

Don't know/not specified (-1): 108	1 Strictly reject the statement
Not asked (-2): 526	2 Reject the statement
	3 Neither
	4 Agree with the statement
	5 Strongly agree with the statement

Name of variable: pk1_3

Description: PK1_3: Plants and animals have the same rights to exist as humans

Missings and Encoding:

Don't know/not specified (-1): 137	1 Strictly reject the statement
Not asked (-2): 526	2 Reject the statement
	3 Neither
	4 Agree with the statement
	5 Strongly agree with the statement

Name of variable: pk1_4

Description: PK1_4: Nature is strong enough to deal with the effects of modern industry

Missings and Encoding:

Don't know/not specified (-1): 146	1 Strictly reject the statement
Not asked (-2): 526	2 Reject the statement
	3 Neither
	4 Agree with the statement
	5 Strongly agree with the statement

Name of variable: pk1_5

Description: PK1_5: Humans are destined to dominate the rest of nature

Missings and Encoding:

Don't know/not specified (-1): 169	1 Strictly reject the statement
Not asked (-2): 526	2 Reject the statement
	3 Neither
	4 Agree with the statement
	5 Strongly agree with the statement

Name of variable: pk1_6

Description: PK1_6: The balance of nature is very delicate and easily disturbed

Missings and Encoding:

Don't know/not specified (-1): 128	1 Strictly reject the statement
Not asked (-2): 526	2 Reject the statement
	3 Neither
	4 Agree with the statement
	5 Strongly agree with the statement

---

13 Module 3: Conjoint experiment - Landlord and tenant module

Name of variable: V0

Description: Heated living space used by the tenant for living in m^2

Missings and Encoding:

Don't know/not specified (-1): 104	1 1 - 25 m^2
Not asked (-2): 14333	2 26 - 50 m^2
	3 51 - 75 m^2
	4 76 - 100 m^2
	5 101 - 125 m^2
	6 126 - 150 m^2
	7 151 m^2 or more

Name of variable: V0_num

Description: Heated living space used by the tenant for living in m^2 - numerical

Descriptives:

Min.:	1.00	Max.:	860.00
1. Qu.:	60.00	3. Qu.:	100.00
Mean:	96.73	Median:	76.00

Missings and Encoding:
Don't know/not specified (-1): 104
Not asked (-2): 14333

Name of variable: V1

Description: Current rent per month in Euro

Missings and Encoding:

Don't know/not specified (-1): 150	1 0 Euro
Not asked (-2): 14333	2 1-200 Euro
	3 201 - 400 Euro
	4 401 - 600 Euro
	5 601 - 800 Euro
	6 801 - 1000 Euro
	7 1001 - 1200 Euro
	8 1201 - 1400 Euro
	9 1401 - 1600 Euro
	10 more than 1600 Euro

Name of variable: V1_num

Description: Current rent per month in Euro - numerical

Descriptives:

Min.:	0.00	Max.:	9000.00
1. Qu.:	475.00	3. Qu.:	850.00
Mean:	778.30	Median:	600.00

Missings and Encoding:

Don't know/not specified (-1): 150
Not asked (-2): 14333

Name of variable: V1a

Description: Are the heating costs included in the rent?

Missings and Encoding:

Don't know/not specified (-1): 5	0 No
Not asked (-2): 14483	1 Yes

Name of variable: V1a_1

Description: Average heating costs (including hot water) per month in Euro

Missings and Encoding:

Don't know/not specified (-1): 384	1 1 - 25 Euro
Not asked (-2): 14333	2 26 - 50 Euro
	3 51 - 100 Euro
	4 101 - 150 Euro
	5 more than 150 Euro

Name of variable: V1a_1_num

Description: Average heating costs (including hot water) per month in Euro - numerical

Descriptives:

Min.:	8.00	Max.:	6000.00
1. Qu.:	80.00	3. Qu.:	180.00
Mean:	185.47	Median:	110.00

Missings and Encoding:
Don't know/not specified (-1): 384
Not asked (-2): 14333

Name of variable: V1a_2

Description: How are heating costs divided between tenants and landlords (as a percentage)

Missings and Encoding:
Don't know/not specified (-1): 113
Not asked (-2): 14333

1 Tenants pay and bear their own heating costs in full (100% tenant, 0% landlord)
2 Tenants pay a share of their own heating costs based on consumption and the other share is divided according to a scale (e.g. living space, number of tenants, etc.) in the building community (100% tenant, 0% landlord)
3 I pay and bear the heating costs in full (0% tenant, 100% landlord)
4 Other allocation, where I bear a share of the heating costs with __% (remaining share borne by tenants/community)

Name of variable: V1a_2_num

Description: How are heating costs divided between tenants and landlords (as a percentage) - numerical

Descriptives:

Min.:	20.00	Max.:	80.00
1. Qu.:	50.00	3. Qu.:	70.00
Mean:	58.05	Median:	60.00

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 15300

Name of variable: V1b

Description: Are the electricity costs included in the rental price?

Missings and Encoding:
Don't know/not specified (-1): 97
Not asked (-2): 14333

0 No
1 Yes

Name of variable: V1b_1

Description: Average electricity costs per month in Euro

Missings and Encoding:
Don't know/not specified (-1): 650
Not asked (-2): 14333

1 0 Euro
2 1 - 25 Euro
3 26 - 50 Euro
4 51 - 100 Euro
5 101 - 150 Euro
6 more than 150 Euro

Name of variable: V1b_1_num

Description: Average electricity costs per month in Euro - numerical

Descriptives:

Min.:	0.00	Max.:	2600.00
1. Qu.:	50.00	3. Qu.:	100.00
Mean:	90.49	Median:	70.00

Missings and Encoding:
Don't know/not specified (-1): 650
Not asked (-2): 14333

Name of variable: V1c

Description: Are the additional costs for water, garbage collection, etc., i.e. all other charges included in the rental price?

Missings and Encoding:

Don't know/not specified (-1): 113	0 No
Not asked (-2): 14333	1 Yes

Name of variable: V1c_1

Description: Average service charges for water, garbage collection, etc., i.e. all other charges in Euro

Missings and Encoding:

Don't know/not specified (-1): 358	1 0 Euro
Not asked (-2): 14333	2 1 - 25 Euro
	3 26 - 50 Euro
	4 51 - 100 Euro
	5 101 - 150 Euro
	6 151 - 200 Euro
	7 more than 200 Euro

Name of variable: V1c_1_num

Description: Average service charges for water, garbage collection, etc., i.e. all other charges in Euro - numerical

Descriptives:

Min.:	0.00	Max.:	2500.00
1. Qu.:	50.00	3. Qu.:	128.00
Mean:	116.48	Median:	80.00

Missings and Encoding:

Don't know/not specified (-1): 358
Not asked (-2): 14333

Name of variable: V1d

Description: Type of rental agreement is currently in place

Missings and Encoding:

Don't know/not specified (-1): 92	1 Open-ended rental agreement
Not asked (-2): 14333	2 Index-linked rent
	3 Graduated rent
	4 Fixed term rental agreement

Name of variable: V1e

Description: Estimate to what extent the rent corresponds to the local comparative rent

Missings and Encoding:

Don't know/not specified (-1): 141	1 More than 20 2 More than 10 3 Approximately
Not asked (-2): 14333	at the level of the comparative rent
	4 More than 10 5 More than 20

Name of variable: V1f

Description: Have modernization measures been carried out on the rental property since 2019?

Missings and Encoding:

Don't know/not specified (-1): 85	0 No
Not asked (-2): 14333	1 Yes

Name of variable: V1g

Description: Were subsidies used in connection with the modernization measures? (e.g. KfW)

Missings and Encoding:

Don't know/not specified (-1): 9	0 No
Not asked (-2): 15011	1 Yes

Name of variable: V1h

Description: Was the (cold) rent increased in connection with the modernization measures?

Missings and Encoding:

Don't know/not specified (-1): 5	0 No
Not asked (-2): 15011	1 Yes

Name of variable: V1i

Description: Does your rented property use the same fuel / type of heating as your own home?

Missings and Encoding:

Don't know/not specified (-1): 103	0 No
Not asked (-2): 14333	1 Yes

Name of variable: ist12_1_av

Description: Type of fuel mainly used for heating in rented property

Missings and Encoding:

Don't know/not specified (-1): 95	1 Natural gas
Not asked (-2): 14885	2 Liquid gas
	3 Heating oil
	4 Logs / pellets
	5 Heat pump / electricity
	6 District heating
	7 Other

Name of variable: kbhl0_landlord_since21

Description: Expected cost change of annual heating energy costs for heating oil for a 4-person household

Missings and Encoding:

Don't know/not specified (-1): 2	1 The costs will rise
Not asked (-2): 15251	2 The costs will remain roughly the same
	3 The costs will fall

Name of variable: kbhl0a_landlord

Description: Estimation of the annual heating energy costs for heating oil for a 4-person household

Missings and Encoding:

Don't know/not specified (-1): 23	1 up to 1000 Euro
Not asked (-2): 15251	3 1401 - 1600 Euro
	5 1801 - 2000 Euro
	6 2001 - 2200 Euro
	7 2201 - 2400 Euro
	8 ´2401 - 2600 Euro
	9 2601 - 2800 Euro
	10 2801 - 3000 Euro
	11 more than 3000

Name of variable: kbhl0a_landlord_num

Description: Estimation of the annual heating energy costs for heating oil for a 4-person household

Descriptives:

Min.:	400.00	Max.:	6000.00
1. Qu.:	2300.00	3. Qu.:	3300.00
Mean:	2925.53	Median:	3000.00

Missings and Encoding:
Don't know/not specified (-1): 23
Not asked (-2): 15251

Name of variable: kbgs0_landlord_since21

Description: Expected cost change of annual heating energy costs for gas for a 4-person household

Missings and Encoding:
Don't know/not specified (-1): 5
Not asked (-2): 15163

1 The costs will rise
2 The costs will remain roughly the same

Name of variable: kbgs0a_landlord

Description: Estimation of the annual heating energy costs for gas for a 4-person household in 2030

Missings and Encoding:
Don't know/not specified (-1): 42
Not asked (-2): 15163

1 up to 1000 Euro
2 1001 - 1200 Euro
3 1401 - 1600 Euro
4 1601 - 1800 Euro
5 1801 - 2000 Euro
6 2001 - 2200 Euro
7 2201 - 2400 Euro
8 2401 - 2600 Euro
9 2601 - 2800 Euro
10 2801 - 3000 Euro
11 more than 3000

Name of variable: kbgs0a_landlord_num

Description: Estimation of the annual heating energy costs for gas for a 4-person household in 2030 - numerical

Descriptives:

Min.:	50.00	Max.:	8000.00
1. Qu.:	2000.00	3. Qu.:	3000.00
Mean:	2570.52	Median:	2450.00

Missings and Encoding:
Don't know/not specified (-1): 42
Not asked (-2): 15163

Name of variable: kbsm0_landlord_since21

Description: Expected cost change of annual heating energy costs for electricity for a 4-pers

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 15300

1 The costs will rise

Name of variable: kbsm0a_landlord

Description: Estimation of the annual heating energy costs for electricity for a 4-person household in 2030

Missings and Encoding:
Don't know/not specified (-1): 5
Not asked (-2): 15300

1 up to 1000 Euro
4 1601 - 1800 Euro
5 1801 - 2000 Euro
8 2401 - 2600 Euro
10 2801 - 3000 Euro
11 more than 3000

Name of variable: kbsm0a_landlord_num

Description: Estimation of the annual heating energy costs for electricity for a 4-person household in 2030 - numerical

Descriptives:

Min.:	250.00	Max.:	8000.00
1. Qu.:	2000.00	3. Qu.:	4250.00
Mean:	3070.00	Median:	2250.00

Missings and Encoding:
Don't know/not specified (-1): 5
Not asked (-2): 15300

Name of variable: kbhz0_landlord_since21

Description: Expected cost change of annual heating energy costs for wood or pellets for a 4-person household by 2030 compared to 2021

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 15299

1 The costs will rise

Name of variable: kbhz0a_landlord

Description: Estimation of the annual heating energy costs for wood or pellers for a 4-person in 2030

Missings and Encoding:
Don't know/not specified (-1): 4
Not asked (-2): 15299

3 1401 - 1600 Euro
4 1601 - 1800 Euro
5 1801 - 2000 Euro
6 2001 - 2200 Euro
7 2201 - 2400 Euro
8 2401 - 2600 Euro
10 2801 - 3000 Euro
11 more than 3000

Name of variable: kbhz0a_landlord_num

Description: Estimation of the annual heating energy costs for wood or pellers for a 4-person in 2030 - numerical

Descriptives:

Min.:	1500.00	Max.:	5000.00
1. Qu.:	2000.00	3. Qu.:	3000.00
Mean:	2566.67	Median:	2100.00

Missings and Encoding:
Don't know/not specified (-1): 4
Not asked (-2): 15299

Name of variable: kbfe0_landlord_since21

Description: Expected cost change of annual heating energy costs for district heating for a 4-person household by 2030 compared to 2021

Missings and Encoding:
Don't know/not specified (-1): 1
Not asked (-2): 15256

1 The costs will rise
2 The costs will remain roughly the same

Name of variable: kbfe0a_landlord

Description: Estimation of the annual heating energy costs for district heating for a 4-person household in 2030

Missings and Encoding:
Don't know/not specified (-1): 25
Not asked (-2): 15256

1 up to 1000 Euro
3 1401 - 1600 Euro
5 1801 - 2000 Euro
6 2001 - 2200 Euro
7 2201 - 2400 Euro
8 2401 - 2600 Euro
9 2601 - 2800 Euro
10 2801 - 3000 Euro
11 more than 3000

Name of variable: kbfe0a_landlord_num

Description: Estimation of the annual heating energy costs for district heating for a 4-person household in 2030 - numerical

Descriptives:

Min.:	400.00	Max.:	5000.00
1. Qu.:	2000.00	3. Qu.:	3000.00
Mean:	2507.50	Median:	2350.00

Missings and Encoding:
Don't know/not specified (-1): 25
Not asked (-2): 15256

Name of variable: EA2_landlord

Description: Do you have an energy performance certificate for the property you are renting out?

Missings and Encoding:

Don't know/not specified (-1): 118	0 No
Not asked (-2): 14333	1 Yes

Name of variable: EA2_1_landlord

Description: What type of energy performance certificate do you have?

Missings and Encoding:

Don't know/not specified (-1): 129	1 Demand Certificate
Not asked (-2): 14811	2 Consumption Certificate

Name of variable: Bel1_landlord

Description: Do you know the current final energy value of your rented property from the energy performance certificate

Missings and Encoding:

Don't know/not specified (-1): 198	1 1
Not asked (-2): 14811	2 2

Name of variable: Bel1_landlord_num

Description: Do you know the current final energy value of your rented property from the energy performance certificate - numerical

Descriptives:

Min.:	1.00	Max.:	1120.00
1. Qu.:	75.00	3. Qu.:	135.00
Mean:	114.42	Median:	105.00

Missings and Encoding:

Don't know/not specified (-1): 198
Not asked (-2): 14811

Name of variable: Bel2_landlord

Description: Estimation of the efficiency class of the rented out property

Missings and Encoding:

Don't know/not specified (-1): 0
Not asked (-2): 14528

1 A+
2 A
3 B
4 C
5 D
6 E
7 F
8 G
9 H

Name of variable: Sdkm

Description: Cold rent tenant

Missings and Encoding:

Don't know/not specified (-1): 4382
Not asked (-2): 9111

2 0 Euro
3 1-200 Euro
4 201 - 400 Euro
5 401 - 600 Euro
6 601 - 800 Euro
7 801 - 1000 Euro
8 1001 - 1200 Euro
9 1201 - 1400 Euro
10 1401 - 1600 Euro
11 more than 1600 Euro

Name of variable: Sdkm_v

Description: Cold rent landlord

Missings and Encoding:

Don't know/not specified (-1): 5295
Not asked (-2): 9563

1 less than 0 euros (from calculation)
2 0 Euro
3 1-200 Euro
4 201 - 400 Euro
5 401 - 600 Euro
6 601 - 800 Euro
7 801 - 1000 Euro
8 1001 - 1200 Euro
9 1201 - 1400 Euro
10 1401 - 1600 Euro
11 more than 1600 Euro

Name of variable: Sdhk

Description: Heating costs for tenants

Missings and Encoding:

Don't know/not specified (-1): 4382
Not asked (-2): 9111

1 0 Euro
2 1-25 Euro
3 26 - 50 Euro
4 51 - 100 Euro
5 101 - 150 Euro
6 more than 150 Euro

Name of variable: Sdhk_v

Description: Heating costs for landlords

Missings and Encoding:

Don't know/not specified (-1): 5295
Not asked (-2): 9563

2 1-25 Euro
3 26 - 50 Euro
4 51 - 100 Euro
5 101 - 150 Euro
6 more than 150 Euro

Name of variable: Sdvhk

Description: Tenant's share of heating costs

Missings and Encoding:

Don't know/not specified (-1): 0	1 81 - 100 %
Not asked (-2): 13030	2 61 - 80 %
	3 41 - 60 %
	4 21 - 40 %
	5 1 - 20 %
	6 0 %

Name of variable: Sdvhk_v

Description: Landlord's share of heating costs

Missings and Encoding:

Don't know/not specified (-1): 0	1 0 %
Not asked (-2): 13030	2 1 - 20 %
	3 21 - 40 %
	4 41 - 60 %
	5 61 - 80 %
	6 81 - 100 %

Name of variable: Sdee

Description: Energy efficiency class Tenant

Missings and Encoding:

Don't know/not specified (-1): 4382	1 A+
Not asked (-2): 9111	2 A
	3 B
	4 C
	5 D
	6 E
	7 F
	8 G
	9 H

Name of variable: Sdee_v

Description: Energy efficiency class Landlord

Missings and Encoding:

Don't know/not specified (-1): 5295
Not asked (-2): 9895

1 A+
2 A
3 B
4 C
5 D
6 E
7 F
8 G
9 H

Name of variable: Sdwm

Description: Warm rent Tenant

Missings and Encoding:

Don't know/not specified (-1): 4382
Not asked (-2): 9111

1 0 Euro
2 1-200 Euro
3 201 - 400 Euro
4 401 - 600 Euro
5 601 - 800 Euro
6 801 - 1000 Euro
7 1001 - 1200 Euro
8 1201 - 1400 Euro
9 1401 - 1600 Euro
10 more than 1600 Euro

Name of variable: Sdwm_v

Description: Warm rent Landlord

Missings and Encoding:

Don't know/not specified (-1): 5747
Not asked (-2): 9111

2 1-200 Euro
3 201 - 400 Euro
4 401 - 600 Euro
5 601 - 800 Euro
6 801 - 1000 Euro
7 1001 - 1200 Euro
8 1201 - 1400 Euro
9 1401 - 1600 Euro
10 more than 1600 Euro

Name of variable: Choice_Task_1

Description: If these were your only modernization options, which would you choose?

Missings and Encoding:

Don't know/not specified (-1): 0	1 Option 1
Not asked (-2): 13030	2 Option 2
	3 Would not choose either option

Name of variable: Choice_Task_2

Description: If these were your only modernization options, which would you choose?

Missings and Encoding:

Don't know/not specified (-1): 0	1 Option 1
Not asked (-2): 13030	2 Option 2
	3 Would not choose either option

Name of variable: Choice_Task_3

Description: If these were your only modernization options, which would you choose?

Missings and Encoding:

Don't know/not specified (-1): 0	1 Option 1
Not asked (-2): 13030	2 Option 2
	3 Would not choose either option

Name of variable: Choice_Task_4

Description: If these were your only modernization options, which would you choose?

Missings and Encoding:

Don't know/not specified (-1): 0	1 Option 1
Not asked (-2): 13030	2 Option 2
	3 Would not choose either option

Name of variable: Choice_Task_5

Description: If these were your only modernization options, which would you choose?

Missings and Encoding:

Don't know/not specified (-1): 0	1 Option 1
Not asked (-2): 13030	2 Option 2
	3 Would not choose either option

Name of variable: pc11

Description: What were the most important characteristics for the decision: Basic rent

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc12

Description: What were the most important characteristics for the decision: Heating costs

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc13

Description: What were the most important characteristics for the decision: Landlord's share

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc14

Description: What were the most important characteristics for the decision: Modernization costs

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc15

Description: What were the most important characteristics for the decision: Subsidy

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc16

Description: What were the most important characteristics for the decision: Energy efficiency

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc17

Description: What were the most important characteristics for the decision: Warm rent

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc18

Description: What were the most important characteristics for the decision: Initial yield

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc19

Description: What were the most important characteristics for the decision: None of the listed properties

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc110

Description: What were the most important characteristics for the decision: Don't know/no answer

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc21

Description: Which of the properties listed were unclear: Basic rent

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc22

Description: Which of the properties listed were unclear: Heating costs

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc23

Description: Which of the properties listed were unclear: Landlord's share of heating costs

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc24

Description: Which of the properties listed were unclear: Modernization costs

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc25

Description: Which of the properties listed were unclear: Subsidy

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc26

Description: Which of the properties listed were unclear: Energy efficiency

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc27

Description: Which of the properties listed were unclear: Warm rent

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc28

Description: Which of the properties listed were unclear: Initial yield

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc29

Description: Which of the properties listed were unclear: None of the listed properties

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc210

Description: Which of the properties listed were unclear: Don't know/no answer

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc31

Description: Is the following characteristic relevant to the decision: Financing aspects

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc32

Description: Is the following characteristic relevant to the decision: Recommendation from an independent energy consultant

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc33

Description: Is the following characteristic relevant to the decision: Change in living comfort

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc34

Description: Is the following characteristic relevant to the decision: Space requirement and effects on living facilities

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc35

Description: Is the following characteristic relevant to the decision: Duration of construction measures

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc36

Description: Is the following characteristic relevant to the decision: Possibility of extending the modernization

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc37

Description: Is the following characteristic relevant to the decision: Warranty period

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc38

Description: Is the following characteristic relevant to the decision: Expected useful life

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc39

Description: Is the following characteristic relevant to the decision: Place of manufacture of the materials used

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc310

Description: Is the following characteristic relevant to the decision: Administrative expenses

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc311

Description: Is the following characteristic relevant to the decision: Other

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc312

Description: Is the following characteristic relevant to the decision: All properties relevant to the decision were specified

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: pc313

Description: Is the following characteristic relevant to the decision: Don't know/no answer

Missings and Encoding:

Don't know/not specified (-1): 0	0 Not mentioned
Not asked (-2): 13030	1 Mentioned

Name of variable: attr_comb

Description: Grouped attribute combinations needed for task generation method: "Balanced Overlap"

Missings and Encoding:

Don't know/not specified (-1): 0	1 0-100
Not asked (-2): 13030	

Name of variable: weight_conjoint

Description: Survey weight - Conjoint survey

Missings and Encoding:

Don't know/not specified (-1): 0	1 1
Not asked (-2): 9111	

---

14 Socio-economic data

Name of variable: altq

Description: Age in years

Descriptives:

Min.:	18.00	Max.:	94.00
1. Qu.:	47.00	3. Qu.:	70.00
Mean:	57.59	Median:	58.00

Missings and Encoding:

Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: so0

Description: Certificate of eligibility for housing

Missings and Encoding:

Don't know/not specified (-1): 116	0 No
Not asked (-2): 10198	1 Yes

Name of variable: so1

Description: Highest school-leaving qualification

Missings and Encoding:

Don't know/not specified (-1): 67
Not asked (-2): 0

1 No qualification
2 Qualification after a maximum of 7 years of school
3 Secondary school diploma
4 Secondary school leaving certificate (Mittlere Reife)
5 Technical college entrance qualification
6 Abitur

Name of variable: so2

Description: Highest vocational training or (technical) college degree

Missings and Encoding:

Don't know/not specified (-1): 315
Not asked (-2): 0

1 No qualification
2 Apprenticeship or vocational internship
3 Vocational preparation year
4 Apprenticeship, vocational training in the dual system
5 Preparatory service for the intermediate civil service
6 Vocational qualification at a
7 2- or 3-year school of health
8 Vocational school qualification (master craftsman/, technician)
9 Vocational academy, technical academy
10 Degree from a university of applied sciences
11 Degree from a university of applied sciences, including engineering
12 Degree from a university of applied sciences
13 Doctorate

Name of variable: so3_1

Description: I am employed or working (incl. trainees, persons on parental leave or partial r

Missings and Encoding:

Don't know/not specified (-1): 0
Not asked (-2): 0

0 No
1 Yes

Name of variable: so3_2

Description: I am a pupil

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: so3_3

Description: I am a student

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: so3_4

Description: I am retired

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: so3_5

Description: I live from income from capital assets, renting or leasing

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: so3_6

Description: I receive maintenance/benefits from spouse, partner, parents, relatives or other

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: so3_7

Description: I am a housewife/husband or care for children and/or persons in need of care

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: so3_8

Description: I receive Unemployment Benefit I (ALG I)

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: so3_9

Description: I receive Unemployment Benefit II or social benefit (Hartz IV)

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: so3_10

Description: I receive social assistance or basic old-age pension or basic income support in case of reduced earning capacity

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: so3_11

Description: None of the above choices apply to me

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: so3_12

Description: Don't know/not specified

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: so3_13

Description: I receive housing benefit

Missings and Encoding:

Don't know/not specified (-1): 0	0 No
Not asked (-2): 0	1 Yes

Name of variable: so4

Description: Scope of employment

Missings and Encoding:

Don't know/not specified (-1): 20	1 Full-time employment
Not asked (-2): 6817	2 Part-time employment, at least 20 h
	3 Part-time/hourly employment, less than 20h

Name of variable: so5

Description: Amount of total monthly net income of the household

Missings and Encoding:

Don't know/not specified (-1): 1335	1 Under 700 Euro
Not asked (-2): 0	2 700 to under 1,200 Euro
	3 1,200 to under 1,700 Euro
	4 1,700 to under 2,200 Euro
	5 2,200 to under 2,700 Euro
	6 2,700 to under 3,200 Euro
	7 3,200 to under 3,700 Euro
	8 3,700 to under 4,200 Euro
	9 4,200 to under 4,700 Euro
	10 4,700 to under 5,200 Euro
	11 5,200 to under 5,700 Euro
	12 5,700 Euro and more

Name of variable: so7

Description: Political orientation

Missings and Encoding:

Don't know/not specified (-1): 589	1 Left
Not asked (-2): 0	2 2
	3 3
	4 4
	5 5
	6 6
	7 7
	8 8
	9 9
	10 Right

Name of variable: so8

Description: Inclination to a political party

Missings and Encoding:

Don't know/not specified (-1): 586	1 CDU/CSU
Not asked (-2): 0	2 SPD
	3 FDP
	4 Bündnis 90/ Die Grünen
	5 Die Linke
	6 AfD
	7 Of another party
	8 Of no party

Name of variable: v2

Description: Trust in the federal goverment

Missings and Encoding:

Don't know/not specified (-1): 427	1 No
Not asked (-2): 0	2 Rather no
	3 Rather yes
	4 Yes

Name of variable: v3

Description: Frequency Information on political topics

Missings and Encoding:

Don't know/not specified (-1): 146
Not asked (-2): 0

1 Several times a day
2 Daily
3 Several times a week
4 Once a week
5 Less than once a week
6 Less than once a month
7 Never

Name of variable: v4

Description: Frequency of discussion of political issues in the immediate vicinity

Missings and Encoding:

Don't know/not specified (-1): 241
Not asked (-2): 0

1 Several times a day
2 Daily
3 Several times a week
4 Once a week
5 Less than once a week
6 Less than once a month
7 Never

Name of variable: einv

Description: We would like to send you information based on the results of this survey by e-mail from time to time within the study period

Missings and Encoding:

Don't know/not specified (-1): 0
Not asked (-2): 526

1 I hereby consent to forsa sending me information about
2 No, I do not want to receive any information

---

15 Meta variables

Name of variable: start_datetime

Description: Start of interview date and time

Missings and Encoding:

Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: end_datetime

Description: End of interview date and time

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: sms

Description: Starting month survey

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: sys

Description: Starting year survey

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: sds

Description: Starting day survey

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: ems

Description: Ending month survey

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: eys

Description: Ending year survey

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: eds

Description: Ending day survey

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: duration

Description: Duration of interview in seconds

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: weight0

Description: Weighting factors: by tenant/owner and household size (completes only)

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: weight1

Description: Weighting factors: by tenant/owner in combination with building type and year of construction (completes only)

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: lfdn

Description: Serial number of the interview

Missings and Encoding:
Don't know/not specified (-1): 0
Not asked (-2): 0

Name of variable: year_identifier

Description: Survey Wave Year

Missings and Encoding:
Don't know/not specified (-1): 0 2 2
Not asked (-2): 0

Ariadne German Heating and Housing Panel Questionnaire - Wave 2

Sample (gross):
N = 15,000 households: As many as possible from the 1st Ariadne wave, remainder from forsa.omninet panel
10,000 owners
5,000 tenants

Consideration of the following household characteristics when filling the sample with new participants:
- Ownership/rent
- Household size

Target person in the household:
The person in the household who decides - alone or together with the partner - when it comes to financial matters is interviewed.

Possible schedule:

by the end of week 28 (July 15): Questionnaire voting

CW 29 to CW 31 (July 18 to August 5): Questionnaire programming

Week 32 (August 8 to 12): Test of the questionnaire/ feedback on change requests by RWI

CW 33 to mid-CW 34 (until August 24): Incorporation of changes/testing of changes

Mid-CW 34 to mid-CW 36 (August 25 to September 7): Pretest, delivery of pretest tables

by the middle of week 37 (by September 14): Feedback on possible changes after the pretest by RWI

Mid-CW 37 to mid-CW 39 (September 15 to September 28): Implementation of change requests/ testing of changes

Mid-CW 39 to mid-CW 43 (September 29 to October 26): Survey

Mid week 46 (November 16): Delivery of results

Previous studies referred to:

Ariadne wave 1 2021

IWU questionnaire

Introductory text:

Climate policy issues are the subject of much discussion in Germany this fall. Many of the instruments anchored in the new climate protection program are aimed specifically at the building sector. Against this backdrop, we at the RWI - Leibniz Institute for Economic Research [Infobutton: The RWI - Leibniz Institute for Economic Research is a leading center for scientific research and evidence-based policy advice in Germany and a member of the Leibniz Association. RWI's research - based on the latest theoretical concepts and modern empirical methods - ranges from the individual to the global economic level]. and Potsdam Institute for Climate Impact Research [Info button: Expanding the scientific frontiers of climate research for global sustainability across disciplines and offering solutions for a safe and just climate future - this is the dual mission of the Potsdam Institute for Climate Impact Research (PIK), a member of the Leibniz Association]. (PIK) is conducting a long-term study as part of the Kopernikus project Ariadne [Link https://ariadneprojekt.de/] funded by the Federal Ministry of Education and Research (BMBF) with the *Heat and Housing Panel*, which consists of an annual survey in 2021, 2022 and 2023. This is because detailed data on the housing and heating situation of the more than 40 million households in Germany is needed so that policy instruments for an efficient and socially balanced buildings policy can be developed and their effectiveness reviewed. And this is where you come in!

In order to be able to answer our research questions, it is important that we conduct this survey over several years with as many of the same participants as possible.

If you already participated last year:

For this reason, we would like to thank you for participating in the second survey of our long-term study and ask you to also take part in the next survey next year. You can view the results of the first survey at the following link: https://ariadneprojekt.de/publikation/waermepanel21/.

If newly recruited:

For this reason, if you decide to participate today, we would like to ask you to also take part in the following survey next year. You can view the results of the first survey at the following link: https://ariadneprojekt.de/publikation/waermepanel21/.

Again for all

We would like to gain a better understanding of how the population in Germany views climate policy measures in the building sector and what their housing and heating situation is like. By taking part in this study, you are supporting our research and helping to provide policy-makers with guidance. By participating regularly, you can be part of informing political decision-making processes in climate policy. We will be happy to inform you about the results of the study once the evaluation of this year's survey has been completed.

The study is of course subject to data protection. In this study, forsa and the RWI - Leibniz Institute for Economic Research form a research association that exists for purely scientific purposes and does not pursue any commercial intentions. All data collected is anonymized and only evaluated together with the data of other respondents. It is not possible to draw conclusions about your person or your household without your explicit consent.

We look forward to your participation in the study and would like to thank you in advance for your cooperation and commitment.

Your forsa.omninet team, RWI and PIK

This time the questionnaire will be completed for everyone in one go

Chapter 6 is appended to the mobility survey

For the mobility survey, 6,000 households will then be selected from the panel. These should be selected in such a way that the proportion of renters and owners is as representative of the population as possible, i.e. approx. 50/50. In addition, the proportion of renters resulting from the main survey should also be retained in the mobility survey, i.e. a proportion of approx. 20% landlords, 8% of whom are tenants who rent and 12% of whom are owners who rent.

For the conjoint part, simply all tenants and all landlords of these 6,000 should be surveyed, i.e. in principle all except

- Owners who do not rent out
- Variable transfer: svdm = 0 (does not participate, e.g. because the energy efficiency class is too high), 1 (answer from the tenant's perspective) or 2 (query from the landlord's perspective)

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1. Module 1: Household and building characteristics

Screening question for all
A2: Do you currently rent or own your home, or is it given to you free of charge?

1. Rent
2. Ownership
3. provided free of charge
4. don't know/no answer

If provided free of charge / don't know/no answer: Respondent is screened out, even if answered in wave 1

First of all, we would like to ask you a few general questions about your household and the building you currently live in.

If you have more than one place of residence, please think of your main place of residence when answering the following questions.

A1: How many people, i.e. adults and children (including yourself), currently live in your household?

1. NUMBER FIELD 1-19
2. don't know/no answer

For participants of the 1st wave
A1_1: Have you moved since the last survey (summer 2021)?

1. Yes
2. No
3. don't know/no answer

If A2 = 1, i.e. rent.
A2_1a: What applies to your landlord?

1. Private landlord/landlady
2. Private housing company
3. Public housing company
4. Housing cooperative
5. don't know/no answer

Questions from here to A8a only if A1_1 = 1, i.e. repeated participants have moved

OR if newly recruited

A4: What type of building is the apartment in?

1. detached one / two-family house
2. Terraced / semi-detached house
3. in an apartment building (up to seven floors)
4. in a high-rise building (eight or more storeys)
5. in a (former and / or converted) industrial building
6. in a dacha, a vacation or garden house, a mobile home or similar
7. in another building

8. don't know/no answer

A5: How long have you lived in your house or apartment?

1. YYYY (up to and including 2022) permit
2. don't know/no answer

A6: How long do you intend to stay in your house or apartment?

1. Less than 1 year
2. 1-2 years
3. 3-5 years
4. 6-10 years
5. More than 10 years
6. don't know/no answer

A7: Do you rent out apartments and/or houses (excluding vacation apartments / houses)?

1. Yes
2. No
3. don't know/no answer

If A7 == 1, i.e. Yes, participant rents out apartments or houses
A7a: How many apartments and/or houses do you rent out?
Multiple answers possible

1. ___ NUMFELD Apartments 0-50

2. ___ NUMFELD Houses 0-50

3. don't know/no answer

A8: Do you own a second or vacation home?

1. No
2. Yes, second home / house
3. Yes, vacation apartment / house
4. Yes, both
5. don't know/no answer

If A8 = Yes (2-4)
A8a: How many months do you normally spend in your primary residence per year (i.e. not during the coronavirus pandemic, for example)?

1. MM 1-12
2. don't know/no answer

2. Module 1a: Current status according to the renovation configurator (only for new recruits and relocated participants)

Entire module 1a only if A1_1 = 1, i.e. repeated participants who moved OR if newly recruited

Below you will find further information about the building in which you currently live and about the heating and hot water supply.

Building characteristics

Ist1: Is your residential building detached or are neighboring buildings directly adjacent to your residential building?

Detached | directly adjacent neighboring building on one side | directly adjacent neighboring buildings on two sides

1. Freestanding, i.e. no directly adjacent neighboring building
2. directly adjacent neighboring building on one side
3. directly adjacent neighboring buildings on two sides
4. don't know/no answer

Ist2: What is the floor plan of your residential building?

Compact | elongated, angled or more complicated

1. compact
2. elongated, angled or more complicated
3. don't know/no answer

Ist3: Please tell us the number of residential units (self-contained apartments) in your residential building. If you do not know, please estimate.

1. NUMBER FIELD 1-50
2. don't know/no answer

Ist4: Please tell us the number of floors in your residential building (excluding basement and attic).

1. NUMBER FIELD 1-50
2. don't know/no answer

Ist5: How large is the heated living space used by your household for living (excluding unheated basements, attics, business and utility rooms)? Please round and enter the value without decimal places.

1. NUMFELD m^2 1-999
2. don't know/no answer

If Ist3 > 1 (i.e. more than one residential unit) and A4 !=3 or 4 (i.e. no multi-family or high-rise building)
Ist5a: What is the total size of the heated living space in the house in which you live? (excluding unheated cellars, attics, business and utility rooms)? Please include your apartment and all other apartments in your house. If you do not know the exact value, please make an estimate.

1. NUMFELD m^2 1-9999
2. don't know/no answer

Ist6: Please tell us the year of construction of your residential building. If you do not know exactly, please estimate.

1. Until 1918
2. 1919 to 1948
3. 1949 to 1957
4. 1958 to 1968
5. 1969 to 1978
6. 1979 to 1983
7. 1984 to 1994
8. 1995 to 2001
9. 2002 to 2004
10. 2005 to 2006
11. 2007 to 2008
12. 2009 to 2013
13. 2014 to 2015
14. 2016 to 2019
15. From 2020
16. don't know/no answer

Ist7: What shape is the roof of your residential building?
[Info button**:** Flat pitched roofs are roofs with a pitch of less than 20 degrees. Sloping roofs include all roof shapes such as pitched roofs, monopitch roofs, tent roofs, hipped roofs, etc.].

1. Pitched roof
2. Flat roof or flat pitched roof
3. don't know/no answer

If Ist7=1, i.e. "pitched roof"
Ist7_1a: Is the attic of your residential building heated?

1. Attic fully heated
2. Attic partially heated
3. Attic unheated
4. don't know/no answer

If Ist7=1, i.e. "pitched roof"
Ist7_1b: Are there dormers or other roof structures on the roof of your residential building?

1. Dormers or other roof structures present
2. Dormers or other roof structures not present
3. don't know/no answer

Ist8: Is the basement of your residential building heated?

1. Fully heated basement
2. Partially heated basement
3. Unheated basement
4. No basement
5. don't know/no answer

Show answer option "Top storey ceiling" only if Ist_7=1, i.e. "pitched roof".

Ist9: Now it's about the construction type of your residential building. Please select the predominant type of construction of the individual components.

(single entry per component)

	Solid (e.g. brick walls, concrete walls and ceilings)	**Wood (e.g. wooden beam ceilings, wooden beam roof trusses, half-timbered or prefabricated wooden house walls)**	**don't know/no answer**
Roof	☐	☐	☐
Top storey ceiling [Info button: The top storey ceiling refers to the ceiling above the last heated storey. If the top floor is heated, this is the ceiling to the attic. If the attic is unheated, it is the ceiling below the attic].	☐	☐	☐
Exterior walls	☐	☐	☐
Cellar ceiling / floor to ground (if no cellar available)	☐	☐	☐

Ist10: Please tell us the year in which your current windows were installed. If they have never been replaced, please state the year your building was built. If windows were installed at different times, please state the year in which the majority of your current windows were installed.

1. Until 1918
2. 1919 to 1948
3. 1949 to 1957
4. 1958 to 1968
5. 1969 to 1978
6. 1979 to 1983
7. 1984 to 1994
8. 1995 to 2001
9. 2002 to 2004
10. 2005 to 2006
11. 2007 to 2008
12. 2009 to 2013
13. 2014 to 2015
14. 2016 to 2019
15. From 2020
16. don't know/no answer

Only allow answer option 1 if: Ist10 <= 5, i.e. installation before 1979
Only allow answer option 3 if: Ist10 >= 4, i.e. installation from 1958 onwards
Only allow answer option 4 if: Ist10 >= 3, i.e. installation from 1949 onwards
Only allow answer option 5 if: If Ist10 >= 8, i.e. installation from 1995 onwards
If Ist10 = don't know/no answer: show all

Ist11: How are the windows of your residential building (predominantly) glazed?

1. Windows, single glazed
2. Wooden windows with double glazing
3. PVC-U windows with double glazing
4. Aluminum windows with double glazing
5. Windows with triple glazing
6. don't know/no answer

Heating and hot water
Now it's all about how your home is heated and how you get hot running water

Ist12: What kind of heating system do you mainly use?

1. Boiler / Therme (central)
2. Heat pump (central)
3. District / local heating (central)
4. Residential heating (supply of individual residential units by a separate energy generator, e.g. by a gas-fired floor heating system)
5. Room-by-room heating (supplying individual rooms, e.g. with night storage heaters)
6. don't know/no answer

If Ist12 = 1-3, i.e. central heating and Ist3 > 1 and A2 = 2, i.e. ownership in building with more than one unit
Ist12a: You have indicated that there are several apartments in your house. Who in your house mainly makes renovation decisions regarding your central heating system?

1. Residents of your own home (e.g. yourself)
2. Residents of the other apartments
3. Residents of own apartment together with residents of other apartments
4. Real estate company
5. Public sector
6. Housing cooperative
7. Private landlord/landlady
8. don't know/no answer

If Ist12 = 1, i.e. boiler/thermal system (central)
Ist12_1a: What fuel do you use for heating?

1. Natural gas
2. Liquid gas
3. Heating oil
4. Logs / pellets
5. Miscellaneous
6. don't know/no answer

If Ist_12 = 2, i.e. heat pump
Ist12_2a: How does your heat pump generate heat?

1. Alone, i.e. heat pump only
2. Heat pump with heating element
3. Heat pump with boiler
4. Heating rod only
5. don't know/no answer

If Ist12 = 2, i.e. heat pump
Ist12_2b: Where does your heat pump obtain its heat from?

1. Outside air
2. Soil / groundwater
3. don't know/no answer

If Ist12 = 3, i.e. district/local heating

Ist12_3a: Where do you obtain your district / local heating from?

1. Boiler / heating plant (pure heat generation)
2. Cogeneration plant / combined heat and power (CHP) primarily for electricity generation (e.g. combined heat and power plant, heat share below 50%)
3. Cogeneration plant / combined heat and power (CHP) primarily for heat generation (heat share over 50%)
4. Miscellaneous
5. don't know/no answer

If Ist12 = 5, i.e. room-by-room heating

Ist12_5a: What do you (mainly) use to heat your rooms?

1. Individual stoves with heating oil
2. Individual stoves with coal
3. Individual stoves with wood
4. Gas space heaters
5. Electric heaters or night storage heaters
6. don't know/no answer

For all types of heating

Ist13: In which year was your current heating system put into operation?

1. Until 1978
2. 1979 to 1982
3. 1983 to 1986
4. 1987 to 1989
5. 1990 to 1994
6. 1995 to 1999
7. 2000 to 2001
8. 2002 to 2004
9. 2005 to 2006
10. 2007 to 2008
11. 2009 to 2013
12. 2014 to 2015
13. 2016 to 2019
14. From 2020
15. don't know/no answer

If Ist12 = 1-3, i.e. for all central heating systems
If the building was built before 2002, i.e. Ist6 <= 8 or Ist6 = "don't know"

Ist13a: Are the distribution pipes of your heating system insulated?

1. Yes
2. No
3. don't know/no answer

If Ist13a = Yes

Ist13a_1a: Please tell us the year in which the distribution pipes of your heating system were insulated.

1. before 1977
2. between 1977 and 2001
3. 2002 or later
4. don't know/no answer

Only allow answer 1 if: Ist12 = 1-3 (central heating system)
Only allow answer 2 if: Ist12 = 1 OR Ist12 = 4 OR Ist12_5a =1,2,3,4 (i.e. NOT if Ist12 = 2,3 or Ist12_5a = 5, i. e. if heating with boiler or Residential Heating or room-by-room heating excluding electricity)
Only allow answer 3 if: Ist12 = 1,2,3 OR Ist12 = 5 (NOT if Ist12 = 4, i.e. no residential heating)
Only allow answer 4 if: Ist12 = 1,2,3 OR Ist12 = 5 (NOT if Ist12 = 4, i.e. no residential heating)
Only allow answer 5 if: Ist12 = 4 (i. e. residential Heating)
Only allow answer 6 if: Ist12 = 1 OR Ist12 = 4 OR Ist12_5a =1,2,3,4 (NOT if Ist12 = 2,3 or Ist12_5a = 5, i.e. allow if boiler/thermal or residential heating or non-electric room-by-room-heating)
Allow answer 7 for ALL Ist12
Allow answer 8 for ALL Ist12

Ist14: How do you get your hot water?

1. Combined with central heating
2. Central gas storage water heater
3. Central electrical storage
4. Basement air/exhaust air heat pump
5. Gas heating
6. Gas instantaneous water heater
7. Electric instantaneous water heater
8. Electric storage / small storage
9. don't know/no answer

If Ist14 = 5-8
Ist14a: In which year was your device from Ist14 put into operation?

1. Until 1978
2. 1979 to 1982
3. 1983 to 1986
4. 1987 to 1989
5. 1990 to 1994
6. 1995 to 1999
7. 2000 to 2001
8. 2002 to 2004
9. 2005 to 2006
10. 2007 to 2008
11. 2009 to 2013
12. 2014 to 2015
13. 2016 to 2019
14. From 2020
15. don't know/no answer

If Ist14=1-4, i.e. central hot water preparation
Ist14b: Please indicate what applies to your central water heating system:
(Fade in: Note: Without hot water circulation, the standing hot water in the pipe cools down so that when the hot water tap is turned on, cooled water flows for a longer period of time; with hot water circulation, hot water comes out of every hot water tap immediately. Most older buildings do not have hot water circulation)

1. Without hot water circulation
2. With hot water circulation
3. don't know/no answer

If built before 2002 and central hot water preparation, i.e. Ist6 <= 8 and Ist14=1-4
Ist14c: Are your water pipes insulated?

1. Yes
2. No
3. don't know/no answer

If Ist14c = Yes (i.e. water pipes are insulated)

Ist14c_1a: Please tell us the year in which your water pipes were insulated.

1. before 1977
2. between 1977 and 2001
3. 2002 or later
4. don't know/no answer

Only show answer option "top storey ceiling" if Ist7=1, i.e. "pitched roof".

Ist15: This question is about the extent to which the following components of your house are insulated. Please indicate the proportion of the insulated area:

	Not at all	Some (approx. ¼ of the area)	About half	Predominantly (approx. ¾ of the area)	Complete	don't know/no answer
Insulation of the roof	☐	☐	☐	☐	☐	☐
Insulation of the top storey ceiling [Info button: The top storey ceiling refers to the ceiling above the last heated storey. If the attic is heated, this is the ceiling to the attic. If the attic is unheated, it is the ceiling below the attic].	☐	☐	☐	☐	☐	☐
Insulation of the exterior walls (incl. cellar wall)	☐	☐	☐	☐	☐	☐
Insulation of the cellar ceiling/floor to the ground (if there is no cellar)	☐	☐	☐	☐	☐	☐

We will now briefly turn to the topic of renewable energies.

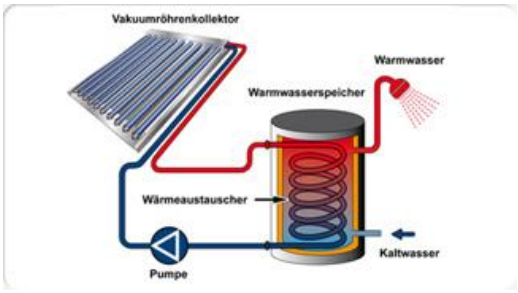
Ist16: Do you have a photovoltaic and/or solar thermal system for your home?

[Info button: A solar thermal system uses solar radiation to generate hot water/heating. A photovoltaic system uses solar radiation to generate electricity].

MULTIPLE ANSWERS

1. Solar thermal system
2. Photovoltaic system
3. Neither

4. don't know/no answer



Solar thermal system


Photovoltaic system

If Ist16=1, i.e. solar thermal system
Ist16_1a: What is the heat from your solar thermal system used for?

MULTIPLE ANSWERS

1. as heating energy
2. for water heating
3. don't know/no answer

If A2=2, i.e. ownership
Ist17: Which of the following connection options does your house have?

MULTIPLE SEPARATION POSSIBLE (but exclude that 1 and 2, 1 and 3, 2 and 3, 4 and 5, 4 and 6 and 5 and 6 are selected simultaneously)

1. Gas connection
2. No gas connection, but the street has a gas pipe
3. Street has no gas pipe
4. District heating connection
5. No district heating connection, but street has district heating pipe
6. Street has no district heating pipe
7. don't know/no answer

3. Module 1b: Refurbishment

Only for repeat participants who have not relocated

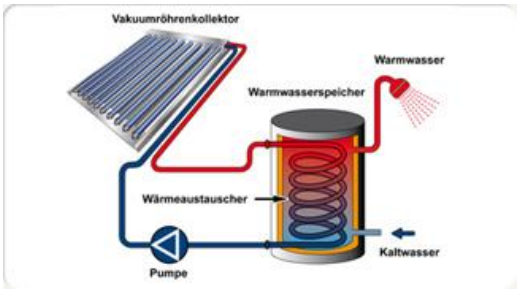
First, we will briefly discuss the topic of renewable energies.

Ist16: Do you have a photovoltaic and/or solar thermal system for your home?

[Info button: A solar thermal system uses solar radiation to generate hot water/heating. A photovoltaic system uses solar radiation to generate electricity].

MULTIPLE ANSWERS

5. Solar thermal system
6. Photovoltaic system
7. neither
8. don't know/no answer



Solar thermal system


Photovoltaic system

If Ist16=1, i.e. solar thermal system
Ist16_1a: What is the heat from your solar thermal system used for?

MULTIPLE ANSWERS

1. as heating energy
2. for water heating
3. don't know/no answer

For all

3.1 Renovations carried out

If newly recruited:

San1_neu: The following is about the energy modernization of your residential building or apartment. Please list all modernization measures that have been carried out on your residential building *since 2000*.

If already participated:

San1: The following is about the energy modernization of your residential building or apartment. Please indicate all modernization measures that have been carried out on your residential building *since the last survey in summer 2021.*

For all

Only show answer option "Top storey ceiling" if Ist7=1, i.e. "pitched roof".

MULTIPLE ANSWERS

1. Insulation of the roof
2. Insulation of the top storey ceiling [Info button: The top storey ceiling refers to the ceiling above the last heated storey. If the attic is heated, this is the ceiling to the attic. If the attic is unheated, it is the ceiling below the attic].
3. Insulation of the outer wall (incl. cellar wall)
4. Insulation of the cellar ceiling/floor to the ground (if there is no cellar)
5. Renovation of the windows
6. Optimization of the existing heating system (e.g. hydraulic balancing, installation of high-efficiency pump, also insulation of the heating / hot water pipes)
7. Installation of new appliances for heat generation (e.g. boiler, solar thermal system, heat pump, instantaneous water heater, electric storage tank) or first-time district heating connection
8. No modernization measures carried out
9. Other
10. don't know/no answer

Only if at least one measure was carried out in San1 or San1_neu. Show measures specified in San1/San1_neu in matrix and then for each specified modernization measure in San1/San1_neu = 1-7. Show answer option "Top storey ceiling" only if Ist7=1, i.e. "pitched roof".

San1a: For all modernization measures carried out, please state the start date and the approximate investment costs as well as whether and, if so, which subsidy you have claimed for the modernization measure.

	Start of implementation	**Costs of the measure (without funding)**	**Utilization of a subsidy Multiple answers permitted**
Newly applied roof insulation *(Variable name last year: S1a11, S1a12, S1a13_1-5)*	YYYY - don't know/no answer (Do not allow year here and in the following lines before 2000 or do not allow for repeated	- up to € 1,000 - 1.000 - 3.000 € - 3.000 - 5.000 € - 5.000 - 10.000 € - 10.000 - 15.000 € - 15.000 - 20.000 € - 20.000 - 30.000 € - 30.000 - 40.000 €	- Funding from the Federal Office of Economics and Export Control (BAFA) - Promotion by KfW

	participants before 2020)	- 40.000 - 60.000 € - More than € 60,000 - Don't know/no answer	- Miscellaneous - No promotion - don't know/no answer
Newly applied insulation to the top storey ceiling *(Variable name last year: S1a21, S1a22, S1a23_1-5)*	YYYY - Don't know/no answer	- up to € 1,000 - 1.000 - 3.000 € - 3.000 - 5.000 € - 5.000 - 10.000 € - 10.000 - 15.000 € - 15.000 - 20.000 € - 20.000 - 30.000 € - 30.000 - 40.000 € - 40.000 - 60.000 € - More than € 60,000 - Don't know/no answer	- Funding from the Federal Office of Economics and Export Control (BAFA) - Promotion by KfW - Miscellaneous - No promotion - don't know/no answer
Newly applied insulation to the exterior walls	YYYY - Don't know/no answer	- up to € 1,000 - 1.000 - 3.000 € - 3.000 - 5.000 € - 5.000 - 10.000 € - 10.000 - 15.000 € - 15.000 - 20.000 € - 20.000 - 30.000 € - 30.000 - 40.000 € - 40.000 - 60.000 € - More than € 60,000 - Don't know/no answer	- Funding from the Federal Office of Economics and Export Control (BAFA) - Promotion by KfW - Miscellaneous - No promotion - don't know/no answer
Newly applied insulation of the cellar ceiling / floor to the ground	YYYY - Don't know/no answer	- up to € 1,000 - 1.000 - 3.000 € - 3.000 - 5.000 € - 5.000 - 10.000 € - 10.000 - 15.000 € - 15.000 - 20.000 € - 20.000 - 30.000 € - 30.000 - 40.000 € - 40.000 - 60.000 € - More than € 60,000 - Don't know/no answer	- Funding from the Federal Office of Economics and Export Control (BAFA) - Promotion by KfW - Miscellaneous - No promotion - don't know/no answer
Renovation of the windows	YYYY - Don't know/no answer	- up to € 1,000 - 1.000 - 3.000 € - 3.000 - 5.000 € - 5.000 - 10.000 € - 10.000 - 15.000 € - 15.000 - 20.000 € - 20.000 - 30.000 € - 30.000 - 40.000 € - 40.000 - 60.000 € - More than € 60,000 - Don't know/no answer	- Funding from the Federal Office of Economics and Export Control (BAFA) - Promotion by KfW - Miscellaneous - No promotion - don't know/no answer
Optimization of the existing heating system	YYYY - Don't know/no answer	- up to € 1,000 - 1.000 - 3.000 € - 3.000 - 5.000 €	- Funding from the Federal Office of

		- 5.000 - 10.000 € - 10.000 - 15.000 € - 15.000 - 20.000 € - 20.000 - 30.000 € - 30.000 - 40.000 € - 40.000 - 60.000 € - More than € 60,000 - Don't know/no answer	Economics and Export Control (BAFA) - Promotion by KfW - Miscellaneous - No promotion - don't know/no answer
Installation of new appliances for heat generation *(Variable name last year: S1a71, S1a72, S1a73_1-5)*	YYYY - Don't know/no answer	- up to € 1,000 - 1.000 - 3.000 € - 3.000 - 5.000 € - 5.000 - 10.000 € - 10.000 - 15.000 € - 15.000 - 20.000 € - 20.000 - 30.000 € - 30.000 - 40.000 € - 40.000 - 60.000 € - More than € 60,000 - Don't know/no answer	- Funding from the Federal Office of Economics and Export Control (BAFA) - Promotion by KfW - Miscellaneous - No promotion - don't know/no answer

If San1a "Utilization of a subsidy" = "Subsidy from KfW" for at least 1 measure

San1a_1a: You have indicated that you have taken advantage of a KfW subsidy. Were the modernization measures you indicated carried out as a complete refurbishment as part of a KfW Efficiency House refurbishment?

1. Yes, as KfW Efficiency House 55
2. Yes, as KfW Efficiency House 70
3. Yes, as KfW Efficiency House 85
4. Yes, as a KfW Efficiency House 100
5. Yes, as KfW Efficiency House 115
6. No, as an individual measure
7. don't know/no answer

If San1 or San1_neu=5, i.e. renovation of the windows

San1_5a: What year were the windows in your residential building from before the refurbishment?

1. Until 1918
2. 1919 to 1948
3. 1949 to 1957
4. 1958 to 1968
5. 1969 to 1978
6. 1979 to 1983
7. 1984 to 1994
8. 1995 to 2001
9. 2002 to 2004
10. 2005 to 2006
11. 2007 to 2008
12. 2009 to 2013
13. 2014 to 2015
14. 2016 to 2019
15. From 2020
16. don't know/no answer

If San1 or San1_neu=5, i.e. renovation of the windows

San1_5b: What material were the window frames made of before the refurbishment (predominantly) and how were the windows glazed before the refurbishment? Please indicate what applies to the windows in your residential building before the refurbishment.

1. Windows, single glazed
2. Wooden windows with double glazing
3. PVC-U windows with double glazing
4. Aluminum windows with double glazing
5. Windows with triple glazing
6. don't know/no answer

If San1 or San1_neu=6, i.e. renovation of the existing heating system

San1_6a: What measures have you taken to optimize the existing heating system?

MULTIPLE ANSWERS

1. Insulation of heating pipes in accordance with the German Energy Saving Ordinance (EnEV)
2. Insulation of hot water distribution pipes in accordance with the German Energy Saving Ordinance (EnEV)
3. Installation of a high-efficiency pump
4. Carrying out hydraulic balancing
5. Other: Free text field
6. don't know/no answer

If San1 or San1_neu=7, i.e. installation of new appliances for heat generation

San1_7a: Which heat generation appliances were newly installed or replaced in the course of the refurbishment? Please indicate for all applicable appliance types whether they were newly installed (column 1) or replaced (column 2).

	Newly installed	Replaces	Nothing applies	don't know/no answer
Boiler / Therme (central)	☐	☐	☐	☐
Electric heat pump / exhaust air heat pump	☐	☐	☐	☐
Solar thermal system	☐	☐	☐	☐
Gas instantaneous water heater for water heating	☐	☐	☐	☐
Electric instantaneous water heater for water heating	☐	☐	☐	☐
Electric cylinder/small cylinder for water heating	☐	☐	☐	☐
First-time connection to district heating network or local heating network	☐	--	☐	☐

For all devices that have been replaced according to San1_7a. Show only for the selected devices

San1_7a_1a: Approximately what year were your heat generation appliances replaced by the refurbishment?

Devices:

1. Boiler/thermal system (central)
2. Electric heat pump/exhaust air heat pump
3. Solar thermal system
4. Gas instantaneous water heater for water heating
5. Electric instantaneous water heater for water heating
6. Electric cylinder/small cylinder for water heating

Scale:
1. Until 1978
2. 1979 to 1982
3. 1983 to 1986
4. 1987 to 1989
5. 1990 to 1994
6. 1995 to 1999
7. 2000 to 2001
8. 2002 to 2004
9. 2005 to 2006
10. 2007 to 2008
11. 2009 to 2013
12. 2014 to 2015
13. 2016 to 2019
14. From 2020
15. don't know/no answer

If San1_7a= Boiler / Therme (central) and replaced
San1_7a_1b: Which fuel was used to heat your boiler/thermal system before the refurbishment?

1. Natural gas
2. Liquid gas
3. Heating oil
4. Logs/pellets
5. Miscellaneous
6. don't know/no answer

If San1=7, i.e. installation of new appliances for heat generation and San1_7a is not 4, 5 or 6 (excluding pure water heating appliances)
San1_7b: For what purpose were appliances for heat generation newly installed or replaced?

1. For heating only
2. For hot water preparation only
3. For heating and hot water preparation
4. don't know/no answer

For all measures specified in San1 or San1_neu = 1-4 (all insulation measures)
San_1b: This question is about the extent to which the following components of your house were already insulated before your refurbishment. Please indicate the proportion of the insulated area:

	Not at all	Some (about 1/4 of the area)	About half	Predominantly (about 3/4 of the area)	Complete	don't know/no answer
Insulation of the roof	☐	☐	☐	☐	☐	☐
Insulation of the top storey ceiling [Info button: The top storey ceiling refers to the ceiling above the last heated storey. If the attic is heated, this is the ceiling to the attic. If	☐	☐	☐	☐	☐	☐

the attic is unheated, it is the ceiling below the attic].						
Insulation of the exterior walls (incl. cellar wall)	☐	☐	☐	☐	☐	☐
Insulation of the cellar ceiling/floor to the ground (if there is no cellar)	☐	☐	☐	☐	☐	☐

For new recruits

San2: Have you taken advantage of an energy consultation for residential buildings since 2000, which informed you about energy-efficient building renovation?

1. Yes
2. No
3. don't know/no answer

For repeat participants

San2_wdh: Since the *last survey in summer 2021,* have you taken advantage of energy advice for residential buildings that has informed you about energy-efficient building refurbishment?

1. Yes
2. No
3. don't know/no answer

If San2 or San2_wdh = Yes

San_2a: When did you take advantage of the energy consultation? If you have had several consultations, please remember the last one.

1. NUMFELD 2000 - 2022 (or for San2_wdh only 2021 and 2022 permitted)
2. don't know/no answer

For all

San2b: Since *September 2021*, have you taken advantage of an energy consultation that provides you with information *on topics other than building refurbishment*? If yes, please indicate what you received information about in this energy consultation:

Multiple answers allowed

1. Save electricity
2. Heating behavior and ventilation
3. Change of energy supplier
4. Heating bill
5. I have not taken advantage of any other energy advice.
6. don't know/no answer

If San2b=1, 2, 3 or 4 (i. e. taken part in non-reforbishment energy consultations)

San_2b_a: In which month did you take advantage of this energy consultation? If you have had several consultations, please remember the last one.

If 2021	If 2022
1. September 2. october 3. november 4. December 5. don't know/no answer	1. January 2. february 3. March 4. April 5. May 6. June 7. July 8. august 9. September 10. october 11. don't know/no answer

3.2 Planned refurbishments

To all

Only show answer option "Top storey ceiling" if Ist7=1, i.e. "pitched roof".

San3: The following is about a possible planned modernization of your residential building or apartment. Please indicate all modernization measures that you are planning for your residential building up to the year 2030.

MULTIPLE ANSWERS

1. Insulation of the roof
2. Insulation of the top storey ceiling (The top storey ceiling is the ceiling above the last heated storey. If the attic is heated, this is the ceiling to the attic. If the attic is unheated, it is the ceiling below the attic)
3. Insulation of the outer wall (incl. cellar wall)
4. Insulation of the cellar ceiling/floor to the ground (if there is no cellar)
5. Renovation of the windows
6. Optimization of the existing heating system (e.g. hydraulic balancing, installation of high-efficiency pump, also insulation of the heating / hot water pipes)
7. Installation of new appliances for heat generation (e.g. boiler, solar thermal system, heat pump, instantaneous water heater, electric storage tank) or first-time district heating connection
8. Other: TEXTFELD
9. No modernization measures planned
10. don't know/no answer

If San3 is ticked for at least 1 measure (also if Other was specified)

San3a: You have indicated that you are planning at least one measure. Are you planning to carry out this measure as part of a KfW Efficiency House refurbishment?

1. Yes, as KfW Efficiency House 55
2. Yes, as a KfW Efficiency House 70
3. Yes, as KfW Efficiency House 85
4. Yes, as a KfW Efficiency House 100
5. No, as an individual measure
6. don't know/no answer

To all

San4: Please indicate the extent to which you agree with each of the following statements:

Randomize the order of the statements

	(1) Do not agree at all	(2) Do not agree	(3) Neither agree nor disagree	(4) Agree	(5) Totally agree	don't know/no answer
Energy costs in Germany are high.	☐	☐	☐	☐	☐	☐
Heating energy costs for private households will rise in the future.	☐	☐	☐	☐	☐	☐
I find it difficult to get reliable and timely information about my heating energy costs.	☒	☐	☐	☐	☐	☐
The heating infrastructure in my house enables me to control my heating energy consumption effectively.	☐	☐	☐	☐	☐	☐

Owners only (A2=2)

San5: Please indicate in each case to what extent the following obstacles prevent you from carrying out energy-efficient renovation measures:

Randomize the order of the statements

	(1) Do not agree at all	(2) Do not agree	(3) Neither agree nor disagree	(4) Agree	(5) Totally agree	don't know/no answer
Uncertainty about the level of state subsidy programs.	☐	☒	☐	☐	☐	☐
A lack of reliable information.	☐	☐	☐	☐	☐	☐
The difficulty of finding a suitable craft business (shortage of skilled workers).	☐	☐	☐	☐	☐	☐
Rising prices in the construction industry.	☐	☐	☐	☐	☐	☐
Uncertainty about the price development of various energy sources.						

4. Module 2: Obstacles and assessment of modernizations

Owners only (A2 = 2)

Now we would like your estimate of the annual savings in heating energy costs for various energy modernization measures.

Effizienz_belief1: How much would you save per year in heating energy costs if you were to implement the following measures in accordance with current energy standards? Please estimate.

Show participants 3 modernization measures at random

Only show answer option "Top storey ceiling" if Ist7=1, i.e. "pitched roof".

	Annual heating cost savings
Insulation of the roof	1. No savings (already implemented) 2. 0 to under 15 euros 3. 15 to under 25 euros 4. 25 to under 50 euros 5. 50 to under 75 euros 6. 75 to under 100 euros 7. 100 to under 150 euros 8. 150 to under 200 euros 9. 200 to under 250 euros 10. 250 to under 300 euros 11. 300 to under 400 euros 12. 400 to under 500 euros 13. 500 to under 600 euros 14. 600 to under 1000 euros 15. 1000 to under 1500 euros 16. 1500 to under 2000 euros 17. 2000 to under 3000 euros 18. More than 3000 euros 19. don't know/no answer
Insulation of the top storey ceiling [Info button: The top storey ceiling refers to the ceiling above the last heated storey. If the attic is heated, this is the ceiling to the attic. If the attic is unheated, it is the ceiling below the attic].	1. No savings (already implemented) 2. 0 to under 15 euros 3. 15 to under 25 euros

	4. 25 to under 50 euros 5. 50 to under 75 euros 6. 75 to under 100 euros 7. 100 to under 150 euros 8. 150 to under 200 euros 9. 200 to under 250 euros 10. 250 to under 300 euros 11. 300 to under 400 euros 12. 400 to under 500 euros 13. 500 to under 600 euros 14. 600 to under 1000 euros 15. 1000 to under 1500 euros 16. 1500 to under 2000 euros 17. 2000 to under 3000 euros 18. More than 3000 euros 19. don't know/no answer
Insulation of the outer wall (incl. cellar wall)	1. No savings (already implemented) 2. 0 to under 15 euros 3. 15 to under 25 euros 4. 25 to under 50 euros 5. 50 to under 75 euros 6. 75 to under 100 euros 7. 100 to under 150 euros 8. 150 to under 200 euros 9. 200 to under 250 euros 10. 250 to under 300 euros 11. 300 to under 400 euros 12. 400 to under 500 euros 13. 500 to under 600 euros

	14. 600 to under 1000 euros 15. 1000 to under 1500 euros 16. 1500 to under 2000 euros 17. 2000 to under 3000 euros 18. More than 3000 euros 19. don't know/no answer
Insulation of the cellar ceiling/floor to the ground (if there is no cellar)	1. No savings (already implemented) 2. 0 to under 15 euros 3. 15 to under 25 euros 4. 25 to under 50 euros 5. 50 to under 75 euros 6. 75 to under 100 euros 7. 100 to under 150 euros 8. 150 to under 200 euros 9. 200 to under 250 euros 10. 250 to under 300 euros 11. 300 to under 400 euros 12. 400 to under 500 euros 13. 500 to under 600 euros 14. 600 to under 1000 euros 15. 1000 to under 1500 euros 16. 1500 to under 2000 euros 17. 2000 to under 3000 euros 18. More than 3000 euros 19. don't know/no answer
Renovation of the windows	1. No savings (already implemented) 2. 0 to under 15 euros 3. 15 to under 25 euros

	4. 25 to under 50 euros 5. 50 to under 75 euros 6. 75 to under 100 euros 7. 100 to under 150 euros 8. 150 to under 200 euros 9. 200 to under 250 euros 10. 250 to under 300 euros 11. 300 to under 400 euros 12. 400 to under 500 euros 13. 500 to under 600 euros 14. 600 to under 1000 euros 15. 1000 to under 1500 euros 16. 1500 to under 2000 euros 17. 2000 to under 3000 euros 18. More than 3000 euros 19. don't know/no answer
Optimization of the existing heating system (hydraulic balancing [Info button: Hydraulic balancing ensures even heat distribution. Essentially, hydronic balancing involves calculating the required heating output and making the appropriate settings on the radiators]**, installing a high-efficiency pump** [Info button: A heating pump is a central element in the heating system. It ensures that the heating water flows into the radiators. A high-efficiency pump delivers the heating water as required and reduces electricity consumption]**, also insulation of the heating/hot water pipes).**	1. No savings (already implemented) 2. 0 to under 15 euros 3. 15 to under 25 euros 4. 25 to under 50 euros 5. 50 to under 75 euros 6. 75 to under 100 euros 7. 100 to under 150 euros 8. 150 to under 200 euros 9. 200 to under 250 euros 10. 250 to under 300 euros 11. 300 to under 400 euros 12. 400 to under 500 euros 13. 500 to under 600 euros

	14. 600 to under 1000 euros 15. 1000 to under 1500 euros 16. 1500 to under 2000 euros 17. 2000 to under 3000 euros 18. More than 3000 euros 19. don't know/no answer
Installation of a new boiler (change from heating oil to gas)	1. No savings (already implemented) 2. 0 to under 15 euros 3. 15 to under 25 euros 4. 25 to under 50 euros 5. 50 to under 75 euros 6. 75 to under 100 euros 7. 100 to under 150 euros 8. 150 to under 200 euros 9. 200 to under 250 euros 10. 250 to under 300 euros 11. 300 to under 400 euros 12. 400 to under 500 euros 13. 500 to under 600 euros 14. 600 to under 1000 euros 15. 1000 to under 1500 euros 16. 1500 to under 2000 euros 17. 2000 to under 3000 euros 18. More than 3000 euros 19. don't know/no answer
Installation of a heat pump [Info button: A heat pump is a heating system that uses the thermal energy stored in the environment to heat buildings. Unlike wood, oil or gas heating systems, however, this is not achieved by combustion, but through a complicated technical process. As in a refrigerator, it is important to raise thermal energy to a higher level at low temperatures].	1. No savings (already implemented) 2. 0 to under 15 euros 3. 15 to under 25 euros

	4. 25 to under 50 euros 5. 50 to under 75 euros 6. 75 to under 100 euros 7. 100 to under 150 euros 8. 150 to under 200 euros 9. 200 to under 250 euros 10. 250 to under 300 euros 11. 300 to under 400 euros 12. 400 to under 500 euros 13. 500 to under 600 euros 14. 600 to under 1000 euros 15. 1000 to under 1500 euros 16. 1500 to under 2000 euros 17. 2000 to under 3000 euros 18. More than 3000 euros 19. don't know/no answer
Installation of a solar thermal system [Info button: A solar thermal system is a solar thermal system that can be used for water heating and/or central heating backup].	1. No savings (already implemented) 2. 0 to under 15 euros 3. 15 to under 25 euros 4. 25 to under 50 euros 5. 50 to under 75 euros 6. 75 to under 100 euros 7. 100 to under 150 euros 8. 150 to under 200 euros 9. 200 to under 250 euros 10. 250 to under 300 euros 11. 300 to under 400 euros 12. 400 to under 500 euros 13. 500 to under 600 euros

	14. 600 to under 1000 euros 15. 1000 to under 1500 euros 16. 1500 to under 2000 euros 17. 2000 to under 3000 euros 18. More than 3000 euros 19. don't know/no answer
Installation of an instantaneous water heater / electric storage tank for hot water generation	1. No savings (already implemented) 2. 0 to under 15 euros 3. 15 to under 25 euros 4. 25 to under 50 euros 5. 50 to under 75 euros 6. 75 to under 100 euros 7. 100 to under 150 euros 8. 150 to under 200 euros 9. 200 to under 250 euros 10. 250 to under 300 euros 11. 300 to under 400 euros 12. 400 to under 500 euros 13. 500 to under 600 euros 14. 600 to under 1000 euros 15. 1000 to under 1500 euros 16. 1500 to under 2000 euros 17. 2000 to under 3000 euros 18. More than 3000 euros 19. don't know/no answer
Connection to district heating	1. No savings (already implemented) 2. 0 to under 15 euros 3. 15 to under 25 euros

	4. 25 to under 50 euros 5. 50 to under 75 euros 6. 75 to under 100 euros 7. 100 to under 150 euros 8. 150 to under 200 euros 9. 200 to under 250 euros 10. 250 to under 300 euros 11. 300 to under 400 euros 12. 400 to under 500 euros 13. 500 to under 600 euros 14. 600 to under 1000 euros 15. 1000 to under 1500 euros 16. 1500 to under 2000 euros 17. 2000 to under 3000 euros 18. More than 3000 euros 19. don't know/no answer

Randomly select one modernization measure per respondent from the previous 3 that has not already been carried out (if don't know no answer is specified, this may also be included in the selection). If a respondent has already carried out all three modernization measures, he/she skips the questions up to and including Effizienz_belief4a.

Effizienz_belief2: Please indicate how easy or difficult it would be for you to carry out the following modernization measure *in terms of financial costs*.

	Extremely simple	Very simple	Rather simple	Neither easy nor difficult	Rather difficult	Very difficult	Extremely difficult	don't know/no answer
Modernization selected at random from 3 modernizations mentioned above:								

Effizienz_belief3: Please indicate how easy or difficult it would be for you to carry out the following modernization measures with regard to the *non-financial aspects*. Non-financial aspects are, for example, physical effort, organizational and time expenditure or inconvenience during implementation (e.g. construction noise, dirt).

	Extremely simple	Very simple	Rather simple	Neither easy nor difficult	Rather difficult	Very difficult	Extremely difficult	don't know/no answer
Modernization selected at random from 3 modernizations mentioned above:								

For the same randomly selected modernization measure from the 3 shown above as in Effizienz_belief2 and Effizienz_belief3

Effizienz_belief4: How important are the following obstacles to the implementation of "above modernization measure"? Please arrange the obstacles so that the biggest obstacle for you is at the top and the smallest obstacle at the bottom.

1. Financial costs
2. Structural risks
3. Organizational and time expenditure
4. Inconvenience during implementation (e.g. construction noise, dirt)
5. Physical exertion
6. don't know/no answer

For the same randomly selected modernization measure from the 3 shown above as in Effizienz_belief2 and Effizienz_belief3

Effizienz_belief4a: Are there any other important obstacles to the implementation of "above modernization measure?" If yes, please name them:

1. TEXT FIELD
2. No further obstacles
3. don't know/no answer

5. Rent, heating energy and ancillary costs

For all

Tenant module

Now it's about your costs for rent and heating, your assessment of whether and how heating costs will change, what this means for you financially, and the impact of the Ukraine crisis on the energy supply.

If A2=1, i.e. tenant
M1: How much is your current rent per month? (Note: *Please enter the basic rent or the warm rent for your entire household, depending on which amount you know best).*

1. Free text field (amount in Euro) [limits 0 to 9999]
2. don't know/no answer

If rent specified, i.e. M1 = 1

M1a: Are the heating costs included in the rent just mentioned?

1. Yes
2. No
3. don't know/no answer

If A2=1, i.e. tenant
Ist18: Now let's talk about your heating and hot water costs. How much is your monthly advance payment for heating and hot water? This amount is stated in your rental agreement, your service charge statement or the heating bill, for example. If you do not know exactly, please make an estimate. Please enter a full euro amount.

1. NUMFELD Euro 0-9999
2. don't know/no answer

If Ist18 = **1 (amount specified in Ist18)**
Ist18_1a:
Have you consulted your rental agreement, your utility or heating bill?

1. Yes
2. No
3. don't know/no answer

If Ist18_1a = 2, No (i. e. rental agreement not consulted)
Is18_1b:
How confident are you in your estimate of your progress payment?

(1) Very uncertain	(2) Uncertain	(3) Neither certain nor uncertain	(4) Safe	(5) Very safe	don't know/no answer
☐	☐	☐	☐	☐	☐

If A2 = 1, i.e. tenant

Ist18_1c: How are heating costs divided between tenants and landlords (as a percentage)?

1. I pay and bear all of my own heating costs (100% tenant, 0% landlord)
2. I pay a share of my own heating costs based on consumption and the other share divided according to a scale (e.g. living space, number of rental units, etc.) in a shared house (100% tenant, 0% landlord)
3. The landlord pays and bears the heating costs in full (0% tenant, 100% landlord)
4. Other allocation, in which I or the house community bear the heating costs proportionately with __ % (remaining share borne by landlord)
5. Don't know/ no answer

If rent specified, i.e. M1 = 1

M1b: Are the electricity costs included in the rent just mentioned?

1. Yes
2. No
3. don't know/no answer

If A2 = 1, i.e. tenant

M1b_1: What are the average electricity costs per month? *(Note:* If you do not know the exact amount, please state the electricity flat rate or make an estimate*)*.

1. Free text field (amount in Euro) [0 to 9999]
2. don't know/no answer

If rent specified, i.e. M1 = 1

M1c: Are the additional costs for water, garbage collection, etc., i.e. all other charges not yet mentioned, included in the rent just mentioned?

1. Yes
2. No
3. don't know/no answer

If A2 = 1, i.e. tenant

M1c_1: How high are the average service charges for water, garbage collection, etc., i.e. all other charges not yet mentioned in the rent just mentioned per month? *(Note:* If you do not know the exact amount, please state the flat-rate service charge or make an estimate*)*.

1. Free text field (amount in Euro) [0 to 9999]
2. don't know/no answer

If A2 = 1, i.e. tenant

M1_d: What type of rental agreement is currently in place?

1. Open-ended rental agreement
2. Index-linked rent [Info button: The index-linked rent is a variable rent. The rent is not permanently set at a fixed value, but is linked to a price index based on a base rent according to parameters that can be understood by both contracting parties].
3. Graduated rent [Info button: Graduated rent is a form of rent in which the extent to which the rent will increase at certain times is determined in advance]. (not yet expired)
4. Fixed-term rental agreement

5. Other
6. don't know/no answer

If A2 = 1, i.e. tenant

M1_e: Can you estimate to what extent the rent corresponds to the local comparative rent? The current rent is...

1. More than 20 % below the comparative rent
2. More than 10 %, but less than 20 % below the comparative rent
3. Approximately at the level of the comparative rent
4. More than 10 %, but less than 20 % above the comparative rent
5. More than 20 % above the comparative rent
6. don't know/no answer

If A2=1, i.e. tenant

miete_neu: Has your rent changed in *the last three years*?

1. Yes, increased
2. No, stayed the same
3. Yes, decreased
4. don't know/no answer

If A2=1, i.e. tenant

Ist18_a: Does the statement (e.g. operating costs / ancillary costs statement or heating costs statement) that informs you about your heating costs also include the costs for hot water?

1. Yes, joint billing
2. No, separate billing
3. don't know/no answer

If A2=1, i.e. tenant

If Ist18_a = 2, i.e. separate billing, replace "Heating and hot water costs" with "Heating costs"

i181c: How often do you normally receive the statement (e.g. operating costs / ancillary costs statement or heating costs statement) informing you about your heating and hot water costs?

1. Annually
2. Half-yearly
3. Quarterly
4. Every two months
5. Monthly
6. don't know/no answer

If i181c =1, i.e. annually

If Ist18_a = 2, i.e. separate billing, replace "Heating and hot water costs" with "Heating costs"

Ist18_1d: In which month of the year do you normally receive your annual statement informing you about your heating and hot water costs?

1. January
2. February

3. March
4. April
5. May
6. June
7. July
8. August
9. September
10. October
11. November
12. December
13. don't know/no answer

All tenants (A2 = 1)

If Ist18_a = 2, i.e. separate billing, replace "Heating and hot water costs" with "Heating costs"
Ist18_1e: When did you receive your last statement informing you about your heating and hot water costs? In which month in 2021/2022 was that?

First select year, then month.

Year	
☐ 2021	☐ 2022

Once the year has been selected, the following options are displayed:

If 2021	If 2022
1. January 2. February 3. March 4. April 5. May 6. June 7. July 8. August 9. September 10. October 11. November 12. December 13. don't know/no answer	1. January 2. February 3. March 4. April 5. May 6. June 7. July 8. august 9. September 10. October 11. don't know/no answer

Owner
If A2=2, i.e. ownership
Now it's all about your heating costs, your assessment of whether and how heating costs will change, what this means for you financially, and the impact of the Ukraine crisis on energy supply.

Ist19: First of all, it's about your heating and hot water costs. What are your annual heating and hot water costs? This amount is stated on your bill, for example. If you do not know exactly, please estimate. Please enter a full euro amount.

1. NUMBER FIELD Euro 0- 99999
2. don't know/no answer

If Ist19 = 1 (i. e. heating and water costs specified)
Ist19_1a:
Have you used your invoice to help you?

1. Yes
2. No
3. don't know/no answer

If Ist19_1a = 2, No (i.e. invoice not used for specifying costs)
Ist19_1b:
How confident are you in your estimate of your heating and hot water costs?

(1) Very uncertain	(2) Uncertain	(3) Neither certain nor uncertain	(4) Safe	(5) Very safe	don't know/no answer
☐	☐	☐	☐	☐	☐

If A2=2, i.e. ownership

Ist19_a: Does the bill that informs you about your heating costs also include the costs for hot water?

1. Yes, joint billing
2. No, separate billing
3. don't know/no answer

If A2=2, i.e. ownership
If Ist19_a = 2, i.e. separate billing, replace "Heating and hot water costs" with "Heating costs"

Ist19_1c: How often do you normally receive the bill that informs you about your heating and hot water costs?

1. Annually
2. Half-yearly
3. Quarterly
4. Every two months
5. Monthly
6. don't know/no answer

If Ist19_1c =1, i.e. annually
If Ist19_a = 2, i.e. separate billing, replace "Heating and hot water costs" with "Heating costs"
Ist19_1d: In which month of the year do you normally receive the annual bill informing you about your heating and hot water costs?

1. January
2. february
3. March
4. April
5. May
6. June
7. July
8. august
9. September
10. october
11. november
12. December
14. don't know/no answer

All owner-occupiers (A2=2)

If Ist19_a = 2, i.e. separate billing, replace "Heating and hot water costs" with "Heating costs"
Ist19_1e: When did you receive your last bill informing you about your heating and hot water costs?

First select year, then month.

Year	
☐ 2021	☐ 2022

After selecting the year, the following options are displayed: **In which month in 2021/2022 was this?**

If 2021	**If 2022**
1. January 2. February 3. March 4. April 5. May 6. June 7. July 8. august 9. September 10. October 11. November 12. December 13. don't know/no answer	1. January 2. February 3. March 4. April 5. May 6. June 7. July 8. August 9. September 10. October 11. don't know/no answer

5.1 Heating energy costs in the future

If A2=1, i.e. tenant
If Ist18_a = 2, i.e. separate billing, write "Heating cost billing" instead of "Cost billing for heating and hot water"
Kosten_next_1a: Please think about your next heating and hot water bill: How do you think the costs will develop compared to the last bill? Please assume that consumption will remain unchanged.

Please complete:

My costs for heating and hot water on the *next* bill...

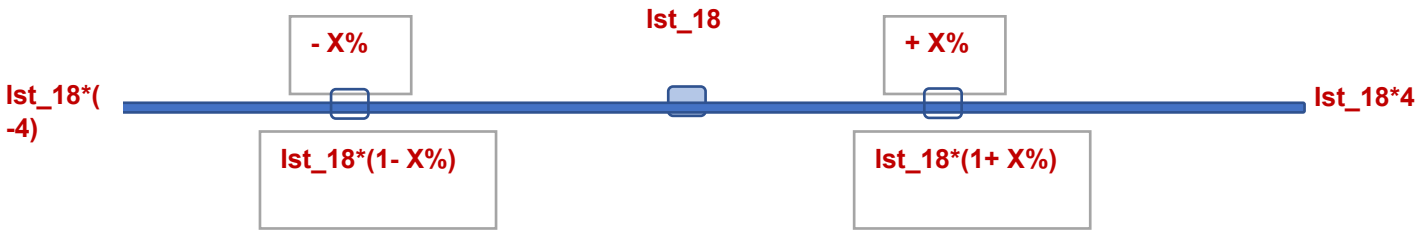
1. Decrease sharply
2. Tend to decrease
3. Remain roughly the same
4. Tend to increase
5. Increasing strongly
6. don't know/no answer

If Kosten_next_1a=1-5 and Ist_18 (heating costs) is not "don't know"
If Ist18_a = 2, i.e. separate billing, replace "Heating and hot water costs" with "Heating costs" and "Costs for heating and hot water" also "Heating costs"
Kosten_next_1b: You have indicated that your monthly costs for heating and hot water amount to Ist_18 euros.

By what percentage do you estimate that your monthly heating and hot water costs will change on the *next* cost statement? Please assume that your consumption remains unchanged.

Info: Move the slider to indicate the percentage or euro amount by which your monthly heating and hot water costs are likely to change.

For fine adjustment, we recommend using the arrow keys on the keyboard.



If A2=2, i.e. ownership:
If Ist19_a = 2, i.e. separate billing, replace "Bill for heating and hot water" with "Heating cost bill"
Kosten_next_1c: Please think about your next bill for heating and hot water: How do you think the costs will develop compared to the last bill? Please assume that consumption will remain unchanged.

Please complete:

My costs for heating and hot water on the *next* bill will...

1. Decrease sharply
2. Tend to decrease
3. Remain roughly the same

4. Tend to increase
5. Increasing strongly
6. don't know/no answer

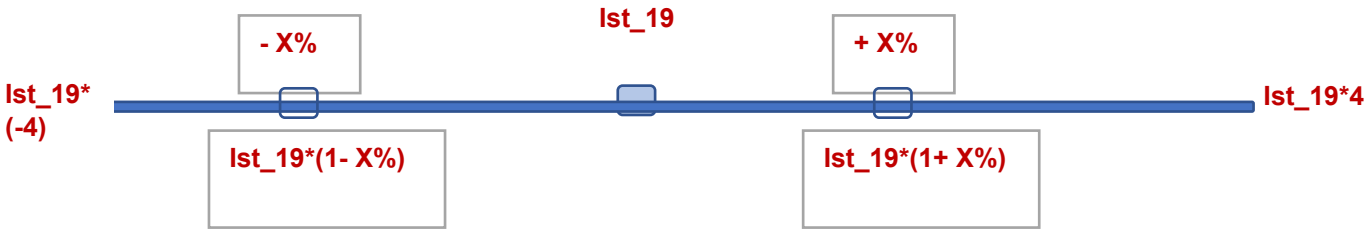
If Kosten_next_1c=1-5 (i.e. answered heating cost expectation) and Ist_19 (heating costs) is not "don't know"

If Ist19_a = 2, i.e. separate billing, replace "Heating and hot water costs" with "Heating costs"
Kosten_next_1d: You have indicated that your annual costs for heating and hot water amount to Ist_19 euros.

By what percentage do you estimate that your annual heating and hot water costs will change on your *next* bill? Please assume that your consumption remains unchanged.

Info: Move the slider to indicate the percentage or euro amount by which your annual heating and hot water costs are likely to change.

For fine adjustment, we recommend using the arrow keys on the keyboard.



If Ist12 = 4, i.e. heating by apartment (tenant and owner)

Energy_supply_0: Which fuel do you (mainly) use for heating?

1. Natural gas, i.e. gas floor heating
2. Liquid gas
3. Heating oil
4. Logs / pellets
5. Electricity
6. Miscellaneous
7. don't know/no answer

For heating with heating oil (tenants and owners):

If Ist12_1a = 3 or Ist12_5a == 1 or Energy_supply_0 = 3

Now it's all about your heating energy supply.

Energy_supply_oil_1a: How often do you usually buy more heating oil?

1. Every two years
2. Annually
3. Half-yearly

4. Quarterly
5. Every two months
6. Monthly
7. Irregular, e.g. depending on price trends
8. I do not decide on the purchase of heating oil myself, but someone else does (e.g. property management)
9. don't know/no answer

If Energy_supply_oil_1a = 1-7 or 9, not 8.(i. e.decides themselves or don't know/no answer)

Energy_supply_oil_1b: When was the last time you bought more heating oil?

First select year, then month.

	Year				
☐ Longer ago, i.e. before 2019	☐ 2019	☐ 2020	☐ 2021	☐ 2022	don't know/no answer

Energy_supply_oil_1b2: In which month in 2021/2022 did you last buy heating oil?

After selecting the year and if 2021 or 2022, expand the following options:

If 2021	**If 2022**
1. January 2. February 3. March 4. April 5. May 6. June 7. July 8. August 9. September 10. October 11. November 12. December 13. don't know/no answer	1. January 2. February 3. March 4. April 5. May 6. June 7. July 8. August 9. September ~~10.~~ October 11. don't know/no answer

Again for everyone in the heating oil group
(Tenant and owner, if lst12_1a = 3 or lst12_5a = 1 or Energy_supply_0 = 3 and Energy_supply_oil_1a = 1-7 or 9, i.e. Heating with oil via boiler or single oven with oil or residential heating with oil and deciding themselves when to buy oil).
Energy_supply_oil_1c: Have you changed the period of purchase and/or the amount of heating oil purchased since summer 2021?

1. Yes
2. No
3. Don't know/no answer

If Energy_supply _oil_1c = 1 (i.e. amount changed since 2021

Energy_supply_oil_2: Why did you change your heating oil delivery date and/or your purchase quantity?

Multiple answers

1. Expectation of fluctuating oil prices in the future
2. Environmental reasons
3. Due to the Ukraine-Russia conflict
4. Change in heating requirements at home
5. Other: FREE TEXT FIELD
6. don't know/no answer

Gas customers only

If Ist12_1a = 1, i.e. central gas heating, and Ist3 (number of residential units) > 1 (tenant and owner)

Energy_supply_gas_0a: Who concludes the contracts with the gas supplier for your house/apartment?

1. I myself
2. Someone else, in fact:
    a. Real estate company
    b. Public sector
    c. Housing cooperative
    d. Property management / owner company
    e. Private landlords
    3. Other
4. don't know/no answer

If Energy_supply_gas_0a = 2a-2e or 3, i.e. not 1 and not 4 (i.e. someone else or other conclude Gas contracts)

Energy_supply_gas_0: Have you received a notification from your property management company or landlord about a change in the cost of your gas supply since summer 2021?

1. Yes
2. No
3. don't know/no answer

If Energy_supply_gas_0 = 1 (i.e. change of gas costs)

Energy_supply_gas_02a: When were you informed about the changes? If you have received several notifications, please remember the last one.

1. September 2021
2. October 2021
3. November 2021
4. December 2021
5. January 2022
6. February 2022
7. March 2022
8. April 2022
9. May 2022
10. June 2022
11. July 2022
12. August 2022
13. September 2022
14. October 2022
15. don't know/no answer

Now restrict the sample to those who decide on their gas contract/supplier (tenants and owners).

Therefore Ist3 = 1 (1 residential unit) and Ist12_1a = 1 (i.e. central natural gas heating)

Or Energy_supply_gas_0a = 1 (decides on the Energy supply for larger houses with gas central heating)

Or Energy_supply_0 = 1 (gas floor heating)

or lst12_5a == 4 (gas room appliances)

Energy_supply_gas_01: Have you received a letter or email from your gas supplier *since summer 2021* with information about changes to your gas contract (e.g. price adjustment or termination)?

1. Yes
2. No
3. don't know/no answer

If Energy_supply_gas01 = 1 (i.e. gas contract changed)

Energy_supply_gas_02b: When were you informed about the changes? If you have received several notifications, please remember the last one.

1. September 2021
2. October 2021
3. November 2021
4. December 2021
5. January 2022
6. February 2022
7. March 2022
8. April 2022
9. May 2022
10. June 2022
11. July 2022
12. August 2022
13. September 2022
14. October 2022
15. don't know/no answer

If Energy_supply _gas_01 = 1 (gas contract changed) or if Energy_supply_gas_0 = 1 (also ask people who cannot decide, i.e. all people who have received information about changes to the contract)

Energy_supply_gas_1a: What changes have been made to your gas supply contract?

Multiple answers possible

1. Price increase
2. Price reduction
3. Termination
4. Miscellaneous
5. don't know/no answer

If (Energy_supply_gas_0=1 or Energy_supply_gas_01=1) and Energy_supply_gas_1a = 1 or 2, i.e. price change

Energy_supply_gas_99a: According to the notification, how high were your annual costs or monthly payments on account for heating and hot water *before the change in prices* ? Please enter a full euro amount.

Note: You can specify either the annual costs or the monthly installment payments.

1. NUMBER FIELD (0- 99999) Euro per year
2. NUMFELD (0-9999) Euro monthly

3. don't know/no answer

If (Energy_supply_gas_0=1 or Energy_supply_gas_01=1), and Energy_supply_gas_1a = 1 or 2, i.e. price change of gas

Energy_supply_gas_99b: According to the notification, how high are your new annual costs or monthly payments on account for heating and hot water *since the change in prices* ? Please enter a full euro amount.

Note: You can specify either the annual costs or the monthly installment payments.

1. NUMBER FIELD (0- 99999) Euro per year
2. NUMFELD (0-9999) Euro monthly
3. No change in costs
4. don't know/no answer

If (Energy_supply_gas_0=1 or Energy_supply_gas_01=1) and Energy_supply_gas_1a = 1 or 2, i.e. price change of gas

Energy_supply_gas_99c: What heating Energy consumption (in kilowatt hours (kWh)) is the cost forecast in the notification based on?

1. NUMBER FIELD (0- 99999) kWh
2. don't know/no answer

If Ist19 = 2 (don't know Heating and Water costs) and (Energy_supply_gas_01 = 2, 3 (not yes) or Energy_supply_gas_1a >2), i.e. other or termination or don't know/no answer as content of gas information)

Energy_supply_gas_99d: How much are your monthly payments on account for heating and hot water? This amount is stated on your bill, for example. If you do not know exactly, please estimate. Please enter a full euro amount.

1. NUMBER FIELD (0-9999) Euro
2. don't know/no answer

From here on, only people who can decide on gas supply, i.e. everyone who is also asked the question Energy_supply_gas_01 (filter applies until "sparen_info")

Energy_supply_gas_2b: How often do you look for alternative offers from your or other gas suppliers?

1. Frequently
2. Sometimes
3. Rare
4. Never
5. don't know/no answer

If Energy_supply_gas_2b = 1, 2, 3, 5, i.e. not 4 (i.e. more often than never look at alternative gas suppliers).
Energy_supply_gas_2b1: Have you looked into alternative offers from your or other gas suppliers since summer 2021?

1. Yes
2. No
3. don't know/no answer

Energy_supply_gas_2c: Apart from changes due to moving house, did you ever voluntarily switch gas supplier or change tariff with the same supplier *before summer 2021*?

Multiple answers possible

1. Yes, changed gas supplier
2. Yes, new tariff with previous provider
3. No
4. don't know/no answer

Energy_supply_gas_2a1: Which gas supplier / gas supplier do you currently have? Is your gas supplier the basic supplier or another supplier? Please also state the name of your gas supplier if you know it.

[Info button: The so-called basic supplier is always the company that supplies the most customers in a particular grid area. Often, but not always, this is the local municipal utility. If you are not sure whether your gas supplier is the basic supplier, take a look at your contract documents. Energy suppliers are obliged to state in the contract documents whether the supply is part of the basic supply or outside the basic supply].

1. Basic supplier: FREITEXTFELD (Can also be clicked without entering the name of the supplier)
2. Other provider: FREITEXTFELD (Can also be clicked without specifying the name of the supplier)
3. don't know/no answer

Energy_supply_gas_2a2: Apart from changes due to moving house, have **you ever voluntarily switched gas supplier or changed tariff with the same supplier *since summer 2021***?

Multiple answers possible

1. Yes, changed gas supplier
2. Yes, new tariff with previous provider
3. No
4. don't know/no answer

If Energy_supply_gas_2a2 = 1, i.e. gas supplier changed

Energy_supply_gas_2c3: Why did you switch providers?

Multiple answers

1. Favorable price
2. Eco tariffs
3. To benefit from a bonus
4. Due to the Ukraine-Russia conflict
5. More reliable supplier
6. Other: FREITEXTFELD
7. don't know/no answer

If Energy_supply_gas_2a2 = 2, i.e. new gas tariff

Energy_supply_gas_2c4: Why did you change your gas tariff?

Multiple answers

1. Favorable price
2. Eco tariffs
3. Due to the Ukraine-Russia conflict
4. Other: FREITEXTFELD
5. don't know/no *answer*

From here again all

sparen_info: We are now interested in your assessment of short-term opportunities to save heating energy. How informed do you think you are about the possibilities of saving heating energy in your household in the short term?

1. Not informed at all
2. Rather not informed
3. Neither
4. Rather informed
5. Very well informed
6. don't know/no answer

Sparen_belief1: In your opinion, what are the three most effective measures you can take to save on heating costs? Please rank the measures in order of effectiveness and start with the most effective measure in your opinion.

1. FREITEXTFELD
2. FREITEXTFELD
3. FREITEXTFELD
4. don't know/no answer

Sparen_belief2: The German government is currently running a campaign to save energy in Germany entitled "80 million together for energy change". Among other things, information on saving energy is displayed on screens in city centers, on news sites on the Internet and in social networks.

Have you noticed any information from this campaign?

1. Yes
2. No
3. don't know/no answer

sparen_belief3: The German government has decided to introduce a gas levy from October. Have you already heard about the gas levy and if so, do you know how high it is?

Note: Up to two decimal places are permitted.

1. Yes, the gas levy is NUMFELD (0-100, also decimal numbers up to two decimal places) Cent/kWh
2. Yes, heard of it, but don't know the value
3. No, never heard of it
4. Don't know/no answer

We would now like to know how much an increase in energy costs would affect you financially.

Randomize percentage increase. Monthly costs if rental, annual costs if ownership

Please assume that your heating costs would increase by [10%, 50%, 100%, 200%, 300%] in the coming heating period. Your monthly/annual energy costs would then increase from [lst18 (if renting) / lst19 (if owning)] to [lst18/lst19 * INCREASE FACTOR] euros.

Ist20: How easy or difficult would it be for you to bear such an additional financial burden?

1. Very light
2. Quite light
3. Neither light nor heavy
4. Quite heavy
5. Very heavy
6. Impossible (i.e. not in a position to pay these costs)
7. don't know/no answer

Kosten_reaktion_sparen: Are you currently saving more money to protect yourself from a future financial burden?

1. Yes
2. No, but intend to save more
3. No, and I don't intend to, although that would be possible for me or my household
4. No, this is not possible for me or my household (e.g. because I don't have the financial means)
5. don't know/no answer

Kosten_reaktion_1a: What type of thermostat do you mainly use to regulate your heating temperature?

Info: Please select a thermostat, even if you control it via a smartphone app.

1. **analog room thermostat** Info: Room thermostats are usually mounted on the wall. In most cases, only the desired temperature can be set using the rotary dial. Some also have a display to show the temperature. Some also have an on/off switch or an analog timer.  	☐
2. **digital room thermostat** Info: Digital room thermostats are usually mounted on the wall. They are programmable and regulate the room temperature independently.	☐

They are programmed according to the time or day of the week and heat particularly economically, as the heating times can be adapted to individual requirements.  	
3. **manual** radiator **thermostat** Info: Manual radiator thermostats are attached to the radiator. With a manual thermostat, the room temperature can be regulated by turning it by hand. The number scale on the thermostat head, which usually has five to seven levels, is important here. 	☐
4. **digital radiator thermostat** Info: Digital or electronic thermostats are attached to the radiator. They are programmable and regulate the room temperature independently. They are programmed according to the time and heat particularly economically, as the heating times can be adapted to individual requirements.	☐

	
5 I use other appliances (e.g. the boiler in the cellar or in another room) to regulate the temperature.	☐
6 I can't regulate the temperature in my apartment.	☐
7. don't know/no answer	☐

If Kosten_reaktion_1a = 2 or 4 (i.e. digital thermostat)

Kosten_reaktion_1a1: Have you programmed your digital thermostat to change the temperature automatically throughout the day or by day of the week?

1. Yes
2. No
3. don't know/no answer

All

Kosten_reaktion_raum: Which rooms do you normally heat during the heating period (period from October to April of the following year)?

Several answers are possible and permitted

1. Bedroom
2. Living room
3. Dining room
4. Kitchen
5. Bathroom
6. Other rooms, e.g. study
7. don't know/no answer

If Kosten_reaktion_1a = 1-4 (usage of thermostat)

Question Kosten_reaktion_raum1: And which of the heated rooms are controlled by this thermostat?

Show image of Thermostat from Kosten_reaktion_1a

1. All rooms from Kosten_reaktion_raum

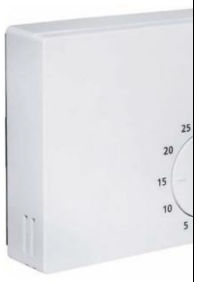
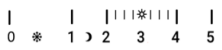
2. Don't know/no answer

If Kosten_reaktion_1a = 1-4 (usage of thermostat)

One line for each room specified in Kosten_reaktion_raum

Kosten_reaktion_raum1a: What heating or room temperature did you set your thermostat to in the respective rooms *during the day* during the last heating period (from October 2021 to April 2022)?

Note: Please enter a 0 if you do not heat the room at all.

Room	If 1. analog room thermostat	If 2nd digital room thermostat	Case 3: Manual radiator thermostat	If 4. smart radiator thermostat	don't know /no answer
					
	NUMFELD Degrees Celsius [0-100]	NUMFELD Degrees Celsius [0-100]	Slider 0-5 with the following steps: NUMFELD [0-5] 	NUMFELD Degrees Celsius [0-100]	

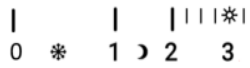
If Kosten_reaktion_1a = 1-4 (usage of thermostat)

One line for each room specified in Kosten_reaktion_raum

Kosten_reaktion_raum1b: What heating or room temperature did you set your thermostat to in the respective rooms *at night* during the last heating period (from October 2021 to April 2022)?

Note: Please enter a 0 if you do not heat the room at all.

Room	If 1. analog room thermostat	If 2nd digital room thermostat	Case 3: Manual radiator thermostat	If 4. smart radiator thermostat	don't know /no answer

					
	NUMFELD Degrees Celsius [0-100]	NUMFELD Degrees Celsius [0-100]	Slider 0-5 with the following steps: NUMFELD [0-5] 	NUMFELD Degrees Celsius [0-100]	

All again

Kosten_reaktion_1b: Below you will see a list. Please mark which of these you implemented *during the last heating period (from October 2021 to April 2022).*

Several answers are possible and allowed.

1. Reducing the heating or room temperature at night
2. Reduce the heating or room temperature when you are absent (e.g. when at work/university/school)
3. Reduce the heating or room temperature during the day in rooms where you spend time (below your comfort temperature)
4. Exclusively heating the rooms that are predominantly used
5. Venting the radiators
6. Energy-saving ventilation (e.g. turning off the heating when ventilating, airing in bursts instead of continuously, etc.)
7. Switch off the entire heating system when you are away (e.g. on vacation for several days)
8. Switch off the entire heating system while you are present
9. Wash your hands with cold water instead of warm water
10. Shower more often instead of bathing
11. Shower as briefly as possible
12. Using an economy shower head
13. Other: Text field
14. don't know/no answer

If at least 1 behavior from behavior 1-10 was NOT selected in Kosten_reaktion_1b

Kosten_reaktion_1b0: Please indicate what you ever implemented *before the last heating period*.

One line for each reaction NOT mentioned above

Behavior	**I implemented this behavior before the last heating period:**
	1. Yes

	2. No 3. don't know/no answer

If Kosten_reaktion_1b NOT 12 "don't know/no response", i.e. at least 1 behavior selected

Kosten_reaktion_1b1: Below is a list of the behaviors you implemented in the last heating period. Please indicate *when* you *started* implementing each of these.

One line for each reaction mentioned above

Behavior	I have started to implement this behavior...
	1. ...before the 2021/2022 heating period 2. ...starting with the last heating period 2021/2022 3. don't know/no answer

For all

Kosten_reaktion_1b2: How much did you change your heating behavior in the last heating period (October 2021 to April 2022) (compared to the previous heating period)? I have reduced my heating consumption...

1 very strongly reduced	2 greatly reduced	3 slightly reduced	4 very slightly reduced	5 not changed at all	6 very slightly increased	7 slightly increased	8 strongly increased	9 very strongly increased	Don't know/no answer

If Kosten_reaktion_1b2 NOT 5 (i.e. behavior not changed at all) and NOT don't know/no information

Kosten_reaktion_1b3: Why did you change your heating behavior in the last heating period (October 2021 to April 2022)?

Multiple answers

1. For financial reasons (e.g. to save costs)
2. Increased energy costs
3. For environmental reasons
4. Change in the time I spend at home
5. Due to the Ukraine-Russia conflict
6. Change in the heating requirements of household members
7. Other: FREITEXTFELD
8. don't know/no answer

5.2 Intention for the coming heating period

All participants

We are now interested in your intentions regarding heating behavior in the coming heating period.

Kosten_reaktion_embargo: How much do you want to change your heating energy consumption in the coming winter?

1 very strongly reduce	2 greatly reduce	3 slightly reduce	4 Reduce very slightly	5 Do not change at all	6 Increase very slightly	7 increase slightly	8 Increase sharply	9 very strong increase	Don't know/no answer

If Kosten_reaktion_embargo = 1-4 (i.e. interest to reduce heating)

Kosten_reaktion_embargo1: What specific measures for saving heating energy would you be prepared to implement in your household in the coming winter?

Several answers are possible and permitted.

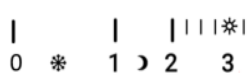
1. Reducing the heating or room temperature at night
2. Reduce the heating or room temperature when you are absent (e.g. when at work/university/school)
3. Reduce the heating or room temperature during the day in rooms where you spend time (below your comfort temperature)
4. Exclusively heating the rooms that are predominantly used
5. Venting the radiators
6. Energy-saving ventilation (e.g. turning off the heating when ventilating, airing in bursts instead of continuously, etc.)
7. Switch off the entire heating system when you are away (e.g. on vacation for several days)
8. Switch off the entire heating system while you are present
9. Wash your hands with cold water instead of warm water
10. Shower more often instead of bathing
11. Shower as briefly as possible
12. Using an economy shower head
13. Other: Text field
14. don't know/no answer

If (Kosten_reaktion_embargo1 = 1 and/or 4) and Kosten_reaktion_1a = 1-4 and Kosten_reaktion_raum or krrt not "wN/kA" i.e. (wanting to reduce costs by reduce temperature at night or not heat rooms and at least one room connected to thermostat or heated in winter)

One line for each room specified in krrt

c: What heating or room temperature would you be prepared to lower your thermostat to in the respective rooms *at night* in the coming winter?

Note: Please enter a 0 if you do not want to heat the room at all.

Room	If 1. analog room thermostat	If 2nd digital room thermostat	Case 3: Manual radiator thermostat	If 4. smart radiator thermostat	don't know /no answer
					
	NUMFELD Degrees Celsius [0-100]	NUMFELD Degrees Celsius [0-100]	Slider 0-5 with the following steps: NUMFELD [0-5] 	NUMFELD Degrees Celsius [0-100]	

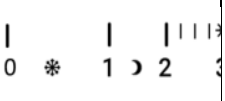
If Kosten_reaktion_embargo1 = 2, 3 or 4 and Kosten_reaktion_1a = 1-4 (open to reduce temperature during the day)

One line for each room specified in Kosten_reaktion_raum

Kosten_reaktion_embargo3: What heating or room temperature would you be prepared to lower your thermostat to in the respective rooms *during the day* in the coming winter?

Note: Please enter a 0 if you do not want to heat the room at all.

Room	If 1. analog room thermostat	If 2nd digital room thermostat	Case 3: Manual radiator thermostat	If 4. smart radiator thermostat	This room is not controlled by this thermostat	don't know/no answer
						

	NUMFELD Degrees Celsius [0-100]	NUMFELD Degrees Celsius [0-100]	Slider 0-5 with the following steps: NUMFELD [0-5]  	NUMFELD Degrees Celsius [0-100]		

5.3 Effect of energy saving bonus

All participants who heat with gas: i.e. Ist12_1a = 1 (i.e. central natural gas heating) or Ist12_5a = 4 (gas room appliances) or Energy_supply_0 = 1 (gas floor heating)

Randomize alternative A and alternative B

Draw randomized values of YYY and XXX (with the same probability) from the following values:

XXX (in kWh)	YYY (in EUR)
700	100
1400	150
2800	200
4200	300
	400
	500
	600
	800
	1000
	1200
	1500

Bonusinfo1:

In this part of the survey, we are also interested in the extent to which you are prepared to reduce your heating energy consumption in the coming heating period.

You have the choice between two options:

With **option A**, you will receive **EUR 100** at the end of the coming heating period. You will receive this amount regardless of how much gas you consume.

With **option B**, you will receive **a bonus of at least EUR 100** at the end of the heating period if you reduce your gas consumption by at least **XXX kWh** compared to the previous year. To put this into perspective: A 4-person household in Germany consumes an average of **18,800 kWh** of gas per year.

Your decision can have real consequences. After completing this survey, one participant will be randomly selected and informed. This participant will receive either the amount from option A or the bonus from option B if the savings are achieved. For both options, payment will be made if the gas bills for both billing periods are submitted as proof.

Opt_out: If you do not wish to participate in this part of the survey under any circumstances, please click on the following box. You will then not take part. Please simply click on "continue" to participate. This will not affect the duration of the survey.

- I waive the option of receiving an amount of EUR 100 or a bonus of at least EUR 100 if the savings are achieved.

If no "Opt_out" is clicked

Bonus2: Please make your choice now, which of the following two options you choose:

Bns2ab or bns2ba programmed depending on the sequence

Option A: amount of **EUR 100**, regardless of your gas consumption

Option B: Amount of **YYY EUR** if you reduce your gas consumption by at least **XXX kWh**.

Your choice:

- Option A
- Option B
- don't know/no answer

From here on again for everyone

5.4 Energy performance and energy certificate

EA2: Do you have an energy performance certificate for the house you live in?

1. Yes
2. No
3. don't know/no answer

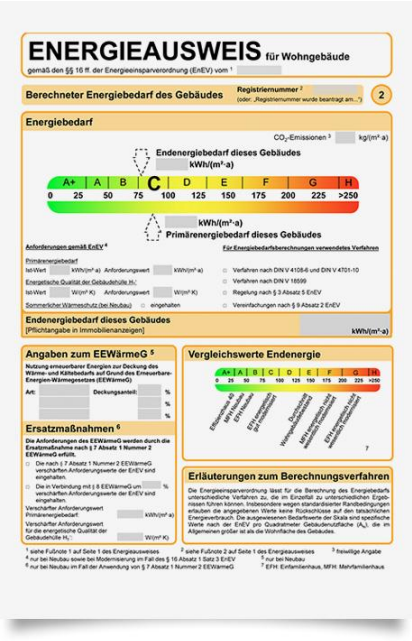
If EA2 = 1, i.e. Yes Energy certificate

EA2_1: The energy performance certificate can be issued as a demand certificate or as a consumption certificate. In the case of a demand certificate, the energy requirement of your home is estimated using technical characteristics. With the consumption certificate, your actual consumption behavior is decisive. What type of certificate do you have?

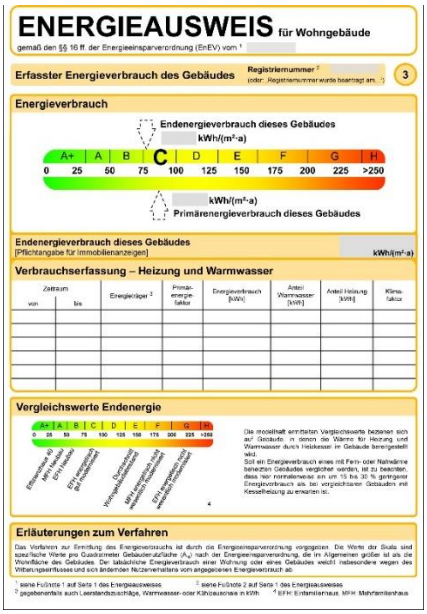
Single answer

1. Demand certificate

2. consumption certificate
3. don't know/no answer



Demand certificate

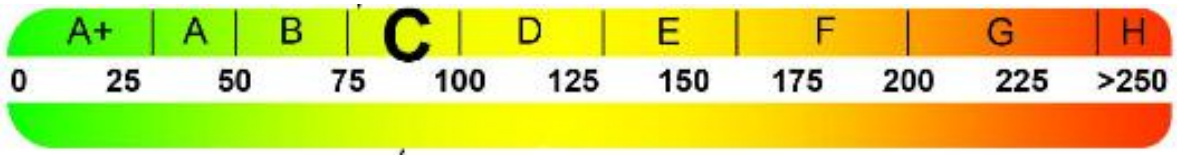


Consumption certificate

If EA2 = 1, i.e. Yes Energy certificate

The energy efficiency of a house is measured using the so-called final energy value. The final energy value indicates how much energy you need for hot water, heating and, if applicable, ventilation. It is given in kilowatt hours (kWh) per square meter of living space (m^2) and year (annum, a).

The final energy characteristic value of a building is shown as follows, for example:



Low values (highlighted in green) mean that your building is highly energy efficient. High values (highlighted in red) mean that your building has low energy efficiency.

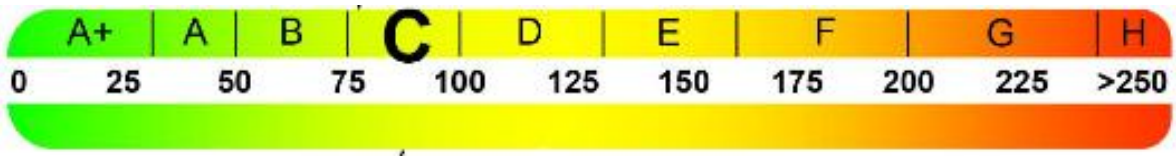
Bel1: Do you know the current final energy value of your house from the energy performance certificate?

1. Yes, it is: NUMFELD kWh / (m² * a) [CHECK that numerical values are entered (limits 0-9999)]
2. No
3. don't know/no answer

If EA2 = 2, i.e. no energy performance certificate or Bel1 = 2, i.e. final energy value not known

Also, if EA2 or Bel1 = don't know

The energy performance certificate shows the efficiency classes of a building, which range from A+ to H:



For example, an efficiency class A+ (highlighted in green) means that your building is highly energy efficient. An efficiency class H (highlighted in red) means that your building has low energy efficiency.

Bel2 : Please estimate the efficiency class of the house in which you live:

Mandatory field, i.e. something must be entered here in any case and no d.k./n.a.. allowed

1. Selection of efficiency class (from A+ to H)

5.5 Expected energy costs - baseline supply

All

If heating oil (Ist12_1a = 3 or Ist12_5a = 1)

Now it's time for your assessment of how the costs for heating energy (heating and hot water) will develop up to 2030.

In the following, please assume a 4-person household that heats with heating oil. In your estimate, assume that the household's consumption remains unchanged in all years.

The average annual heating costs for a 4-person household using heating oil in recent years have been as follows:

- In 2019 ***1,700*** **euros**
- In 2020 ***1,188*** **euros**
- In 2021 ***1,801*** **euros**

If gas (Ist12_1a = 1 or Ist12_5a = 4 or Ist12_1a = 2 (liquid gas) or Energy_supply_0 = 1 (gas floor heating))

Now it's time for your assessment of how the costs for heating energy (heating and hot water) will develop up to 2030.

In the following, please assume a 4-person household that heats with gas. In your estimate, assume that the household's consumption remains unchanged in all years.

The average annual heating costs of a 4-person household heated with gas in recent years have been as follows:

- In 2019 ***1,335*** **euros**
- In 2020 ***1,243*** **euros**
- In 2021 ***1,443*** **euros**

If electricity (Ist12 = 2 or Ist12_5a = 5)

Now it's time for your assessment of how the costs for heating energy (heating and hot water) will develop up to 2030.

In the following, please assume a 4-person household that uses electricity for heating. In your estimate, assume that the household's consumption remains unchanged in all years.

The annual heating costs of a 4-person household heated with electricity have averaged over the past few years:

- In 2019 ***1,327*** **euros**
- In 2020 ***1,378*** **euros**
- In 2021 ***1,403*** **euros**

If wood (Ist12_1a = 4 or Ist12_5a = 3)

Now it's time for your assessment of how the costs for heating energy (heating and hot water) will develop up to 2030.

In the following, please assume a 4-person household that heats with wood or pellets. In your estimate, assume that the household's consumption remains unchanged in all years.

The annual heating costs of a 4-person household heating with wood or pellets have averaged over the past few years:

- In 2019 ***1,355*** **euros**
- In 2020 ***1,283*** **euros**
- In 2021 ***1,301*** **euros**

If district heating (lst12 = 3)

Now it's time for your assessment of how the costs for heating energy (heating and hot water) will develop up to 2030.

In the following, please assume a 4-person household that heats with district heating. In your estimate, assume that the household's consumption remains unchanged in all years.

The annual heating costs of a 4-person household using district heating have averaged over the past few years:

- In 2019 ***1,581*** **euros**
- In 2020 ***1,531*** **euros**
- In 2021 ***1,655*** **euros**

If heating oil group

Kosten_belief_öl0: Now think about the period up to 2030. How do you think the annual heating energy costs for heating oil for this 4-person household will develop up to 2030 compared to the costs in 2021?

- Costs will rise
- The costs will remain roughly the same
- Costs will fall
- don't know/no answer

If heating oil group

Kosten_belief_öl0a: What do you think the annual heating energy costs for heating oil for this 4-person household will be in 2030? Please estimate, even if you are not sure.

- The heating energy costs will be around ____ (0-100000) euros per year
- don't know/no answer

If gas group

Kosten_belief_gas0: Now think about the period up to 2030. How do you think the annual heating energy costs for gas for this 4-person household will develop up to 2030 compared to the costs in 2021?

- Costs will rise

- The costs will remain roughly the same
- Costs will fall
- don't know/no answer

If gas group

Kosten_belief_gas0a: What do you think the annual heating energy costs for gas will be for this 4-person household in 2030? Please estimate, even if you are not sure.

- The heating energy costs will be around ____ (0-100000) euros per year
- don't know/no answer

If electricity group

Kosten_belief_strom0: Now think about the period up to 2030. How do you think the annual heating energy costs for electricity for this 4-person household will develop up to 2030 compared to the costs in 2021?

- Costs will rise
- The costs will remain roughly the same
- Costs will fall
- don't know/no answer

If electricity group

Kosten_belief_strom0a: What do you think the annual heating energy costs for electricity for this 4-person household will be in 2030? Please estimate, even if you are not sure.

- The heating energy costs will be around ____ (0-100000) euros per year
- don't know/no answer

If wood group

Kosten_belief_holz0: Now think about the period up to 2030. How do you think the annual heating energy costs for wood or pellets for this 4-person household will develop up to 2030 compared to the costs in 2021?

- Costs will rise
- The costs will remain roughly the same
- Costs will fall
- don't know/no answer

If wood group

Kosten_belief_holz0a: What do you think the annual heating energy costs for wood or pellets will be for this 4-person household in 2030? Please estimate, even if you are not sure.

- The heating energy costs will be around ____ (0-100000) euros per year
- don't know/no answer

If district heating group

Kosten_belief_fern0: Now think about the period up to 2030. How do you think the annual heating energy costs for district heating for this 4-person household will develop up to 2030 compared to the costs in 2021?

- Costs will rise
- The costs will remain roughly the same
- Costs will fall
- don't know/no answer

If district heating group

Kosten_belief_fern0a: What do you think the annual heating energy costs for district heating for this 4-person household will be in 2030? Please estimate, even if you are not sure.

- The heating energy costs will be around ____ (0-100000) euros per year
- don't know/no answer

6. Module 3: Modernization incentives → In mobility survey

7. Acceptance of instruments

For all

Co0: Now I would like to ask you briefly about your attitude to various climate protection measures. In its last climate protection package, the German government introduced the following instruments, among others. We ask you to indicate how much you agree with the statements on the respective measures

Randomize instruments

a) A ban on the installation of oil boilers from 2026
b) Tax incentives for energy-efficient refurbishment measures for owner-occupiers (e.g. replacement of heating and thermal insulation): The subsidy is granted by deducting the subsidy amount from the tax liability spread over 3 years.
c) Increase in subsidies for the replacement of fossil heating systems (natural gas and oil) with a subsidy share of 40 percent for a new, more efficient heating system.
d) Free energy advice (e.g. from consumer advice centers)

	1 Do not agree at all	**2**	**3**	**4**	**5 Fully agree**	**don't know/no answer**
Overall, I think this is a good measure.						

Co0a: Other instruments are also currently being discussed. Please indicate how strongly you agree with the statements on the respective measures

Randomize instruments

a) A ban on the installation of gas boilers
b) Tax incentives for energy-efficient refurbishment measures for landlords (e.g. replacing heating systems and thermal insulation), for example through accelerated depreciation
c) Mandatory use of renewable energies (e.g. heat pumps or solar thermal energy) in new builds
d) Obligation to use 65% renewable energies in the operation of newly installed heating systems
e) Mandatory compliance with high efficiency standards in new buildings as so-called nearly zero-energy buildings
f) A building climate levy: A levy based on the greenhouse gas emissions of the building that building owners pay

	1 Do not agree at all	**2**	**3**	**4**	**5 Agree wholeheartedly**	**don't know/no answer**
Overall, I think this is a good measure						

On January 1, 2021, a CO2 levy was introduced in Germany, which also applies to heating energy. For information: Consumers pay a fixed levy per tonne of CO2 produced by the consumption of heating oil and natural gas. In a well-insulated house with efficient heating technology, the additional costs incurred by the CO2 levy are correspondingly lower than in an unrenovated house with an inefficient heating system.

Co4: Please indicate your general opinion on the CO2 tax. Please use the scale from 1 to 5.

	1 Do not agree at all	**2**	**3**	**4**	**5 Agree wholeheartedly**	**don't know/no answer**
I think the introduction of the CO2 price is good overall.						

8. Environmental settings (only for new recruits)

PK_1: Now let's talk briefly about your views on the environment. How strongly do you agree with the following statements?

Display in random order

Statements	Do not agree at all	Rather disagree	I am undecided	Tend to agree	Agree wholeheartedly	don't know / no answer
Humans have the right to adapt the environment to their needs	O	O	O	O	O	O
Humans are seriously abusing the earth	O	O	O	O	O	O
Plants and animals have the same rights to exist as humans	O	O	O	O	O	O
Nature is strong enough to cope with the effects of modern industrialized nations	O	O	O	O	O	O
Humans are destined to dominate the rest of nature	O	O	O	O	O	O
The balance of nature is very delicate and easily shaken	O	O	O	O	O	O

9. Socio-economic data

For all

Finally, please answer a few questions about yourself. Your data will be treated with absolute confidentiality in accordance with data protection regulations.

If A2 = 1, i.e. rent
SO_0: Do you have a residence entitlement certificate (also known as a §8 certificate)?

[Info button: With a certificate of eligibility for housing, tenants can prove that they are entitled to an apartment subsidized by public funds].

1. Yes
2. No
3. don't know/no answer

SO1:
What is your highest school-leaving qualification?

Prog: Single answer

Note: Please assign degrees obtained abroad to an equivalent German degree.

1. no degree
2. Graduation after a maximum of 7 years of school attendance (especially graduation abroad)
3. Secondary school leaving certificate
4. Secondary school certificate (intermediate school leaving certificate), polytechnic secondary school certificate or equivalent qualification
5. Fachhochschulreife
6. General or subject-specific higher education entrance qualification (Abitur)
7. don't know/no answer

SO2:
What is your highest vocational training or (technical) university degree?

Prog: Single answer

1. no degree
2. Apprenticeship or professional internship of at least 12 months
3. Vocational preparation year
4. Apprenticeship, vocational training in the dual system
5. Preparatory service for the intermediate civil service in public administration
6. Vocational qualification from a vocational school/college, graduation from a 1-year school in the healthcare sector
7. 2 or 3-year school in the healthcare sector (e.g. nursing, PTA, MTA)
8. Technical college degree (master craftsman/-woman, technician or equivalent qualification)
9. Berufsakademie, Fachakademie
10. Degree from an administrative college
11. University degree, also engineering degree
12. Degree from a university, university of applied sciences, art college
13. Promotion
14. don't know/no answer

SO3:
What is predominantly true for you?

Multiple answers

1. I am gainfully employed or working (incl. trainees, persons on parental leave or partial retirement)
2. I am a student
3. I am a student
4. I am a pensioner, retired
5. I live from income from capital assets, renting or leasing
6. I receive maintenance/benefits from my spouse, partner, parents, relatives or other persons - including non-household members
7. I am a housewife/househusband or care for children and/or people in need of care
8. I receive unemployment benefit I
9. I receive unemployment benefit II or social benefit (Hartz IV benefits)
10. I receive social assistance or basic income support in old age or in the event of reduced earning capacity
11. I receive housing benefit
12. None of the above options apply to me
13. don't know/no answer

IF SO3 = 1, I.E. EMPLOYED OR WORKING

SO4:

Gainful employment is understood to mean any paid or income-generating activity, regardless of the amount of time involved. Are you ...

1. Full-time employed
2. Part-time employment, at least 20 hours per week
3. Part-time or hourly employed with less than 20 hours per week
4. don't know/no answer

SO5:

What is the total monthly net income of your household? This means the sum resulting from wages, salary, income from self-employment, pension or annuity, in each case after deduction of taxes and social security contributions. Please also include income from public benefits, income from renting, leasing, housing benefit, child benefit and other income.

1. under 700 euros
2. 700 to under 1,200 euros
3. 1,200 to under 1,700 euros
4. 1,700 to under 2,200 euros
5. 2,200 to under 2,700 euros
6. 2,700 to under 3,200 euros
7. 3,200 to under 3,700 euros
8. 3,700 to under 4,200 euros
9. 4,200 to under 4,700 euros
10. 4,700 to under 5,200 euros
11. 5,200 to under 5,700 euros
12. 5,700 euros and more
13. don't know/no answer

SO7:

In politics, people sometimes talk about "left" and "right". Where on the scale of 1-10 would you classify yourself if 1 stands for left and 10 for right?

Left Right/ don't know / no answer

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10)

SO8:
In Germany, many people tend to vote for a particular political party for a long time, although they also vote for another party from time to time.

How is it with you? Do you - generally speaking - lean towards a particular party? And if so, which one?

Randomize

1. CDU / CSU
2. SPD
3. FDP
4. Alliance 90 / The Greens
5. The Left
6. AfD
7. another party
8. no party
9. don't know / no answer

V2: **Do you trust the German government to make the right decisions for the benefit of all citizens**?

1. no
2. rather no
3. rather yes
4. yes
5. don't know / no answer

V3: How often do you find out specifically about political issues in Germany?

1. several times a day
2. daily
3. several times a week
4. once a week
5. less than once a week
6. less than once a month
7. never
8. don't know/no answer

V4: How often do you discuss political issues in Germany with people close to you (e.g. friends, acquaintances, family, colleagues)?

1. several times a day
2. daily
3. several times a week
4. once a week
5. less than once a week
6. less than once a month
7. never
8. don't know/no answer

Stay in touch with us and follow Ariadne on Twitter @ariadneprojekt, new publications on the topic of the heat transition can be found here https://ariadneprojekt.de/themen/waermewende/

10. Consent (only for new recruits)

We would like to send you information based on the results of this survey by e-mail from time to time during the study period, i.e. over the next two years. Do you agree to this? If not, please select "No, I do not wish to receive any information". Otherwise, you can of course withdraw your consent by e-mail at any time if you no longer wish to receive this information.

- I hereby agree that forsa may send me information based on the results of the survey by e-mail during the study period.
- No, I do not wish to receive any information.

Irrespective of the answer to the question "Consent"

SCHLUSSFRAGE
Finally, please let us know briefly whether you had difficulties answering the questions at some points in the questionnaire (e.g. because the question was incomprehensible) or other problems arose. Please describe this briefly if necessary.

1. Module 3: Modernization incentives → In Mobility survey

For the conjoint part, simply all tenants and all landlords of these 6,000 should be surveyed, i.e. all except

- Owners who do not rent out

1.1 Selection experiment preliminary questions:

For landlords (A7 = 1) and for tenants (A2 = 1)

Rental module

If landlord (A7 = 1)

Text [Landlord]: In the following, we would like to request information about your rented apartment. If you rent out several apartments, please select a rental property for which you have the most information on energy efficiency and rent payments to hand or can assess well.

Note on every page: This is about a rental property that you are currently renting out!

V0: How large is the heated living space used by the tenant for living (excluding unheated cellars, attics, business and utility rooms)? Please round and enter the value without decimal places.

1. NUMFELD m^2 1-999
2. don't know/no answer

V1: How much is the current rent per month? (Note: *Please enter the cold rent or the warm rent, depending on which amount you know best).*

1. Free text field (amount in Euro) [limits 0 to 9999]
2. don't know/no answer

If rent specified, i.e. V1 = 1

V1a: Are the heating costs included in the rent just mentioned?

1. Yes
2. No
3. don't know/no answer

V1a_1 : What are the average heating costs (including hot water) per month? *(Note:* If you do not know the exact amount, please state the flat-rate heating costs or make an estimate*).*

1. Free text field (amount in Euro) [0 to 9999]
2. don't know/no answer

V1a_2 : How are heating costs divided between tenants and landlords (as a percentage)?

1. Tenants pay and bear their own heating costs in full (100% tenant, 0% landlord)
2. Tenants pay a share of their own heating costs based on consumption and the other share is divided according to a scale (e.g. living space, number of tenants, etc.) in the building community (100% tenant, 0% landlord)
3. I pay and bear the heating costs in full (0% tenant, 100% landlord)
4. Other allocation, where I bear a share of the heating costs with __ % (remaining share borne by tenants/community)

5. Don't know/ no answer

V1b : Are the electricity costs included in the rental price just mentioned?

1. Yes
2. No
3. don't know/no answer

V1b_1: What are the average electricity costs per month? *(Note:* If you do not know the exact amount, please state the electricity flat rate or make an estimate*)*.

1. Free text field (amount in Euro) [0 to 9999]
2. don't know/no answer

V1c: Are the additional costs for water, garbage collection, etc., i.e. all other charges not yet mentioned, included in the rent just mentioned?

1. Yes
2. No
3. don't know/no answer

V1c_1: How high are the average service charges for water, garbage collection, etc., i.e. all other charges not yet mentioned in the rental price just mentioned per month? *(Note:* If you do not know the exact amount, please state the flat-rate service charge or make an estimate*)*.

1. Free text field (amount in Euro) [0 to 9999]
2. don't know/no answer

V1d: What type of rental agreement is currently in place?

1. Open-ended rental agreement
2. Index-linked rent [Info button: The index-linked rent is a variable rent. The rent is not permanently set at a fixed value, but is linked to a price index based on a base rent according to parameters that can be understood by both contracting parties].
3. Graduated rent [Info button: Graduated rent is a form of rent in which the extent to which the rent will increase at certain times is determined in advance]. (not yet expired)
4. Fixed-term rental agreement
5. don't know/no answer

V1e: Can you estimate to what extent the rent corresponds to the local comparative rent? The current rent is...

1. More than 20 % below the comparative rent
2. More than 10 %, but less than 20 % below the comparative rent
3. Approximately at the level of the comparative rent
4. More than 10 %, but less than 20 % below the comparative rent
5. More than 20 % above the comparative rent
6. don't know/no answer

V1f: Have modernization measures been carried out on the rental property since 2019?

1. Yes
2. No
3. don't know/no answer

If yes Modernization measure since 2019, i.e. V1f = 1

V1g: Were subsidies used in connection with the modernization measures? (e.g. KfW)

1. Yes
2. No
3. don't know/no answer

If yes, subsidies used in connection to measures, i.e. V1f = 1

V1h: Was the (cold) rent increased in connection with the modernization measures? *(Note: Either after a change of tenant or through a rent increase)*

1. Yes
2. No
3. don't know/no answer

V1i: Does your rented property use the same fuel / type of heating as your own home?

1. Yes
2. No
3. don't know/no answer

If yes same fuel/type of heating, i.e. V1i = 1

If cost expectation Kosten_belief_X0a not known (not asked because heating fuel X not known or don't know/no specification), display NOTHING.

If V1a_1 = don't know/no information, i.e. monthly heating costs not known, then please use the variable "mhk_v_durchschnitt" generated by RWI for monthly heating costs

Info text future heating costs status quo

Text: Against the background of the price development you expect, the heating costs in the rented property will increase to [%V1a_1 * percentage change in costs] euros per month in 2030, all other things being equal, without modernization.

Percentage change in costs results from the comparison of the **heating costs for 2021** given in the questionnaire section and the costs for 2030 from **Kosten_belief_X0a**

(X stands for the respective heating type, i.e. oil, gas, etc.)

Sample calculation Percentage change in costs

Heating costs per month V1a_1 = 40 euros; Ist12_1a = 1, i.e. natural gas as heating fuel→ **Heating costs 2021** : 1,443 euros (see info in gas group);); Kosten_belief_gas0a for the year 2030 = 4,000 euros→ Percentage cost change = ((4,000 - 1,443)/(1,443))+1=2.77

➔ New heating costs: 2.77 * 40 = 110.8 Euro

If V1i = 2 or = 3, i.e. (own and rented out property do not use same fuel/heating type or don't know)

Ist12_1a_rented: What fuel or what type of fuel is mainly used for heating in your rented property?

1. Natural gas
2. Liquid gas
3. Heating oil

4. Logs / pellets
5. Heat pump / electricity
6. District heating
7. Miscellaneous
8. don't know/no answer

If Ist2_1a_let = 3, i.e. heating oil

Now it's time for your assessment of how the costs for heating energy (heating and hot water) will develop up to 2030.

In the following, please assume a 4-person household that heats with heating oil. In your estimate, assume that the household's consumption remains unchanged in all years.

The average annual heating costs for a 4-person household using heating oil in recent years have been as follows:

- In 2019 ***1,700*** **euros**
- In 2020 ***1,188*** **euros**
- In 2021 ***1,801*** **euros**

If Ist12_1a_let = 1 or 2, i.e. natural gas or LPG

Now it's time for your assessment of how the costs for heating energy (heating and hot water) will develop up to 2030.

In the following, please assume a 4-person household that heats with gas. In your estimate, assume that the household's consumption remains unchanged in all years.

The average annual heating costs of a 4-person household heated with gas in recent years have been as follows:

- In 2019 ***1,335*** **euros**
- In 2020 ***1,243*** **euros**
- In 2021 ***1,443*** **euros**

If Ist12_1a_rented = 5, i.e. electricity

Now it's time for your assessment of how the costs for heating energy (heating and hot water) will develop up to 2030.

In the following, please assume a 4-person household that uses electricity for heating. In your estimate, assume that the household's consumption remains unchanged in all years.

The annual heating costs of a 4-person household heated with electricity have averaged over the past few years:

- In 2019 ***1,327*** **euros**
- In 2020 ***1,378*** **euros**
- In 2021 ***1,403*** **euros**

If Ist12_1a_let = 4, i.e. wood

Now it's time for your assessment of how the costs for heating energy (heating and hot water) will develop up to 2030.

In the following, please assume a 4-person household that heats with wood or pellets. In your estimate, assume that the household's consumption remains unchanged in all years.

The annual heating costs of a 4-person household heating with wood or pellets have averaged over the past few years:

- In 2019 ***1,355*** **euros**
- In 2020 ***1,283*** **euros**
- In 2021 ***1,301*** **euros**

If lst12_1a_let = 6, i.e. district heating

Now it's time for your assessment of how the costs for heating energy (heating and hot water) will develop up to 2030.

In the following, please assume a 4-person household that heats with district heating. In your estimate, assume that the household's consumption remains unchanged in all years.

The annual heating costs of a 4-person household using district heating have averaged over the past few years:

- In 2019 ***1,581*** **euros**
- In 2020 ***1,531*** **euros**
- In 2021 ***1,655*** **euros**

If heating oil group

Kosten_belief_öl0_vermietet: Now please think about the period up to 2030. How do you think the annual heating energy costs for heating oil for this 4-person household will develop up to 2030, compared to the costs from 2021?

- Costs will rise
- The costs will remain roughly the same
- Costs will fall
- don't know/no answer

If heating oil group

Kosten_belief_öl0a_vermietet: What do you think the annual heating energy costs for heating oil for this 4-person household will be in 2030? Please estimate, even if you are not sure.

- The heating energy costs will be around ____ (0-100000) euros per year
- don't know/no answer

If gas group

Kosten_belief_gas0_vermietet : Now please think about the period up to the year 2030. How do you think the annual heating energy costs for gas for this 4-person household will develop up to the year 2030, compared to the costs from 2021?

- Costs will rise
- The costs will remain roughly the same

- Costs will fall
- don't know/no answer

If gas group

Kosten_belief_gas0a_vermietet: What do you think the annual heating energy costs for gas for this 4-person household will be in 2030? Please estimate, even if you are not sure.

- The heating energy costs will be around ____ (0-100000) euros per year
- don't know/no answer

If current group

Kosten_belief_strom0_vermietet: Now please think about the period up to the year 2030. How do you think the annual heating energy costs for electricity for this 4-person household will develop up to the year 2030, compared to the costs from 2021?

- Costs will rise
- The costs will remain roughly the same
- Costs will fall
- don't know/no answer

If current group

Kosten_belief_strom0a_vermietet: What do you think the annual heating energy costs for electricity for this 4-person household will be in 2030? Please estimate, even if you are not sure.

- The heating energy costs will be around ____ (0-100000) euros per year
- don't know/no answer

If wooden group

Kosten_belief_holz0_vermietet: Now think about the period up to the year 2030. How do you think the annual heating energy costs for wood or pellets for this 4-person household will develop up to the year 2030, compared to the costs in 2021?

- Costs will rise
- The costs will remain roughly the same
- Costs will fall
- don't know/no answer

If wooden group

Kosten_belief_holz0a_vermietet: What do you think the annual heating energy costs for wood or pellets will be for this 4-person household in 2030? Please estimate, even if you are not sure.

- The heating energy costs will be around ____ (0-100000) euros per year

- don't know/no answer

If district heating group

Kosten_belief_fern0_vermietet: Now think about the period up to the year 2030. How do you think the annual heating energy costs for district heating for this 4-person household will develop up to the year 2030 compared to the costs in 2021?

- Costs will rise
- The costs will remain roughly the same
- Costs will fall
- don't know/no answer

If district heating group

Kosten_belief_fern0a_vermietet: What do you think the annual heating energy costs for district heating for this 4-person household will be in 2030? Please estimate, even if you are not sure.

- The heating energy costs will be around ____ (0-100000) euros per year
- don't know/no answer

If V1i = 2, i.e. no

If Kostenerwartung Kosten_belief_X0a_vermietet not known (either because heating fuel, Ist12_1a_vermietet = don't know/no information, or Kosten_belief_X0a_vermietet = don't know/no information), show NOTHING

If V1a_1 = don't know/no information, i.e. monthly heating costs not known, then please use the variable "mhk_v_durchschnitt" generated by the RWI for monthly heating costs.

Info text future heating costs status quo landlord

Text: Against the background of the price development you expect, the heating costs in the rented property will increase to [%V1a_1 * percentage cost change] euros per month in 2030, all other things being equal, without modernization.

Percentage change in costs by 2030 results from previous questions: Growth from 2021 to expected value in 2030 from Kosten_belief_X0a_vermietet

(X stands for the respective heating type of the rented property)

Calculation example for percentage change in costs:

Heating costs per month V1a_1 = 40 euros; Ist12_1a_let = 1, i.e. natural gas as heating fuel→ **Heating costs 2021** : 1,443 euros (see info in gas group); Kosten_belief_gas0a for the year 2030 = 4,000 euros→ Percentage change in costs = ((4,000 - 1,443)/(1,443))+1=2.77

➔ New heating costs: 2.77 * 40 = 110.8 euros

All landlords (A7 = 1)

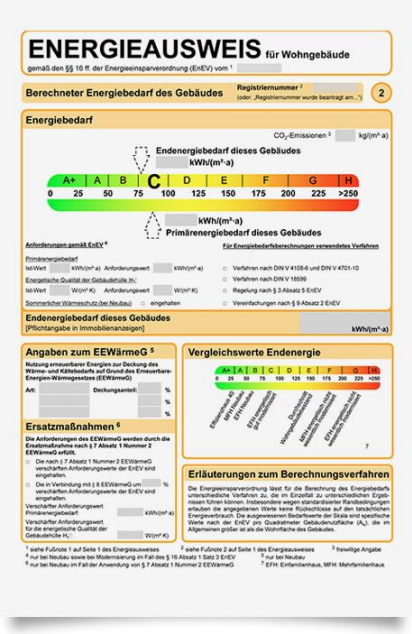
EA2_landlord: Do you have an energy performance certificate for the property you are renting out?

1. Yes
2. No
3. don't know/no answer

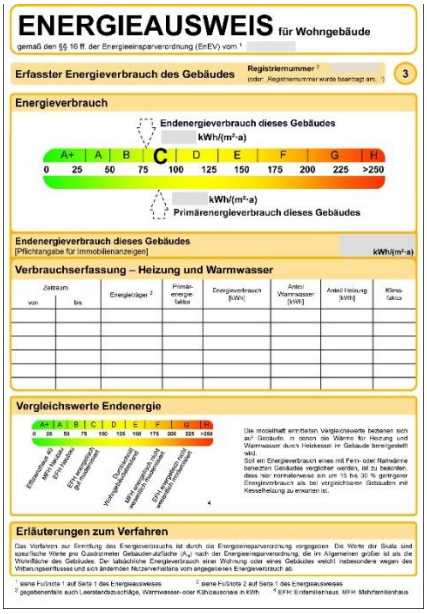
If EA2_vermieter = 1, i.e. Yes energy performance certificate

EA2_1_landlord: The energy performance certificate can be issued as a demand certificate or as a consumption certificate. In the case of a demand certificate, the energy requirement of your rental property is estimated using technical characteristics. In the case of a consumption certificate, the consumption behavior of your tenant is decisive. What type of certificate do you have?

1. demand certificate
2. consumption certificate
3. don't know/no answer



Demand certificate

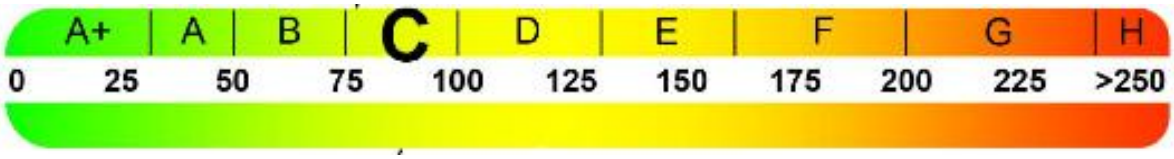


Consumption certificate

If EA2_vermieter = 1, i.e. Yes energy performance certificate

The energy efficiency of a house is measured using the so-called final energy value. The final energy value indicates how much energy you need for hot water, heating and, if applicable, ventilation. It is given in kilowatt hours (kWh) per square meter of living space (m^2) and year (annum, a).

The final energy characteristic value of a building is shown as follows, for example:



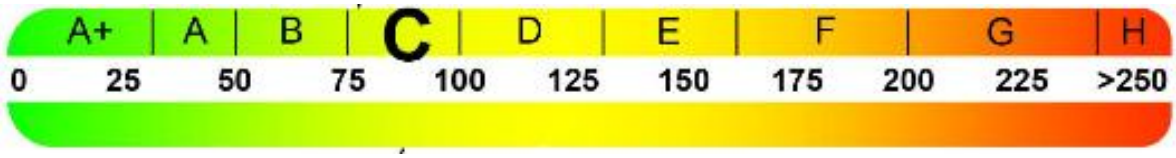
Low values (highlighted in green) mean that your building is highly energy efficient. High values (highlighted in red) mean that your building has low energy efficiency.

Bel1_vermieter: Do you know the current final energy value of your rented property from the energy performance certificate?

1. Yes, it is: NUMFELD kWh / (m² * a) [CHECK that numerical values are entered (limits 0-9999)]
2. No
3. don't know/no answer

If EA2_vermieter = 2, i.e. no energy performance certificate or Bel1_vermieter = 2, i.e. final energy value not known. Also, if EA2_vermieter or bel1_vermieter = don't know

The energy performance certificate shows the efficiency classes of a building, which range from A+ to H:



For example, an efficiency class A+ (highlighted in green) means that your building is highly energy efficient. An efficiency class H (highlighted in red) means that your building has low energy efficiency.

Bel2_vermieter: Please estimate the efficiency class of the rental property you are renting out:

Mandatory field, i.e. something must be entered here in any case and no don't know/ no answer allowed

1. Selection of efficiency class (from A+ to H)

For landlords (A7=1)

Energy efficiency info text

Efficiency label from bel2_vermieter or if bel1_vermieter = 1→ Value specified→ Conversion to efficiency class according to Table 3 (see below)

Based on your information, the efficiency class of your rented property is [a+,b,c,d,e,f,g,h]: [A+,A, B, C, D, E, F, G, H]

For tenants (A2 = 1)

If cost expectation Kosten_belief_X0a is not known (either because heating fuel X is not known, or Kosten_belief_X0a = don't know/no answer), display NOTHING.

Insert the variable Sdhk supplied by RWI for heating costs here

Info text future heating costs status quo tenant

Text: Against the background of the price development you expect, heating costs will rise to [Sdhk * Percentage Kosten_beliefX0a] euros per month in 2030, all other things being equal, without modernization.

Percentage change in costs by 2030 results from previous questions: Growth from 2021 to expected value in 2030 from **Kosten_belief_X0a**

(X stands for the respective heating type of the apartment)

Calculation example for percentage change in costs:

Heating costs per month Ist18/Sdhk = 40 euros; Ist12_1a = 1, i.e. natural gas as heating fuel→ **Heating costs 2021** : 1,443 euros (see info in gas group); Kosten_belief_gas0a for the year 2030 = 4,000 euros→ Percentage cost change = ((4,000 - 1,443)/(1,443))+1=2.77

➔ New heating costs: 2.77 * 40 = 110.8 euros

Energy efficiency information text for tenants

Efficiency label from bel2 or if bel1_1 = 1→ Value specified→ Conversion to efficiency class according to Table 3, see below. Value is supplied by RWI: Sdee

Based on your information, the efficiency class of your residential building is as follows: Sdee [A+,A, B, C, D, E, F, G, H]

1.2 Conjoint questions / choice experiment [tenant and landlord]

For tenants (A2 = 1) and landlords (A7=1)

Classification in conjoint experiment (RWI provides svdm variable)

- If svdm = 0, no participation in conjoint experiment **for tenants**
    - Only for tenants with energy efficiency standard D to H, i.e. sdvm = 0 for energy efficiency standard bel1_1 = A to C (conversion to efficiency class, see Table 3) or bel2 = A to C (results from sdee). sdvm = 0 if (Sdkm or Sdhk or Sdvhk or Sdwm) = Missing, sdvm = 0 if owner who does not rent, i.e. a2 = 2 and a7 != 1
- If svdm = 1, query from the tenant's perspective
- If svdm = 2, query from the landlord's perspective
    - Only for landlords with energy efficiency standard D to H, i.e. NOT for landlords where bel1_vermieter = A to C (conversion to efficiency class, see Table 3) or bel2_vermieter for A to C
    - No participation if landlord values (Sdkm_v or Sdhk_v or Sdvhk_v or Sdwm_v) = Missing → mkm_v_durchschnitt should be used for missing cold rent, mhk_v_durchschnitt for missing heating costs, so that the warm rent Sdwm_v can then also be calculated. Therefore, these values should always be known Landlord

Table 3: Conversion of energy characteristic value to energy efficiency class

	kWh/m²a
A+	0 to 30 kWh/m²·a
A	more than 30 to 50 kWh/m²·a
B	more than 50 to 75 kWh/m²·a
C	more than 75 to 100 kWh/m²·a
D	more than 100 to 130 kWh/m²·a
E	more than 130 to 160 kWh/m²·a
F	more than 160 to 200 kWh/m²·a
G	more than 200 to 250 kWh/m²·a
H	more than 250 kWh/m²·a

For respondents who participate in the conjoint part from the landlord's perspective (sdvm = 2) Info: Please start from the rented residential property for which you have already answered questions [show on each page for 6.2].

For respondents who participate in the conjoint part from the tenant's perspective (sdvm = 1) Info: Please start from the residential property in which you currently live. [Show on each page of 6.2]

Introductory text

The following thought experiment is about the selection of hypothetical modernization options in the sense of "what if".

We now present you with five choices. You have two modernization options to choose from. Please select the option you prefer or indicate whether you would choose neither.

The modernization options are described by:

(Values Sdkm, Sdhk, Sdvhk, Sdee are provided by RWI for tenants, but for landlords the values are only obtained in the survey from the information provided above)

- **Basic rent:** Rent without utilities per month, previously
  [if tenant: Sdkm;
  if landlord: Sdkm_v] EUR
- **Heating costs:** for heat and hot water in current prices per month, to date
  [if tenant: Sdhk;
  if landlord: Sdhk_v] EUR
- **Landlord's share of heating costs: as** a percentage of heating costs, previously [if tenant: Sdvhk; if landlord: Sdvhk_v] percent
- **Modernization costs:** Costs incurred by the landlord for the modernization measures; possible subsidy not taken into account here (see information in Subsidy)
- **Subsidy:** Subsidy amount and subsidy rate for modernization costs
- **Energy efficiency:** Energy efficiency class (lower efficiency class (A, A+ etc.) is associated with lower climate-damaging emissions); previously [if tenant: Sdee; if landlord: Sdee_v]

In addition, the **warm rent** (previously [[if tenant: Sdwm; if landlord: Sdwm_v] EUR) for the tenant and the **initial return on investment** for the landlord, the values of which are derived from the properties above.

Rollover information on the 6 properties:

Basic rent: Figures per month after modernization; the basic rent corresponds to the rent contractually owed by the tenant excluding ancillary costs. Cold service charges are not considered here.

Heating costs: per month after modernization; heating costs are costs arising from the supply of heat and hot water. Many tenants pay an advance payment for heating costs, which is paid monthly together with the rent and offset against the actual costs once a year by the landlord in the heating cost statement. It depends on the type of heating whether tenants receive a heating bill or not.

Landlord's share of heating costs: The landlord's share of the heating costs after modernization; as a rule, the heating costs are borne by the tenants, as the landlords can allocate the heating costs to the tenants in accordance with the Operating Costs Ordinance. This can be changed by legal amendments, e.g. through partial warm rent concepts or a limited apportionment of CO2 costs according to building energy classes.

Modernization costs: Modernization costs are defined here as the costs incurred for energy modernization measures and, in simplified terms, correspond to the eligible investment costs.

Subsidy: Specification of the subsidy amount and the subsidy rate as a percentage of the modernization costs; the federal government, federal states and local authorities as well as some energy suppliers offer subsidies when owners modernize their buildings to make them more energy efficient. The best-known subsidy programs are offered by the KfW as part of the "Federal Subsidy for Efficient Buildings - BEG", which grants subsidies towards the costs or loans.

Energy efficiency: The energy efficiency class after modernization is displayed. There are currently nine classes from A+ (very energy-efficient) to H (non-energy-efficient), which are noted in an energy performance certificate. The classification into a class is based on the final energy value. The final energy value indicates how much energy the building requires for hot water, heating and, if applicable, ventilation. As a rule, the higher the energy efficiency, the lower the climate-damaging emissions.

Warm rent [conditional display]: Indication per month after modernization; the warm rent corresponds to the cold rent plus the heating costs borne by the tenants (cold ancillary costs are not considered in detail here).

Initial yield [conditional display]: The initial yield serves as a benchmark for comparing real estate investments. With the initial yield, the landlord's additional income from the modernization in the first year is set in relation to the capital invested. The additional income is made up of the increase in the basic rent and the landlord's possible contribution to the heating costs. The capital invested corresponds to the modernization costs minus the subsidy.

All properties not listed here are to be regarded as the same or equivalent between the options shown, such as the duration of the construction measure or the impact on the home furnishings or living comfort (no change). It may well be the case that some of the options shown do not appear realistic at present with the properties shown. Please do not worry about this and imagine that the options would be available to you in this form, for example because they are made possible by political decisions or technical innovations.

Choice Task_1: If these were your only modernization options, which would you choose?

1. Option 1
2. Option 2
3. I wouldn't choose either option

Table 1: Characteristic and units of expression conjoint questions/choice experiment

Features	**shown**	**In brackets**
Basic rent	in EUR	Percentage change and ordinal description
Heating costs	in EUR	Percentage change and ordinal description
Landlord's share of heating costs	in EUR	in percent
Modernization costs	in EUR	Ordinal description
Promotion	In EUR	in percent
Energy efficiency	Efficiency class	Improvement in stages

Added *below (conditional relationship)*

Features	**shown**	**In brackets**
Warm rent	in EUR	Percentage change
Initial yield	in percent	Improvement in stages

Note: Round euro amounts to whole numbers and percentages to 1 digit after the decimal point.

Table 2: Features and characteristics of conjoint questions/choice experiment

	Characteristic values				
Basic rent	0% (no increase)	+10% (slight increase)	20% (medium increase)	30% (high increase)	40% (very high increase)
Heating costs	-80% (very large savings)	-60% (large saving)	-40 % (average savings)	.-20% (small saving)	0% (no savings)
Landlord's share of heating costs	0% (no landlord participation)	25% (low landlord participation)	50% (half landlord participation)	75% (high landlord participation)	100% (very high landlord participation)
Modernization costs	200 EUR/m² (very low)	400 EUR/m² (low)	600 EUR/m² (medium)	800 EUR/m² (high)	1000 EUR/m² (very high)
Promotion	0% (none)	10% (low)	25% (medium)	40% (high)	50% (very high)

Energy efficiency	Improvement by 1 class	Improvement by 2 classes	Improvement by 3 classes	Improvement by 4 or more classes	

Sample calculation for Choice Task tenants

Basis/ initial situation for tenants: The modernization options are described by (values are provided by RWI)

- Cold rent, previously: Sdkm
- Heating costs, previously: Sdhk
- Landlord's share of heating costs, previously: Sdvhk
- Energy efficiency, previously: Sdee
- Living space: sdist5
- Warm rent: Sdwm

Sample calculation for Choice Task landlords

Information for landlords in the standard case [for deviations see below]

- V1 (rent) known
- V1a = 2 (heating costs not included in rent)
- V1b =2 or 3
- V1c =2 or 3
- V1a_1 (heating costs) known
- Landlord share (V1a_2:) = V1a_2 = 1 (100% tenant) or V1a_2: = 2 (100% tenant, key) or **if V1a_2 = 5 (don't know/no information), then assume 100% tenant** share

Basis/ initial situation for landlords, in the standard case: The modernization options are described by

- Cold rent, previously (Sdkm_v) <= V1
- Heating costs, previously (Sdhk_v) <= V1a_1
- Landlord's share of heating costs, previously (Sdvhk_v) <= V1a_2 = 0%
- Energy efficiency, to date (Sdee_v) <- Bel1_Lessor (conversion according to Table 3) or Bel2_Lessor
- Apartment size (Ist5_v) <- V0 **(if V0 = 2; then set to 100 sqm)**
- Warm rent (Sdwm_v) <= Sdkm_v+ Sdhk_v

Deviations from the standard case (landlord)

If heating costs or rent are unknown:

- If V1a_1= 2 (heating costs unknown), then Sdhk_v <= mhk_v_average (median heating costs calculated by RWI)
- If V1 = 2 (rent unknown), then Sdkm_v <- mkm_v_average (median rent calculated by RWI, general average based on rent in main survey)

If other cost allocation between tenant and landlord

- If V1a_2= 3 (0% tenant), then Sdwm_v = Sdkm_v + (Sdhk_v*0) [warm rent = cold rent in initial situation]
- If V1a_2= 4 (% pro rata), then Sdwm_v = Sdkm_v + (Sdhk_v*Sdvhk_v)

If ancillary costs are partly included in the rent

- If V1b=1 (electricity costs included in rent) & V1b_1=1 (electricity costs known), then Sdkm_v = Sdkm_v- V1b_1
- If V1b=1 (electricity costs included in rent) & V1b_1=2 (electricity costs unknown), then Sdkm_v = Sdkm_v - 0 (unchanged)*

- If V1c=1 (service charges included in rent) & V1c_1=1 (service charges known), then Sdkm_v = Sdkm_v -V1c_1
- If V1c=1 (service charges included in rent) & V1c_1=1 (service charges unknown), then Sdkm_v = Sdkm_v - 0

Table 5: Programming note: Prohibitions of combinations of the characteristic values of heating cost savings and energy efficiency

Prohibitions of combinations		Heating cost savings				
		-80% (very large savings)	-60% (large saving)	-40 % (average savings)	-20% (small saving)	0% (no savings)
Energy efficiency	1 class					
	2 classes					
	3 classes					X
	Optimum				X	X

See also CBC Design.

1.3 Post-conjoint questions

Post_choice1: What were the most important characteristics for your decision? (Please select a maximum of 3 features)

[Insert features DCE] + calc. warm rent + initial yield

+ None of the listed properties

+ don't know/no answer

Post_choice2: Which of the properties listed were unclear to you?

[Insert features DCE] + calc. warm rent + initial yield

+ None of the listed properties

+ don't know/no answer

Post_choice3: Which of the following characteristics would still be relevant to your decision - regardless of the characteristics already considered? (Please select a maximum of 3 characteristics).

Programming note: Randomize with the exception of the last 2 properties

1. Financing aspects (incl. investment risk, amortization period, details of funding opportunities, etc.)
2. Recommendation from an independent energy consultant
3. Change in living comfort (e.g. better cooling in summer, increased / reduced moisture formation, etc.)
4. Space requirement and effects on living facilities (e.g. space requirement for storage tank, boiler, etc.)
5. Duration of construction measures (e.g. 1-3 days, 1 week, 1 month)
6. Possibility of extending the modernization (e.g. through subsequent additions) / Combination with maintenance measures in the usual refurbishment cycle
7. Warranty period
8. Expected useful life
9. Place of manufacture of the materials used
10. Administrative expenses (e.g. for funding)
11. Other, namely: Free text field
12. All properties relevant to the decision were specified
13. don't know/no answer

End EGI