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STEP-IN

D4.3 – Data analysis report (Rural Living Lab)

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Abstract: The deliverable contains the results of the second and third rounds of the rural Living Lab in Nyírbátor area, Hungary

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Dissemination Level
PU Public

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Glossary

Abbreviation / acronym	Description
EC	Energy Cafe
EE	Energy Efficient
EVI	Energy Vulnerability Indicator
HEA	Home Energy Advisor
LL	Living Lab
NGO	Non-governmental organisation
PEAS	Personal Advice Sheet

1. Executive Summary

The Hungarian Living Lab was in the eastern part of Hungary close to Nyíregyháza, in the district of Nyírbátor and its neighbourhood. The Hungarian Living Lab is operated by three partners. Maltai organizes the home visits and provides the infrastructure background of the Living Lab work. Ariosz is responsible for the methodology framework of the project. E.ON, as the main energy utility in this area, developed the training materials for the Home Energy Advisors (HEA), participated in the Energy Cafes and constantly supports the fieldwork of Máltai. Besides the three main partners, plenty of local stakeholders joined our efforts to tackle energy vulnerability.

In the second and third Living Lab rounds, we implemented the following Living Lab activities:

- Information campaigns
- Organisation of the energy café
- Recruitment of Living Lab Participants (for the V2 and V3 LL activities);
- Reconnecting households to the energy grid
- Home visits from the Energy Advisors
- Operation of an Information Centre
- ICT tool
- Analysis of aggregated data sources
- EnergyAdventure school program
- Focus group discussion
- Evaluation of impacts

30 of the first-round participant households had no formal electricity access at the time of the home visits. These households did not have a contract with the utility, or the contract was cancelled. In their cases, our HEAs had limited options. A complex solution is needed to solve this problem where local municipality works together with utilities and the NGOs. Working together with local partners and municipalities, we managed to reconnect 14 households to the electricity grid during the project period.

In the second and third Living Lab rounds, we tried to establish a strong partnership with other local NGOs (Non-governmental organisation) and representatives of local municipalities. It was much easier to engage communities with the help of already embedded actors. The new engagement model went much better; more people participated in round 2 and round 3 than in round 1. We carried out 215 home visits in the second LL period and 292 in round 3.

We organised two energy cafes in round 2 and three additional Energy Cafes in the third Living Lab round. Energy cafes served as a promotion event and, more importantly, a cooperation building opportunity to involve people having a key role in the settlements, such as public work group-leaders, municipality, and community house workers. The immediate result of Energy Cafes was that we could reach a narrow but typical group of the local population to introduce STEP-IN to them, emphasise the necessity of the surveys and how its outcome can help them. In the long run, energy cafes helped to make our presence accepted and understood. It was a good start to address people, as most of the participants were engaged in the surveys and advisory sessions. Those interested also passed information about the program to their relatives, friends, neighbors, supporting the successful conduction of establishment surveys.

In the second Living Lab round, the ICT tool developed by LIST became available for the advisors. The ICT made the whole consumer handling process much more manageable. The HEAs could upload the home visit questionnaire to the tool, and they could generate the report there directly (the ICT tool

will be explained later in more detail). This process shortened the elapsed time between two contacts with a household and made the counseling work more efficient.

In the third Living Lab round, we developed a smart meter-based energy report and added it to the ICT features. This was available for the households with smart meters. The report has several relevant elements. It contains a consumption comparison with other local households and a monthly electricity consumption sum. It also includes a daily consumption curve figure which shows the hourly consumption on weekdays and on Saturday and Sunday. We added a COVID-19 comparison figure to the report, which presents the daily consumption curve before and after the COVID-19 related restrictions came into force.

Within the project framework, E.ON gave access to aggregated energy consumption data of Nyírbéltek. Nyírbéltek was one of the settlements we involved in LL round 3. We could use this data to draw the within-day curve of consumption, compare the different day types or even check the impact of COVID-19 on consumption. We used this data for the latter purpose. In order to understand better the impact of COVID-19, we compared the electricity consumption of 2020 with 2019. We focused on the September-December period. The second wave of COVID-19 started at the end of August in Hungary, and new restrictions came into force beginning in September. The electricity consumption was higher in 2020 compared with 2019 in all the analyzed months. The overall difference was 9 percent. We calculated the same measurements for the weekdays, and all the trends were the same there. We can draw the conclusion: due to the restrictions people stayed at home, used more appliances, and used more electricity. This was a heavy burden on those households who were already deprived. In the next section, we present this in more detail based on our impact assessment questionnaires.

In order to map the COVID impacts, we added a COVID block to the impact assessment questionnaire. This question block was identical to the ones we used in the other LL's (Metsovo, Manchester). Based on this data, 46 percent of the participants said that they spent more time at home. The average increase was around 3 hours. Participants experienced many negative consequences of the restrictions, and it affected the basic needs of these households. 54 percent of the households had difficulties in affording adequate food. Childcare was another issue; 46 percent had difficulties in managing the kids. On top of that, 32 percent had difficulties managing care for other members of the household. Due to the COVID pandemic, the Hungarian government introduced a moratorium on arrears. We did not have a specific question about that in our survey, so we don't know how many people stopped paying their arrears. But based on the experience of our local Energy Advisors, most households took advantage of this opportunity. In the short term, this could have a negative impact on energy awareness, as these households don't have to pay attention to their bills.

36 percent of the visited households (212) took part in the impact assessment. 67 percent of the households did some refurbishment or bought new energy-efficient appliances. Based on these actions, we could estimate a 5.3 percent possible reduction in energy bills and a 5.9 percent reduction of energy usage in kWh based on refurbishment actions and energy efficieny imrovements. If we project this number to our whole sample, we could estimate an annual 0.66 GWh energy saving. But as our earlier results showed, we could not measure a significant change in consumption based on the energy bills. Even there was a small 0.2% increase in bills and 1.1% increase in energy usage.

As our initial home visits showed clearly, there was massive underconsumption in many households. The comfort level was very low in the targeted population, and some of the households had to cut back on basic needs in order to pay their bills. So, we can assume that some of the above calculated estimated energy savings were turned back to improve the comfort level of these households. We also have to consider how COVID impacted our results.

13.2 percent of the households had better conditions regarding housing problems (mould, dampness, condensation on the wall, leaking roof, ideal temperature), and 15.3 percent felt improvement in arrears. 18.8 percent of the households had an improvement in life quality. 36.8 percent of those who took part in the impact assessment questionnaire had improvement in at least one area.

In the project description, we aimed to improve the life of 750 people. Based on our results, we managed to improve the life of 793 people in the project period, despite the negative impact of COVID-19.

The improvement of quality of life went hand in hand with a positive behaviour change. 43 percent turn off the light more frequently when they leave a room, 28 percent set the temperature lower than before to avoid over-heating, and 36 percent use less water when bathing. But as the effect of COVID, 28 percent use their electronic appliances more often. Overall, 45 percent of the respondent changed their behaviour as a result of counselling, and 70 percent said that they understood better their energy expenses. In the project description, we expected a positive behaviour change for 750 people. We reached a higher number at the end; 970 people changed their behaviour and made better decisions than before. We did not find significant differences between the target groups in this dimension.

The STEP-IN project was featured on the local television, and we disseminated the project in conferences and expert meetings. We distributed the general advice booklet and the project leaflets in the energy cafes and during the home visits. 602 home visits were carried out in the rural LL, and 149 people participated in the energy cafes. Energy Cafes served as an excellent channel for engagement. 42 people who participated in Energy Cafes signed up for home visits. We directly engaged 709 households throughout the Living Lab lifecycle. Overall, these households were estimated to contain 1829 people. The Hungarian Facebook page of the rural LL was followed by 116 people. We released more than 100 posts in the project period.

Considering the above-mentioned figures, the total number of people with whom the LL engaged in face-to-face communication was 709. Through information material, dissemination of the results, round tables, etc., over 3,800 people were engaged.

The rural STEP-IN program was cited in two policy documents. On the European level, it was cited in the ESPN report: Access to essential services for low-income people – Hungary country report (https://ec.europa.eu/social/BlobServlet?docId=22811&langId=en)
On the national level, the project was cited in a Cooperation Agreement between the Hungarian government, E.ON and Máltai – related to a new programme in Tiszabő.

2. Introduction

The Hungarian Living Lab was in the eastern part of Hungary close to Nyíregyháza, in the district of Nyírbátor and its neighbourhood.

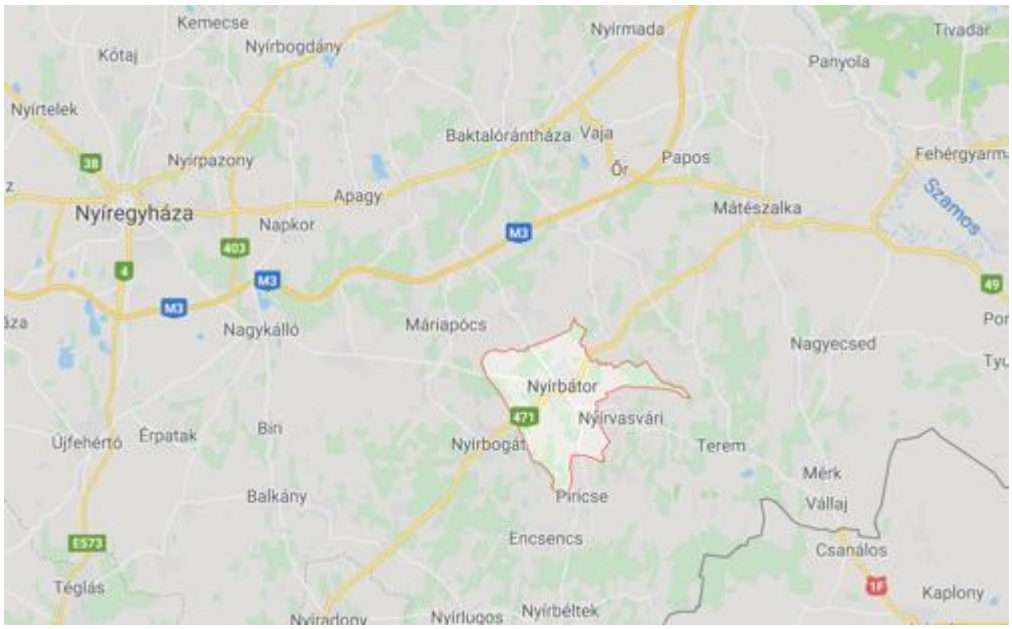

Figure 1: Map of the area (source: Google maps)

Around 50,000 people live in this area in more than 20 settlements. Most of the settlements are villages; there are only 5 cities. Nyírbátor is the biggest with a population of 12,000 people.

Table 1: statistics of the LL area 1. (KSH, E.ON)

District	Nyírbátor district	Hungary
Population	50k	9.8M
% 0-18 population	21.%	17%
Children living under disadvantageous circumstances	17.%	5%
% Unemployment	6.%	3%
% Education (low)	46%	36%
% state work	11%	3%
Mean work income (euro) / taxpayer	166	238
% Roma	13%	3%

21 percent of the population is below 18 years old, which is higher than the Hungarian average value. More children live in disadvantageous conditions than the average. The unemployment rate is 6 percent, but there is also another 11 percent who does state work[1]. In Nyírplis and Nyírvasvári, this ratio is above 20 percent. The mean monthly net income per household member is 166 euros, which is much lower than the average value in Hungary (238). Based on the 2011 census, 12.9% was Roma in

[1] This a typical Hungarian employment form employed by the local municipalities. In order to get some of the forms of social subsidy after a short period of unemployment, people must work in state work programmes.

this area, but there is a consensus among scholars (Tátrai et al 2017) that the census underestimated the number of Romas, so this rate is probably around 15-20 percent. This is important as Roma's were one of the target group of our local progam.

To assess the initial situation in this area, we conducted a baseline survey using a detailed questionnaire about energy usage, energy needs, energy literacy and other aspects of energy poverty (housing conditions).
Overall, heating with firewood or pellet seems to be more typical, 65 percent of the household can use this heating solution, and 53 percent have the option to use gas. In 21 percent of the households, a secondary heating system is also available (typically gas and wood).
We had asked several questions about the condition of the dwelling, possible restrictions on paying the energy bills, questions about the thermal comfort, and also questions about payment for energy. In the case of dwellings, the most common problem (32 percent) was that dwellings are not comfortably cool during the summer. The lack of good quality insulation could be the cause of this. Nearly the same number of respondents (28 percent) said that their dwellings were not comfortably warm during the winter.
An average household spent 15 percent of their income to cover their energy expenses, which is a better ratio than earlier national studies showed. But more than 25 percent of the households spend more than 20 percent of their income on energy bills, which might be an even bigger burden in the winter months when most of the heating expenses have to be paid.

The Hungarian Living Lab is operated by three partners. **Maltai** organises the home visits and provides the infrastructure background of the Living Lab work. **Ariosz** is responsible for the methodology framework of the project. **E.ON,** as the main energy utility in this area, developed the training materials for the Home Energy Advisors (HEA), participated in the Energy Cafes and constantly supports the fieldwork of Máltai. Besides the three main partners, plenty of local stakeholders joined the efforts we made to tackle energy vulnerability.

This document aims to present the methodology used and the results derived by the V2 and V3 operations of the rural Living Lab (LL) in the Nyírbátor area, Hungary.

3. Living Lab Implementation

3.1 Overview of Living Lab Timeline and methods we applied

In this chapter, we present the implementation of the Hungarian rural Living Lab. The methodology we used had a lot of similarities with the other 2 LLs, but we also had to deal with unique challenges, and we also had to develop our unique methods. Local aspects of energy vulnerability are important; there are no general solutions. We even had to shape our own advice framework per target group in order to find answers for all their needs. In this chapter, we will present all the methods and techniques we employed in the project. We will get back to the lessons learned in chapter 4.

Energy Cafes

Energy Cafes are key parts of the STEP-IN methodology. Based on the lessons learned in round 1, we had decided to shape the objectives and the format of the Energy Cafes for the second and third LL round. The primary objective of the cafes was to raise awareness toward the project and to help arrange new home visits. But of course, we tried to collect as much useful information about our services as possible in these cafes. Energy Cafes were really useful ways to enter into new communities.

Home Visits and follow-up work

Home visits are the core element of our service. Our trained energy advisors visit those households who agree to take part in the project. They fill out an establishment survey with the participants and start a dialogue with them about energy usage and possible energy reduction methods (where appropriate). HEAs share project materials with the participants and also try to identify those actions, which could lead to energy reduction, more balanced energy usage, or improvement of comfort level.

After the first visit, we offer additional services to the participants. The key part of this service is a personal advice sheet (PEAS), which presents the calculation of the household's energy consumption, provides a comparison with similar households, presents the disaggregated electricity consumption on the appliance level, and gives special advice based on the questionnaire data. But above this, our HEAs also help the consumers with their specific needs, search for refurbishment schemes for them, help them to overcome the arrears or help them access electricity if they are not connected to the system (see later). We developed a smart meter energy report, which was available for those households that had smart-meters.

Methodology and impact assessment

The methodology assessment of the Living Lab consists of a qualitative and a quantitative element. HEA's write a summary of their experiences from a methodological point of view. What part of the questionnaire was hard to fill out, which part of the advice framework is easy or hard to use, what are the most challenging situations? We updated our home visit questionnaire based on these summaries in rounds 2 and 3.

The quantitative impact assessment was built on a follow-up questionnaire. We managed to fill out 200+ follow-up questionnaires. We did the first round of follow-up interviews between May and August 2020, and we did most of the second and third-round impact assessments in January 2021. The results of the follow-up visits are heavily impacted by COVID-19. We will give a detailed analysis of this in chapter 4.

We organised focus group discussions and expert meetings to shape the applied methodology. These meetings helped us improve our engagement strategies.

We had access to aggregated energy consumption data in Nyírbéltek. This data was very useful for estimating the impact of COVID-19 on electricity consumption.

Smart data and aggregated energy consumption data

In the third LL round, we added a new settlement to the programme: Nyírbéltek. Nyírbéltek was a special settlement regarding available data sources. E.ON deployed two aggregator measurement points there in 2018. This allowed us to monitor the aggregated electricity usage of these districts continuously. Around 100-150 households live in each district. The 15 minutes granular electricity consumption data is available here from 2018. We primarily used this data to estimate the impact of COVID-19 on electricity consumption (section 0).

E.ON also deployed pole-meters[2] in Nyírbéltek. Pole-meter is a special electricity meter type. In this case, the meters are not within the house as usual, but they are fixed to the electricity pole. This meter type has one very important feature. It records the electricity usage every 15 minutes, so it works like a smart meter. This data makes it possible for us to create smart-meter electricity reports. We will introduce this report type in section 3.2.4.

Connecting households to the electricity grid

30 of the first-round participant households had no formal electricity access at the time of the home visits. These households didn't have a contract with the utility, or the contract was cancelled. In their cases, our HEAs had limited options. A complex solution is needed to solve this problem where local partners and municipality works together with utilities and the NGOs. Working with local municipalities, we managed to reconnect 14 households to the electricity grid during the project period. We will describe the process in section 3.2.5.

Energy Adventure – school visits

In today's world, it is becoming increasingly important to have a basic knowledge about energy. It could help us to make responsible decisions about our own energy use in our daily lives. Through the EnergyAdventure program, we want to use our expertise to support the new generations, in cooperation with schools, in making it as easy as possible for them to acquire this knowledge using modern and creative tools.

The internet portal www.energiakaland.hu related to the program provides free energy knowledge for children between the ages of 5 and 18. The E.ON EnergyAdventure program aims to educate children about energy and environmental awareness with modern and creative tools and to help them make responsible decisions about their own future energy use.

In addition to making adults more aware, children must also be aware of the potential for savings. That's why we included EnergyAdventure in the project. The Energy Class is held by E.ON staff and the Hungarian Maltese Charity Service staff within the framework of the STEP-IN program.

[2] https://youtu.be/fvj7AUBCXrk – E.ON experts present the pole meter technique

3.2 Methodology Employed

In the next section, we will provide detailed information on the methodology we have employed in the second and third Living Lab cycles. We will summarise the results and lessons learned in chapter 4.

3.2.1 Recruitment of Home Visit Participants

In the first LL round, 93 households participated in the Home Visits. This number was much lower than we expected. The original plan was to recruit 200 households in the first round of home visits. The main difficulty with engagement was that the embeddedness of Máltai in Nyírbátor was not so firm. Thus, it was challenging for the HEAs to raise public interest there. The opposite was true in Nyírpilis - where Máltai had an ongoing solid presence through the Children's Chance program. The program's operation and Máltai social workers' continued presence created an environment of trust where local engagement was much more manageable. In the second and third Living Lab rounds, we tried to establish a strong partnership with other local NGOs and representatives of local municipalities. It was much easier to engage communities with the help of already embedded actors. The new engagement model went much better; more people participated in round 2 and round 3 than in round 1. We also made some minor modifications to the questionnaire that we used for the home assessment. We updated the questions about heating and gas consumption to better mirror the habits of the participating households. In the second LL period, we carried out **215 home visits** and in the 3 round we visited **292 households.**

Energy Cafes were also had an essential role in the engagement process. Energy cafes helped to make our presence accepted and understood. It was a good start to address people, as most of the participants were engaged in the surveys and advisory sessions. Those interested also articulated the program among their relatives, friends, neighbors, supporting the successful conduction of establishment surveys. Thirty percent of those who participated in the Energy Cafes later also participated in the home visits.

3.2.2 Benchmarking and Market Segmentation

We defined three main target groups in the Hungarian LL: pensioners living alone, households with 3+ children, and minority people living in segregated districts (we used people own classification to measure the ethnicity). We tried to recruit participants from these target groups. But we didn't apply any filtering technique before the home visits. So, everyone interested in this area was able to participate in the program. In the second and third LL round, we focused on some specific areas where the segregation level was higher. Mostly Roma population lives in these areas. In segregated neighborhoods, the formal energy access is not general, and several households are off the grid. In their cases, we used specific reconnection schemes (see later).
The benchmarking is based on an establishment survey completed at the start of the home visit. We asked detailed questions about actual energy usage patterns, planned EE interventions, dwelling problems, and energy awareness.

3.2.3 Energy Cafes

We organised two energy cafes in round 2. The annual expo "Nyírbátor city days" was held in Nyírbátor on September 20-22, 2019. Ariosz, Maltai, and E.ON represented the STEP-IN project at the event. Interested citizens had the opportunity to learn about STEP-IN services and could also complete a small energy quiz. Ariosz, Maltai, and E.ON started discussions with 42 citizens and organised new home energy visits. The event was an excellent opportunity to raise awareness towards the STEP-IN project in Nyírbátor and to discuss energy-related questions with people who are otherwise difficult

to reach. Building on local events or programs such as this is a very successful engagement strategy for the project.

Figure 2: Bátori expo

We held the 4th Energy Café, at Nyirpilis, on March 9th, 2020. The main topic of the event was safe access to energy sources and possible ways of reducing heating costs. Through this event, we reached a lot of new potential participants for ongoing home visits. Twenty-seven local people participated in the EC. This EC was the last face-to-face event before the COVID-19 lockdown.

Figure 3: EC at Nyírpilis

Fifteen people filled out a small evaluation questionnaire after the EC. Eighty-seven percent fully agreed that the shared information was helpful, 67 percent said they could decrease their energy usage based on the tips, and 93 percent said they could ask what they wanted to ask. Respondents were also able to add qualitative feedback. They said the most helpful information was about the safety issues and the information about firewood heating.

We organised three Energy Cafes in the third Living Lab round. We could organise all ECs as face-to-face events, but in the 6'th and 7'th EC, we had to limit the number of participants, and we also had to introduce special social distancing rules to avoid COVID infections. The 5th Energy Café was at Nyirkáta on September 10th, 2020. Thirty-eight citizens participated in the Energy Cafe, and more than half of the participants signed up for home energy visits within the scope of our STEP-IN project.

Figure 4: EC at Nyírkáta

The Energy Café held in Nyírkáta had two main target groups: Máltai and its public employees working at the Presence Point and the Nyírkáta Municipality's public employment "brigade." Nyírkáta has incomplete access to public utilities. 90% of the properties have electricity, 50% of households have piped gas, and 73% have piped water. Utility arrears are typical. Housing support is typically issued in cash and is not transferred to a service provider. Service providers do not have a local office; customers have to travel to Mátészalka or Nyírbátor for administration. The use of real estate and consumer relations is also unsettled, which is why local social workers have a significant role to play in both administration and handling of arrears. In the Energy Café, debt management was a recurring theme - it was primarily linked to utility arrears.
Completing the Energy Quiz at the Energy Café was challenging for the participants but instructive, as most of the participants' responses were incorrect. This energy Cafe was a perfect "ice-breaker" in this settlement. It raised trust and supported our fieldwork activities.

We organised the next EC in Nyírbéltek – with the same objectives. Ten people participated; most of them live in the segregated part of the settlement. Nyírbéltek is a relatively large settlement - about 2,100 people live there. People live in similar life situations and have similar problems as all the surrounding settlements. The problems and issues were identical to those in previous sites. In the beginning, the atmosphere was a bit frosty because participants were afraid that the energy cafe would prepare a service check by the utility. But once the situation has been explained, it turned out that they had been waiting for help. The local minority leader was especially pleased with our program because he could not handle complex cases himself. Before COVID-19, local training was organised, the community house functioned, but restrictions cut off these opportunities. This event helped us start a discussion with the local Roma community and raise the trust level toward our service.

The last EC was held in Nyírbátor in November, with 11 participants. There was a live discussion around heating problems. Indeed, firewood is the primary heating source in most households there, and proper storage of the firewood could increase its effectiveness by 30-50 percent. We discussed possible community solutions that could support pensioners as well.

Figure 5: EC at Nyírbátor

3.2.4 Home Energy Advisor Visits

Home visits are the core part of the service we offer within STEP-IN. Home visits are carried out by the trained Energy Advisors. Home visits start with a brief presentation of the program and the service that STEP-IN offers. Advisors explain how we process the data that we collect and assure the participants that personal information will be recorded only to track the program development, and this information is stored separately from other data. The participants then have to sign a consent form. The basic procedure of Home Visits was identical in the three Living Lab rounds.

The counseling work started with an establishment survey. We made some modifications to the questionnaire in round 2 and round 3. We got instrumental and detailed feedback from our advisors on which questionnaire block is problematic for them. Most of the modification was linked to the heating part, and participants struggled in estimating the heating expenses in the case of firewood

heating. We tried to apply only minor alterations to keep the comparativeness of the data. In the third round, we added a new COVID-19 related block to the questionnaire. This block was similar to the one used in the other two Living Labs (Metsovo, Manchester). The third-round questionnaire is available in the annex (in Hungarian).

Based on the survey, advisors got a general picture of the household's conditions, and they could identify possible action points. At that point, they could discuss the next steps with the housholds. The following steps could vary, and it depended on the needs and the feasibility of the given solution. If there had been no electricity access, they could facilitate the discussion with the utility. If the household had arrears, they could offer an arrear-handling program and suggest a change to pre-paid meters (if there was a regular meter in the dwelling). If the household wanted to invest in EE appliances, they could present upcoming refurbishment programs. All the participating families got a general booklet with tips and suggestions about energy reduction strategies.

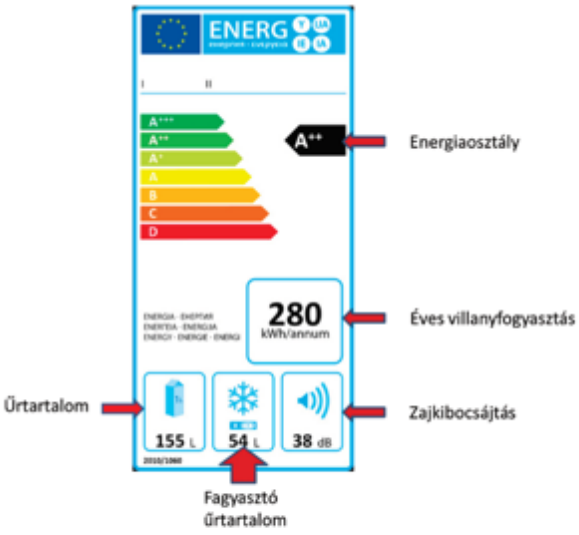

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Figure 6: General energy advice booklet (sample site) - Hungarian

We didn't finish the counseling after the first visit. Based on the questionnaire, we generated a Personal Advice Sheet (PEAS). In this report, we gave an overview of the household's general energy usage. We compared the electricity usage of the home with similar families, and we also disaggregated the electricity consumption on appliance level.

Elektromos eszköz	Fogyasztáson belüli arány (%)
Világítás	13.2
Elektromos tuzhely	17.5
Elektromos sütő	17.5
Mikro	9.3
Számítógép	10.5
TV	8.9
Mosógép	4.2
Hutö	8.9
Fagyasztó	7.7
Mobiltelefon	0.3
Egyéb elektromos eszközök	1.9

Figure 7: Estimated appliance level energy consumption - Hungarian

At the end of the report, we also give personalised advice to the household. Our algorithm can recommend possible actions, which could lead to energy reduction. If the home has regular bulbs, we calculate the pay-off period of changing to EE bulbs. If a household has old appliances, we present the possible energy reduction (and money savings) with new EE appliances. But we also give tips about heating and arrear handling if this seems to be feasible based on the questionnaire. In the first Living Lab round, the report generation was not automatic. First, advisors uploaded the filled questionnaire to the used Limesurvey platform. Then Ariosz downloaded the (anonymised) data and generated the report in R environment. The generated report was then sent back to the HEAs, and they can share it with the consumers.

In the second Living Lab round, the ICT tool developed by LIST became available for the advisors. The ICT made the whole process much more manageable. The HEAs could upload the home visit questionnaire to the tool, and they can generate the report there directly (the ICT tool will be explained later in more detail). This process shortened the elapsed time between two contacts with a household and made the counseling work more efficient.

In the third LL round, we add a new settlement to the program: Nyírbéltek. Nyírbéltek is a unique settlement regarding available data sources. E.ON deployed pole-meters in Nyírbéltek in 2018 and 2019. Pole-meter is a particular electricity meter type, meters are not within the house as usual, but they are fixed to the electricity pole. This meter type has one significant feature. It records the electricity usage every 15 minutes, so it works like a smart meter. This data makes it possible for us to create smart-meter electricity reports. But first, we had to develop the legal environment for this process. Consumers are the data owner, but E.ON stores this data. We developed a unique consent form for this process (see annex). If a consumer gives his/her consent, E.ON could provide access to this data, and we could upload it to the ICT tool. In the tool, we deployed a report generator algorithm developed by Ariosz experts. This script generates a smart meter report automatically when the proper CSV files are uploaded. HEA's could download this report and share it with the consumers.

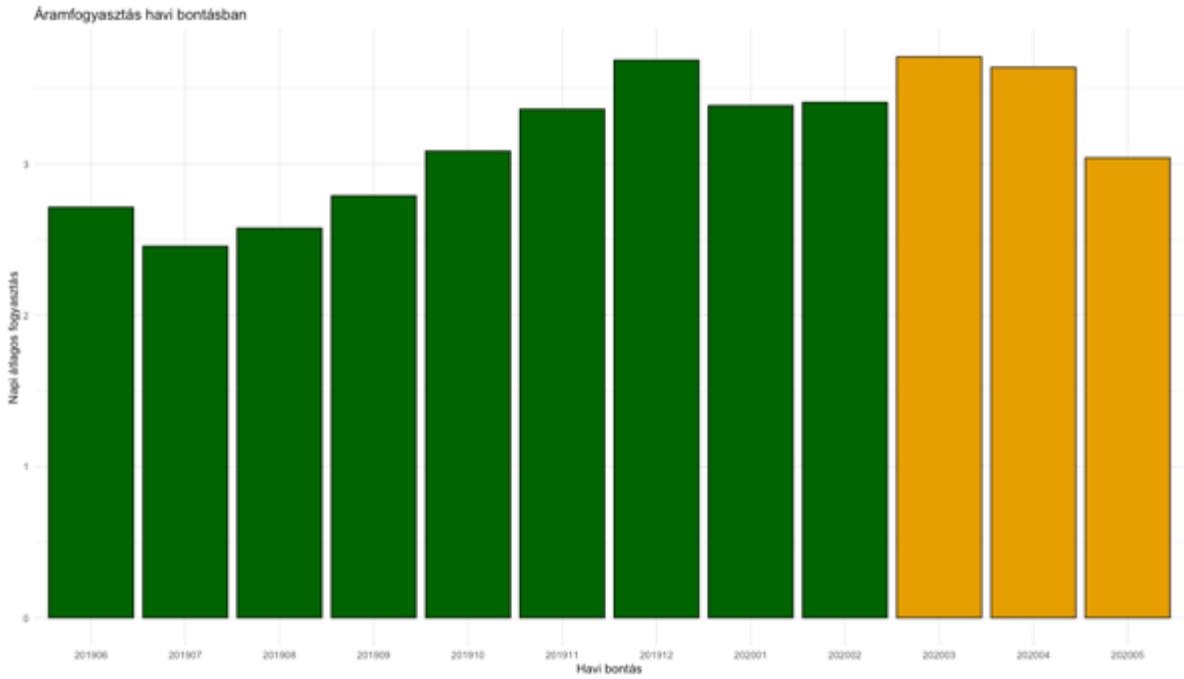

Figure 8: Monthly energy usage based on smart data - Hungarian

The report has several relevant elements. It contains a consumption comparison with other local households and a monthly electricity consumption sum. It also includes a daily consumption curve figure which shows the hourly consumption on weekdays and on Saturday and Sunday. We add a COVID-19 comparison figure to the report, which presents the daily consumption curve before and after the COVID-19 related restrictions came into force.

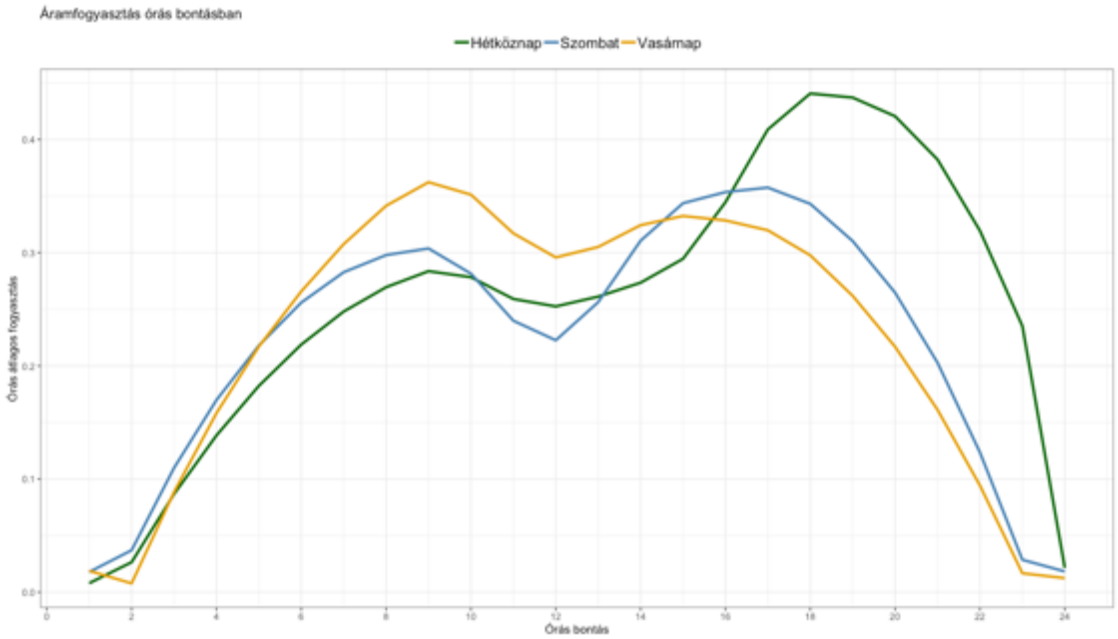

Figure 9: Daily electricity load profile based on smart data - Hungarian

And the most beneficial function of the report is the detailed daily and hourly outlier detection part. Here we show which days and which particular hours were those, where the consumption was the highest. This is an excellent tool for identifying appliances with high energy demand or even identifying broken devices. It is also helpful in identifying bad energy-using habits.

The smart report script was integrated with the ICT tool, but it had minimal use in round 3, as it took a long time to finalise the legal environment of the whole process. But the methodology is ready to use, and Máltai social workers continue their field presence in this area, and they can effectively use the developed methodology in their current work.

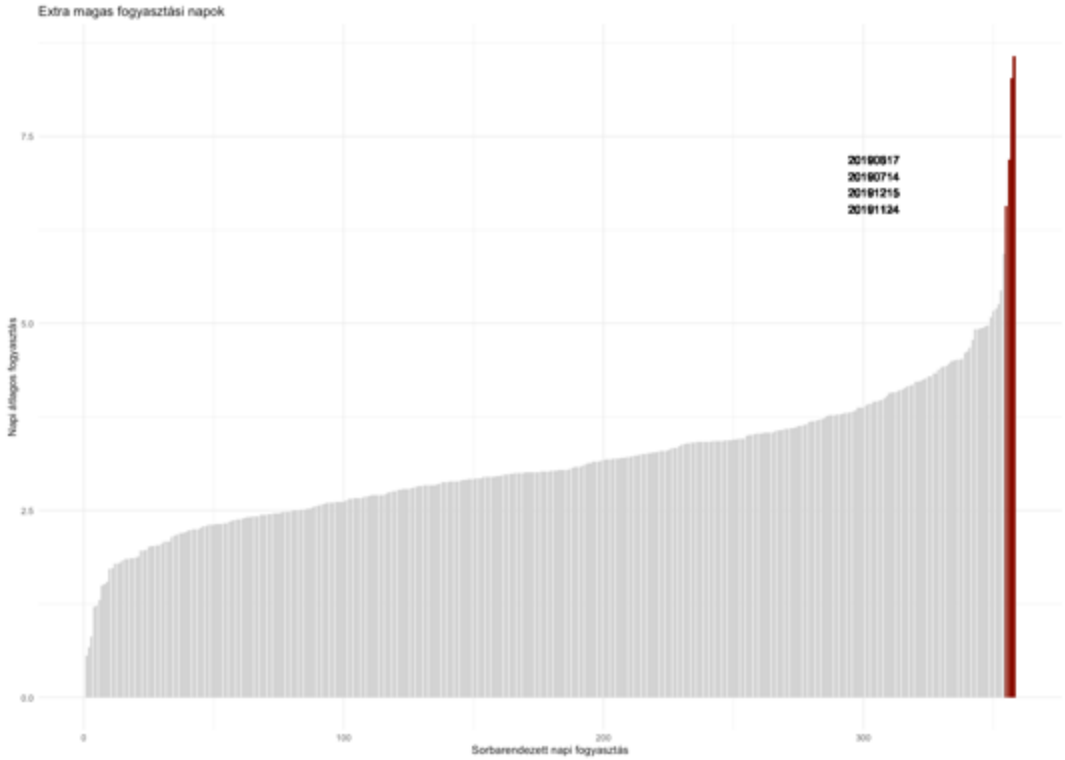

Figure 10: Outlier days with extra high consumption - Hungarian

3.2.5 Reconnecting households to the electricity grid

In parallel with STEP-IN, the Emerging Settlements[3] program has been launched in Hungary. Nyírpilis and Nyírmihálydi, where STEP-IN energy advisory services reached a significant part of the population, are also included in the Emerging Settlements program. In the Emerging Settlements program framework, a strong emphasis has been put on support for setting up a formal connection to the electricity grid. Lack of formal electricity access is a core issue in these settlements. Its management requires a complex approach incorporating social work with families and financial support - which the Emerging Settlements program has ensured - and professional advisory work which has been given in the framework of STEP-IN.

During the STEP-IN project timeframe, we were able to reconnect 11 households in Nyírpilis and three additional households in Nyírmihánydi. During mass checks, electricity provider E.ON has revealed irregular electricity consumption by multiple families.

Almost all families engaged in energy advisory and claiming support for reconnecting used to have a formal electricity supply (so the network is present) but have been disconnected for various reasons. It is prevalent that they have energy bill arrears and/or fines for informal consumption, which influences the reconnection process.

[3] The Emerging Settlements program is a national social inclusion program that was launched in 2019 and will cover 300 settlements in 10 years. It provides complex development measures for segregated areas and areas at risk of segregation.

We have received many support claims for limited funds. Thus, we had to set up eligibility and priority rules to decide who could be involved in the first round reconnection scheme. Support decisions were made by a multiparty committee. Criteria covered the number of children, financial situation and indebtedness of the family, electricity arrears, ownership situation, and technical condition of the house. The preparation phase took months, including getting a deeper understanding of the families' situation, preparation of documents, technical condition survey of dwellings, and negotiation with the electricity provider company. There were cases when reconnecting to the grid was turned down by conditions that could not be resolved in a foreseeable timeframe, e.g., a statical problem of the house, improper wires, or unsettled ownership.

Figure 11: A new meter is just deployed

As most families supported are struggling to live month to month, financial aid is an essential element. Due to their limited income and improper financial management practices, they cannot afford to pay the reconnection costs in a lump sum. Although previously they had a regular electricity supply, the old meters and their box did not meet new regulatory requirements; thus, setting up new meters imposed an initial cost. The families have received refundable financial support for the reconnection from the fund of the Emerging Settlements program. Families had to sign a grant agreement implying not only reimbursement obligation but continuous contact with the social workers.

The reconnections were realised for families expecting a child or raising small children. For them, a formal electricity supply is not only for comfort purposes or avoiding fines, but a primary tool for proper development of the children and keeping them in the family.
The families heavily rely on supporting social work before, during, and after the reconnection process. As a first step, social workers help reveal, understand, and reach the primary conditions for reconnection, such as clarification of ownership, arrear management, introducing prepaid meters, and a vulnerable consumer scheme for the families. As a requirement of the grant agreement, all of the new electricity connections were installed with prepaid meters, which helps to raise awareness of the actual consumption and prevents the accumulation of arrears and disconnection. The next step was filling out documents and making arrangements with the mechanic enlisted by the electricity provider. Parallel with this, Energy Advisors explained to the families what they could expect regarding energy bills. HEAs helped the families prepare for sustainable consumption and adjust their budget to handle electricity bills, which appeared as a new monthly cost. Given the families' fragile financial situation, energy efficiency advice mostly covered everyday tips that require awareness and simple care and no sizeable financial investment. E.g., do not switch on the light during the day but remove blackout curtains instead; use the night light instead of the TV running the whole night. Before the installment of the electricity connection, they were advised about the consumption of their electronic devices as well as how the prepaid meters operate. They have also started to learn how to read their consumption to become more conscious about energy consumption and budget for the upload. At first, they required continuous support to read the meters, as many of them were not aware of how kWh and numbers relate to each other and could not plan how much to upload.

Figure 12: A mechanic deploy a new meter

As a continuation, in Nyírmihálydi 5, new reconnection support claims have been received, which will be managed in the Emerging Settlements program. The safety upgrade of the inner wire grid has been

incorporated as a new program element. This upgrade covers work when electricity is transferred properly from the meter box to at least one bedroom within the house, with one light bulb and one socket installed, meeting safety regulations. A financial support scheme will be available as before, with an advance payment provided by the program reimbursed in installments by the families.

3.2.6 Energy Adventure – school visit

The primary school in Nyírpilis, one of the Living Lab's central locations, is managed by Maltai. Solid cooperation has been developed among other programs, Maltai and the schoolteachers. As many parents have already participated in the STEP-IN work, the introduction of STEP-IN for the pupils was well-grounded.

Figure 13: Our HEA Bea is presenting to the children

Sustainability Week, organised in October 2020, provided an excellent opportunity for ıtroducting STEP-IN on October 8th, 2020, an Energy Adventure program was organised for 10-12 and 13-14 years old, respectively. Altogether 36 students participated in the 2x40 minutes session.
First, we made a short introduction of STEP-IN, followed by a team-building game with colorful cards to raise activity and mood. The introduction was followed by energy educational exercises put together by Maltai based on the Energy Adventure program of the utility company, E.ON. A significant emphasis was laid on keeping the pupils active and responsive, involving them in the conversation, and encouraging them to react and share their thoughts and experience on the topics.
Following the introduction, students received picture illustrations to facilitate discussion on energy resources, which devices consume energy, and how they work. The debate was helped by motivation games like pairing illustrations to promote cooperation within the group.
The next topic was energy efficiency, where we used illustration cards combined with finding the opposite game to initiate discussion on consumption patterns. The session was closed by a game.
We initially aimed to incorporate online exercises, but it was not successful in the current setting (it was problematic to facilitate only one student engaged simultaneously).
As a general experience, most participants were active and interested, giving adequate responses to questions and topics raised. With the older age group (13-14 years old), we could get to deeper discussions on the energy issues, such as the way of energy, purposes of use, safety, and saving tips. Based on the reactions, both students and teachers were pleased with the program. Interactive games are assumed to be the key to success. One of the teachers even responded that she would incorporate the motivation game into her education practice.

3.2.7 Information Centre

Maltai's office in Nyíbátor serves as the Information Centre of the project. Dedicated time slots were available for citizens to meet the HEAs and discuss any energy-related questions. HEAs used this office to organise the home visits, record the information obtained from the home visits' questionnaire, and hold the follow-up meetings with participants. The Information Centre was not operated fully in 2020 due to COVID-19 related restrictions. But our HEAs were available through phone or email to everyone.

3.2.8 ICT Tools

In the second and third LL rounds, we used the ICT tool provided by our project partner, List.
A detailed description of the ICT tool is available in report D5.6. Here we only give a short overview of it.

As the mobile internet connection is far from ideal in this area, and the use of laptops/tablets might not be appropriate in households experiencing deep poverty, we used paper and pencil questionnaires to record the home visit survey questionnaires. After the visit, home advisors recorded all the data to the project ICT tool. The ICT tool was deployed in a server located in Hungary, and all the data was stored here. Only the dedicated colleagues of Máltai and Ariosz had access to the tool.

The app is available here:
http://stepin.ariosz.hu/Nyirbator/hu/

After the HEAs recorded the establishment survey data in the app, they could launch the report generation. The latter is the PEAS report described in the previous chapter. In round three, we also integrated a Smart Energy report developed by Ariosz. This report tool was also described in the earlier sections.

Advisors also used the tool to record all the contacts with the participants. They could check the previous meetings and the planned actions.

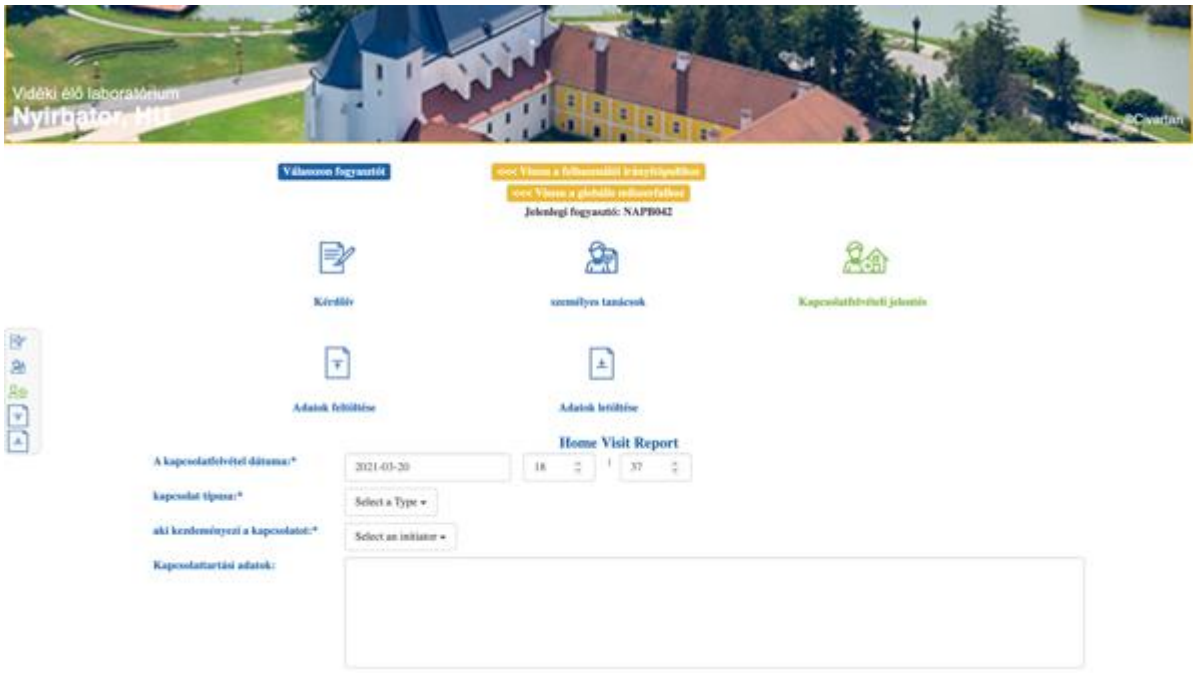

Figure 14: Screenshot of the ICT tool

The tool was handy for the Hungarian project leadership as well. We were able to check the state of the fieldwork and the progress of the project.

LIST added a Knowledge Centre feature which is available for the wider public without registration. All relevant Living Lab materials (Flyers, sample reports, General booklet) are available here.

3.2.9 Information Campaigns

We shared all project-related information on the Hungarian Rural Living Lab Facebook page (https://www.facebook.com/stepinhungary2019). In the project lifetime, we posted 104 posts. We shared energy reduction tips and suggestions, energy café related content or posts about other STEP-IN events (like the STEP-IN Winter School).

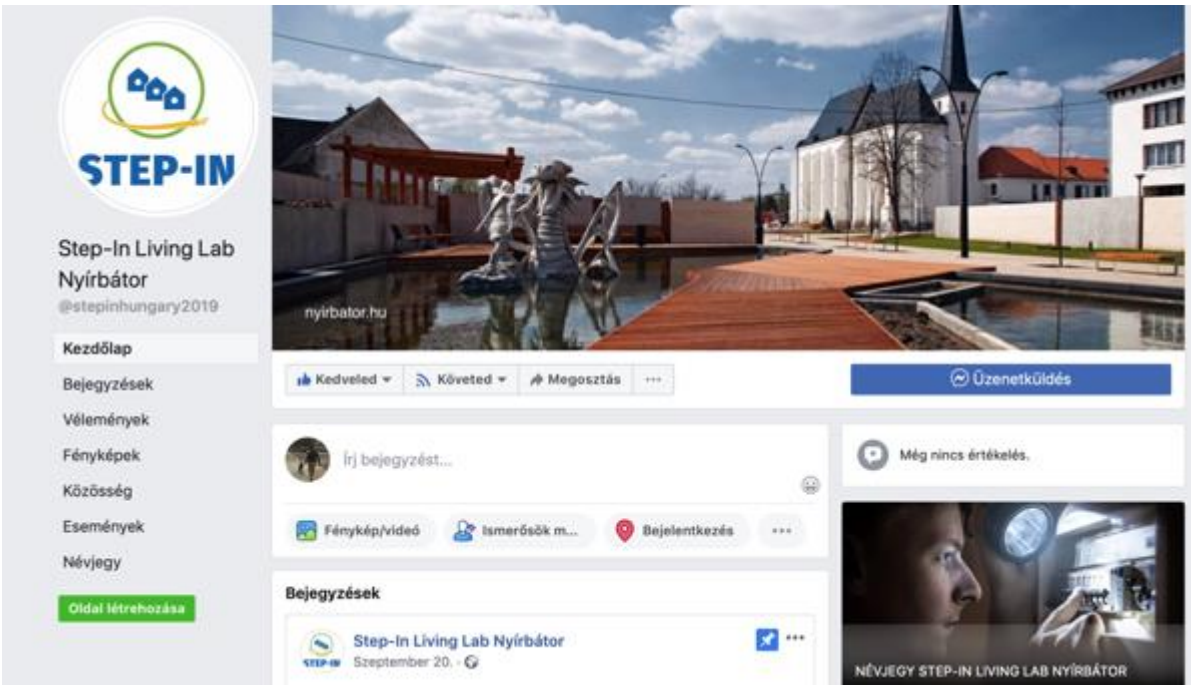

Figure 15: Screenshot of the Hungarian rural Facebook page

The Hungarian Facebook page of the rural LL was followed by 116 people. The daily page engaged user was 1622; the daily total reached 16853.

Table 2 Summary of Facebook posts

Year	Month	Post content	Number of posts
2019	**February**	Consortium	1
	April	EC related posts, Bátori news, Other articles	5
	May	Available subsidies, Bátori news, Other articles	9
	June	EC related posts, Other articles	7
	July	Energy reduction tips, Other articles	5
	August	Energy reduction tips, Other articles	3
	September	Nyírbátor Expo, Other articles	4

Year	Month	Post content	Number of posts
	October	Energy reduction tips, Other articles	2
	November	Winter School, Other articles	5
	December	Bátori News	1
2020	**January**	Available subsidies, Other articles	8
	February	Other articles	4
	March	EC related posts, Other articles, Flyers	12
	April	Flyers, Other articles	8
	May	Other articles	2
	June	Other articles	2
	July	Posts about energy awareness	2
	August	Other articles	1
	September	EC related posts, Other articles	4
	October	Other articles	4
	November	Other articles	2
	December	Other articles	1
2021	**January**	Other articles	5
	February	Other articles, STEP-IN videos	2
	March	Other articles, STEP-IN videos	5
Total			**104**

In the last phase of the project, our Greek partner NTUA created three videos covering different energy awareness issues.

Nyírbátor local television (Bátori TV) broadcast an interview with one of our Energy Advisor on the 4th of December 2019. The interview also reported on the STEP-IN winter school. On the third day of the event, the STEP-IN team visited the rural Living Lab and had a live discussion with the local Energy Advisors.

Figure 16: Screenshot of the Nyírbátor TV (source: Youtube)

In the home visits and Energy Cafes, we distributed the official STEP-IN flyer. After the first Living Lab round, we decided to create a second flyer focusing on the dangers of electricity. We worked with many households in the project where there was no formal electricity access. In these cases, safety was always the most important topic with the households. In the flyer, we covered the following topics:

- What is forbidden with electricity?
- What happens if someone gets an electric shock?
- How can we treat someone who gets an electric shock?

Figure 17: Safe energy flyer (page 1)

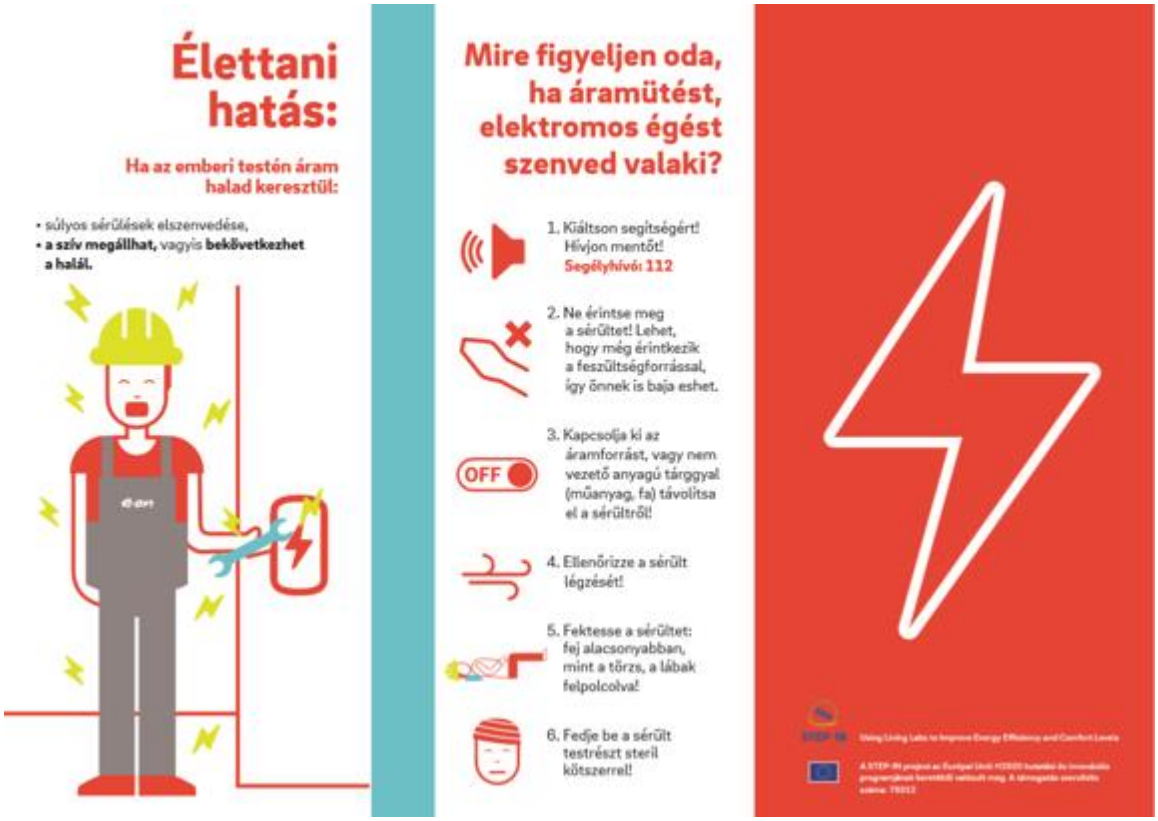

Figure 18: Safe energy flyer (page 2)

Finally, as a means to provide advice to local and national households, six animated videos were created for social media by our Greek partner, NTUA. All of the videos are translated into Hungarian. Each of these videos focused on a different subject, namely correct set-up of thermostats, benefits of regular maintenance of heating systems, advantages of digital thermostats, efficient use of fireplaces, advice about saving energy in the kitchen and during laundry. The next figure presents a snapshot from an advice video.

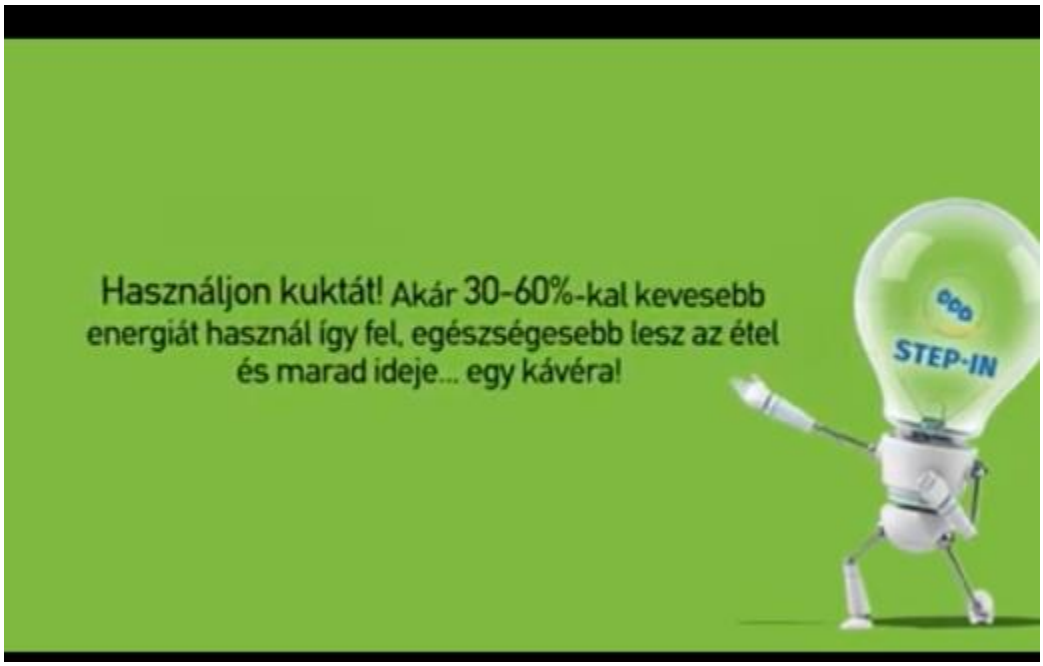

Figure 19: STEP-IN video

3.2.10 Focus Group

After finishing the first Living Lab cycle, we held a focus group discussion at Nyírbátor, on the 17th of October 2019. The main discussion developed around possible engagement strategies. Overall, the focus group meeting reached its objectives. We could improve our engagement strategy with the new information we got.

In the start of the third round (the 11th of September 2020), we organised the second Focus Group meeting in Nyírbátor to discuss the possible adaptation strategies during the Covid pandemic and the local problems in the segregatum of Nyírbátor. Colleagues working in the Community House staff participated in the focus group discussion. We organised the focus group discussion in the Community House. The Community House opened in the fall of 2017 as part of an EFOP tender and has been operating ever since. It is located locally in the northern residential area of Nyírbátor, separated from the city center by the railway line. This district is home to nearly 3,000 people, 25 percent of the local population. From a social perspective, it is the most disadvantaged, segregated part of the settlement. The district is characterised by poor housing conditions, low educational attainment, high unemployment, and many children.
The staff of the Community House primarily addresses families raising children. Colleagues requested that we take part in the Community House's professional activities weekly. In addition to financial difficulties - indebtedness or even a lack of income - energy efficiency is also a typical problem source. For this reason, in addition to developing energy awareness, there is a need for advice in resolving issues with service providers.

Figure 20: Focus group discussion in Nyírbátor

Within the STEP-IN programme, we tried to work with local NGOs, as they are the key actors in the community engagement in this rural area.

3.2.11 COVID-19

The COVID pandemic had a serious impact on everyday life. The pandemic started around March 2020 in Hungary. In the first months, the case number was relatively low, as the Hungarian government successfully implemented many restrictions to prevent the outbreak of the first wave. Schools and shops were closed, and people had been asked to stay at home. Around June, life went back to normal; the Hungarian government lifted most of the restrictions. The second wave started around the end of August and reached its peak around November. Primary schools were not closed during the second wave, just the secondary schools, and a curfew has been introduced between 8 pm and 6 am.

We tried to measure the impact of COVID-19 with different methods. We added a special COVID-19 block to the impact assessment questionnaire. That helped us to understand how COVID affected the people who participated in the project. We also analyzed the aggregated level of electricity consumption in this area compared to the pre-covid era. We will get back to the results in chapter 4.

3.3 Measures and impact assessment

We used soft and hard measures and quantitative and qualitative elements for the impact assessment. We summarised the qualitative results in two case-studies (see section 4.1.4).
We built the quantitative impact assessment on two data types, surveys and electricity aggregator data. We start here with the latter. We had access to aggregator data in Nyírbéltek from two districts. This aggregator data allowed us to monitor the aggregated electricity usage of these districts continuously. Around 100-150 households live in each district. The 15 minutes granular electricity consumption data is available here from 2018. We primarily used this data to estimate the impact of COVID-19 on electricity consumption (section 4.1.5).

We used survey data to measure the impact of STEP-IN advisory work on the consumers. Six-hundred-two households participated in the STEP-IN program. The home visits started with an establishment survey. This survey fed the PEAS, and it also served as a baseline for the impact assessment. We asked detailed questions about current energy usage (both quantity and price), dwelling problems, and energy expense restrictions.

To measure the impact of the project, we conducted a second round of the survey. Thirty-six percent of the visited households (212) took part in this impact assessment survey. This number was a little bit lower than the envisaged 50 percent. On the one hand, the COVID-19 pandemic made it more challenging to organise f2f meetings as described before we decided to keep the f2f meeting format, with social distancing. Online communication was not a feasible solution for our target groups.
Furthermore, we found another factor behind the lower impact assessment number; people moved to other dwellings quite often. The housing situation is not stable in this area; people are renting houses or moving into an abandoned one. Even if we know where our participants moved (usually moving within the settlement), we cannot measure the impacts, as the baseline data is not valid for the new dwelling.
We can separate the impact assessment into 4 measurement groups:

- Behaviour change
- Change in life quality, arrears, and dwelling condition
- Refurbishment actions and new appliances
- Change in consumption

We measured the behaviour change with simple questions in the second survey. We listed different energy-related behaviors and asked if the participants have changed this behavior in the previous period and, if yes, in which direction.

We linked the establishment survey with the impact assessment survey to measure the change in life quality, arrears, and dwelling conditions. We asked the same questions in the two surveys about the dwelling, arrears, and life quality. We calculated the change using the questions about the pre and the current situation.

The participants' households got plenty of advice from our HEAs about refurbishment actions and possible energy reduction with new electrical appliances. We also suggested more frequent boiler maintenance or switching to night tariffs where it was possible. In the impact assessment survey, we measured all these actions, and based on their answers, we calculated a possible energy reduction ratio. We linked every action with an estimated energy reduction rate[4] and summarised these measures per household.

[4] The estimations were based on the calculations we included in the general energy advice booklet.

The consumption change estimation was the hardest part. In the first Living Lab iteration, we asked participant households to dictate the amount of money they spend on different energy sources, and we also asked them to estimate their energy consumption in kWh (electricity), M^3 (gas), or kg (wood). We got a very high missing rate for the latter question. Moreover, the statistical correlation between the money and volume measures was zero. We discussed this issue with the home advisors, and based on their experiences, we used the money measures as a primary information source and estimated the consumption in kWh/ M^3 /Kg based on that. The situation was even more complex where people use firewood.
In some cases, participants know how much money they spent on firewood. However, in other cases, we only have information about the quantity (kg or m^3), which is unreliable. Households buy firewood several different times and from several vendors. They buy it in kg, sometimes in m^3, sometimes just from a trailer. And the heating value of the firewood heavily depends on the species of the tree and the humidity level of the firewood. So even if we know the proper amount of money, we still have a problem estimating the quantity and, in the end, the heating value in kWh.
Furthermore, we can add a further layer to this problem. Local municipalities sometimes give firewood to the citizens as subsidies. It is also frequent that people collect firewood from the local forest. In most cases, this is not illegal, as they got this "free" firewood as a "payment" for their work. So, in the end, it becomes difficult to estimate the firewood consumption of a household.

We tried to clean this data, but it was pretty noisy; we found many anomalies. To measure the change in consumption, we linked the establishment survey data with the impact assessment survey. We had two criteria for estimation validity: no missing data in any wave and the difference between the two periods has been maximalised by twenty percent. So, if the difference was greater than twenty percent, we treated the result as invalid. We got more robust data on the one hand, but on the other hand, we lost statistical power. We could estimate the change in electricity consumption in 60 percent of the households who participated in the impact assessment. However, we could calculate the whole energy usage change by only 25 percent of the participants. The low household number in the estimation was especially problematic for the first LL round, where we had a limited number of families.

The STEP-IN project targeted households live in energy vulnerable households. There is no standard definition of energy vulnerability in Hungary, so we created our indicator based on international standards. We applied multiple measures to analyze the energy vulnerability situation of the participant's household. Based on these indicators, we calculated a complex typology of energy vulnerability. For this, we used two composite indicators. The first indicator is the ratio of energy spending per income (see above). This is the economic approach of energy vulnerability. The other indicator is a more consensual one, and it uses the same method as Bouzarovski, and Tirado Herrero (2017) suggested in their paper. They created the energy vulnerability index using three indicators: Inability (0,5 weight), arrears (0,25 weight), and housing condition (0,25 weight). We measure inability with the difference between ideal and actual home temperature, the arrears indicator with our arrears question, and the housing condition with dwelling problems such as a leaking roof and presence of dampness and mold. The minimum value of this index is 0, and the maximum is 100.

The following schematic table presents the method of how we calculated the complex energy vulnerability typology.

Table 3 Energy vulnerability classification

		Energy Vulnerability Indicator	
		0-25	**26-100**
Energy expenses / income	**Below 15+**	Low risk	High EPI
	Above 15%	High energy bills	High energy bills and high EPI

There were a lot of households where there was no access to electricity at the time of the home visit. We treated them separately and applied a 5th category in their cases.

3.4 Stakeholder Involvement

At the start of STEP-IN, it became evident that there is a strong need to build reliable contact and cooperation with the local social workers (Emerging Settlements program), municipality workers, and other local actors (NGOs, respected people in the areas) to facilitate the acceptance of our presence in the settlement and be able to reach a broader range of people interested in energy advisory. This cooperation was crucial for the successful conduction of establishment surveys. Besides, contact with local social workers especially, made complex family support possible. For example, energy advisory was completed by program elements not available in the framework of STEP-IN: donation in kind, renovation works (roof, doors, windows, linoleum flooring), heating stove rental for winter. These additional activities made a rapid and visible improvement in comfort levels. STEP-IN advisory on energy consumption and awareness, together with the survey results, came as an extra service and knowledge for the local social development programs.

The municipality of Nyírmihálydi helped STEP-IN fieldwork in multiple rounds by allowing municipality premises to be used for surveying and energy advisory sessions and allowing public workers to participate in the survey after or even within working hours (Public Work scheme is a significant employer in the settlement). With the municipality's help, we could engage the local nursery, pasta factory, and municipality administration employees. During surveys and energy advisory sessions, it was common that participants raised their problems resulting in further support work, e.g., electricity reconnection needs, debt management, water disconnection, getting into vulnerable consumer schemes. We also cooperated with the local pensioner club and minority representatives of the local government.

Similarly, the municipality of Nyírkáta helped STEP-IN activities by allowing municipality premises to be used for surveying, energy advisory sessions, and energy cafe event, and we also received significant organizational help for the latter. The local family care worker, health visitor, primary school employees, and nursery also helped to reach potential clients, and some of them even participated in the STEP-IN project.

In Nyírkáta and Nyírmihálydi, STEP-IN fieldwork was helped mainly by local social workers of the Emerging Settlements program. They provided support during surveys, making joint family visits, and gave useful information on typical energy consumption patterns in the area.
In Nyírbéltek, the local government and minority representatives supported our work. We could use the community house of the local minority government for energy advisory sessions and the Energy Cafe event.

3.5 Ethical Issues

All project documents and procedures were strictly in line with the GDPR regulation and the Hungarian data protection law. This included consent procedures, as well as data collection, sharing, and storage provisions. The avoidance of stigmatization and the maintenance and promotion of participant well-being featured prominently throughout all project processes and activities.

The Hungarian law protects personal data heavily. Personal data or information about special attributes (like health status, belonging to an ethnic minority, etc.) can only be saved/stored if the respondent agrees to it. The response is voluntary in every case (except a few special cases). In all stages of the data processing, the full anonymity of the respondent is needed to be assured. All personal data need to be anonymised immediately when it is possible by the research design. All personal data, which makes the identification of the respondent possible, has to be saved/stored separately from the data, which contains other kinds of answers of the respondents. A scientific report cannot contain anything, which makes the identification of the respondents possible. Based on the answers and personal data of the respondents, it is not allowed to create any action, which targets a specific respondent.

We provide an information sheet for all the participants at the beginning of the home visit. Participants also have to sign a consent form. Without this consent form, we cannot record/store their personal data. The establishment survey contains several sensitive questions (health condition, belonging to ethnic minority). In order to keep this information secure, personal data is stored separately from survey data. All the participants have an identity code. This code contains the first two letters of the settlement, the initial letters of the advisors and a 3-digit number. Only the HEAs had access to personal information. For them, this was necessary, as they had to recontact the participating households several times. Ariosz, as a partner in the local project, had access only to the survey data.

We added a new service to the third LL round. Where smart-meter data was available, we could generate a detailed energy consumption report. This new service implied new data management protocols. The three Hungarian partners signed a new agreement that regulated the data sharing between them. Participants who asked for a smart-meter-based energy report had to sign a modified consent form. When the consent form was signed, Ariosz got access to the raw data through a secure and encrypted channel, without any personal information. The STEP-IN ID was linked to the data so that Ariosz could upload it to the tool. The ICT tool generated the energy report, which became available for the HEAs immediately. The HEAs didn't have access to the raw data. They only had access to the final report.

As a consequence of the COVID-19 pandemic, the Hungarian Government had to introduce several restrictions. We organised all the events and home visits in total respect to all sanitary and hygienic measures enforced by the Hungarian Government to fight against the COVID-19 virus.

3.6 Conclusions

The rural LL methodology follows the global LLs methodology that is presented in D1.2 "Living Labs Global Methodology and implementation guidelines". The overall methodology aims to help the citizens involved in the project's actions to reduce their energy spending and improve their quality of life by providing energy advice that leads to energy efficiency improvements. In addition, the methodology wishes to create longer-term sustainable impacts at a local, regional and national level by engaging several stakeholders (e.g., regulators, local governments, NGOs, etc.) since a wider stakeholder network is a prerequisite in shaping local and national policies.

The methodology has been designed to be customisable for different locations, and therefore certain peculiarities exist between the rural and the other two LLs, although the overall key steps remain in place. For example, the number of people involved, the type of data and mostly the approaches used to gather them, the number of energy cafés conducted, the Energy advisors trained, and the visits accomplished, are some examples of the 'deviations' between the LLs. To some degree, the customisation of the methodology is unavoidable, as the LLs do not exist in isolation from the local community. The LLs operate with respect to local ethical norms and cultural sensitivities, take into consideration and involve different local and national stakeholders, and face different conditions in terms of housing and population characteristics and (pre)existing resources and programmes dedicated to combating energy-related vulnerabilities.
Keeping in mind the above-mentioned remarks, the rural LL process, which was implemented in the second and third round, includes the following activities:

- Information campaigns
- Organisation of the energy cafe
- Recruitment of Living Lab Participants (for the V1 LL activities)
- Reconnecting households to the energy grid
- Home visits from the Energy Advisors
- Operation of an Information Centre
- ICT tool
- Analysis of aggregated data sources
- EnergyAdventure school program
- Focus group discussion
- Evaluation of impacts

4. Lessons Learned and Results

4.1 Results

4.1.1 LL Round 1

Baseline - Wrap up

The detailed analysis of the first LL round is available in the D4.2 report. The first-round assessment was not included in that report, as we carried out the follow-up visits after the winter period. We present the assessment of the first LL round in this document. In order to contextualise the results, we give a brief overview of the home visits of the first LL round here.

In the first LL period, **95** home visits were carried out between 2019 March and 2019 August. Before starting the project, we set two main goals: reduce the energy consumption where possible and provide safe (and formal) electricity access for those households where this is needed. Thirty-three percent of the first-round participant households had no electricity access at the time of the home visits.

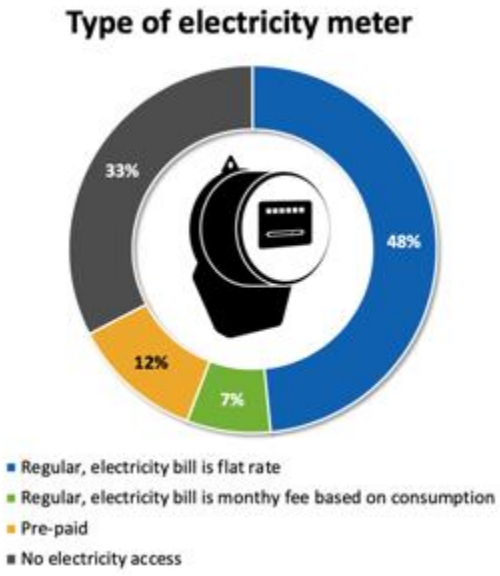

Figure 21: Type of electricity meter – establishment survey – LL1

These households do not have a formal contract with the utility, or the contract is cancelled because of large arrears. We started to deal with reconnection issues in rounds 2 and 3. In section 3.2.5 we gave a detailed description of the work that has been done regarding this issue.

Although regular meters are the most common, 12 percent of all households have pre-paid meters. We have found prepaid meters almost exclusively in cases where there have been large arrears previously. As the debt could not be settled in one sum, but they wanted to avoid the cancellation of the service, they were "forced" to change to prepaid meters. In those households where it is difficult to pay their energy bills, the original function of a prepaid meter is to prevent the accumulation of arrears. But typically, these households are not concerned about arrears; rather, they are concerned

about the cancellation of service. Thus, this solution operates well from the side of utilities, but it is not the citizens' desired solution based on our HEAs' experiences.

A flat rate is more typical; 48 percent of the participants pay their energy bill using this scheme. This is a more convenient solution for most of the households, as they do not have to deal regularly with their consumption. They can also avoid the monthly variation of energy bills. On the other hand, this scheme decreases the energy awareness of households in the long run.

The average annual energy bill was 338 Euros; the median was 308 €. The calculated average kWh consumption was 3,250 kWh. The consumption was 5 percent lower in those households where pre-paid meters were deployed.

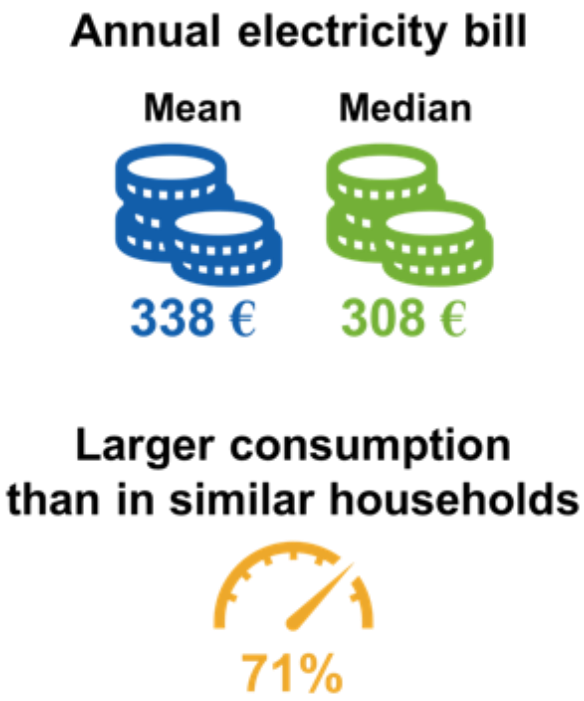

Figure 22: Electricity bill – establishment survey – LL1

Within the personal report, we calculated the ideal electricity solution of the household to provide them a comparison. We used a representative survey conducted in 2017 by Ariosz for this purpose. This survey covers all aspects of energy (electricity) consumption of Hungarian households. Based on this survey, we identified those factors that primarily define the electricity consumption of a household. These are the dwelling size, the dwelling type, and the number of household members. Using these 3 variables, we calculated the ideal or expected electricity consumption of the STEP-IN participant households. In 2/3 of the cases, the real consumption was significantly higher than expected (at least 400 kWh higher than the ideal one). It was really important for our work and service to understand what the reason is for this "overconsumption": old and energy wasteful appliances, or behavioural aspects? We found examples for both.

Sixty-three percent of the households use firewood as a primary heating source and a further 13 percent as a secondary source. So overall, ¾ of the participants use firewood for heating. Tile stove is the most frequent heating mode, which is really hard to adjust. Central heating is less frequent. Gas is used by 27 percent as a primary source and 11 percent as a secondary. Here central heating is more frequent than gas convectors. Twenty-five percent of households have a secondary heating option.

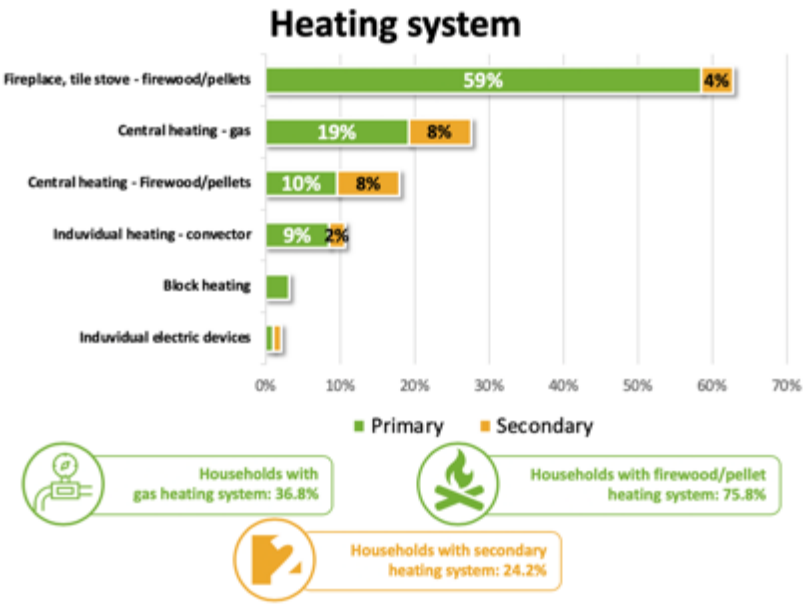

Figure 23: Heating system – establishment survey – LL1

The average gas consumption is 546 Euro (median 423 €) in those households where gas is used. Heating with firewood cost more money. An average household spends 547 Euro (median 493 €) to cover their firewood needs.

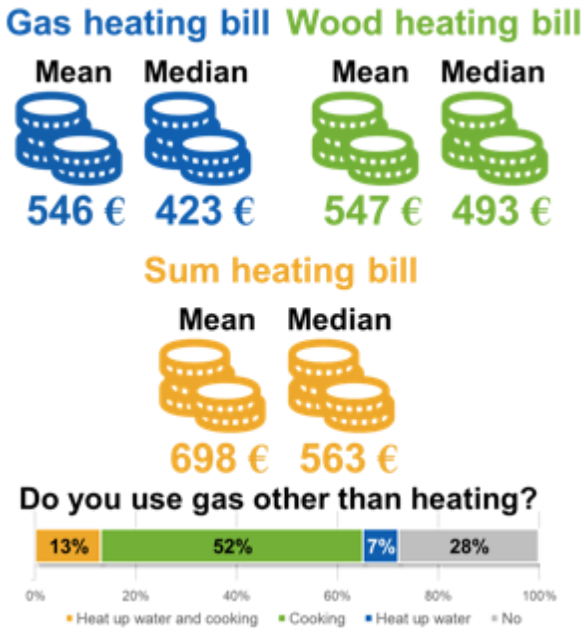

Figure 24: Heating expenses – establishment survey – LL1

Overall, participant households spend 698 Euro (median 563 €) on gas and firewood. Gas is not only used for heating but also used for cooking and baking and, in some cases, to warm up hot water. Where there is no piped gas, gas tanks are used for this purpose. This option could be very expensive. A regular household uses one gas tank monthly, which costs them around 18-20 Euro. But for households where two or more generations live together, or where three or more children live - this fee could be twice as much.

The average overall energy consumption of a household is 932 Euro. The median value is significantly lower, 737 Euro. 35 percent spends more than 1,000 Euro on energy per year.

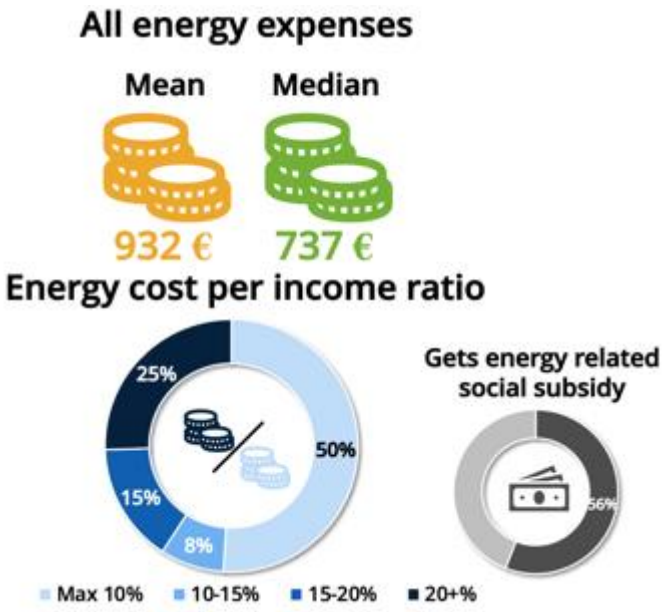

Figure 25: Energy expenses – establishment survey – LL1

An average household spent 16 percent of their income to cover their energy expenses. But 25 percent of the households spend more than 20 percent of their income on energy bills, which might be an even bigger burden in the winter months when most of the heating expenses have to be paid. Moreover, this relatively high cost of energy could be higher without social subsidy. More than 50 percent of the participant got some social support from the local government to help cover the energy expenses.

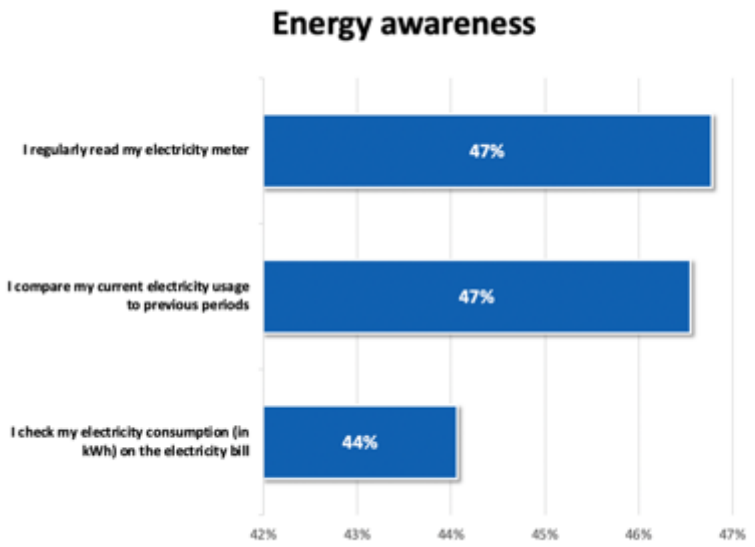

Figure 26: Energy awareness – establishment survey – LL1

Based on the respondents' answers, energy awareness is moderately high in this group. 47 percent read the actual energy consumption indicated on the bills, 47 percent regularly read its energy meter, and 44 percent compared their energy usage with previous periods.

14 percent of the households didn't have any problem with the dwelling, but around 27 percent of the households marked 3 or more problems. The most common problem (49 percent) was the arrears and that the dwellings are **not** comfortably cool during the summer. The lack of good quality insulation could be the cause for the latter. A lower but significant number of participants (24 percent) said that their dwelling was **not** comfortably warm during the winter, and 16 percent said they had a problem with the temperature in the house in both seasons.

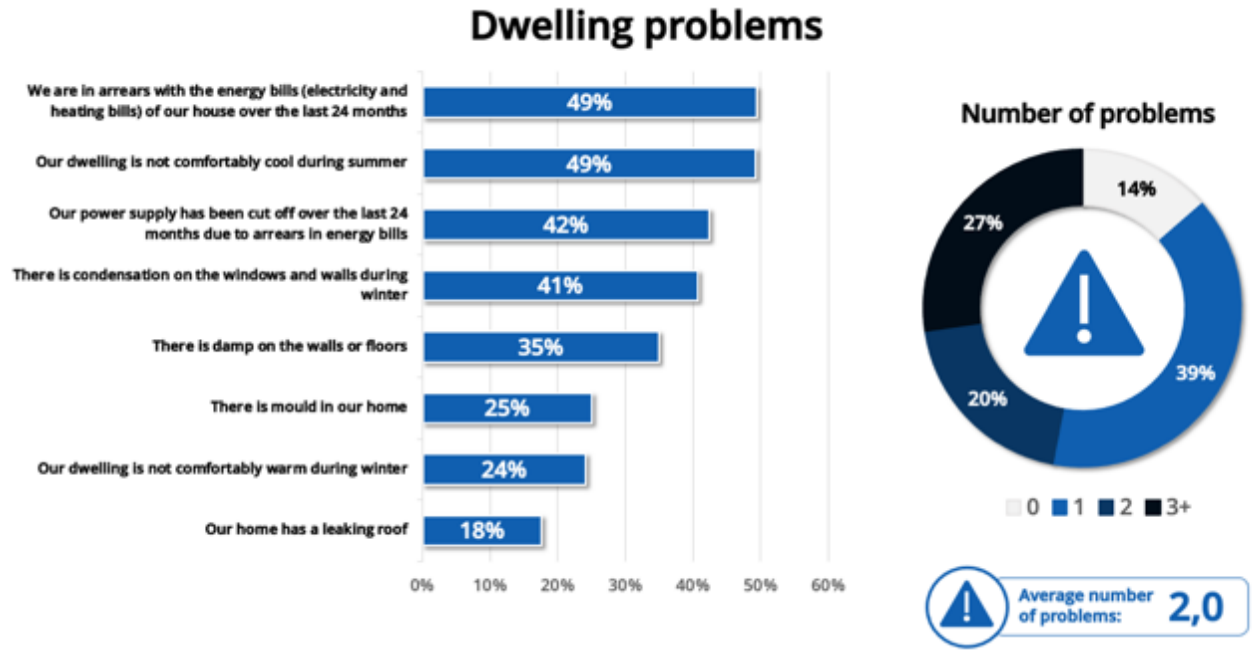

Figure 27: Dwelling problems – establishment survey – LL1

41 percent noticed condensation on the windows and the walls during the winter, 35 percent said that there was dampness on the walls or floors, and another 25 percent said there was mould in the house. Leaking roofs presented as a problem in 18 percent of the households.

We also asked whether the respondents have been forced to restrict other essential needs in order to be able to pay for electricity, gas, heating, or other energy used in the home over the last 24 months?

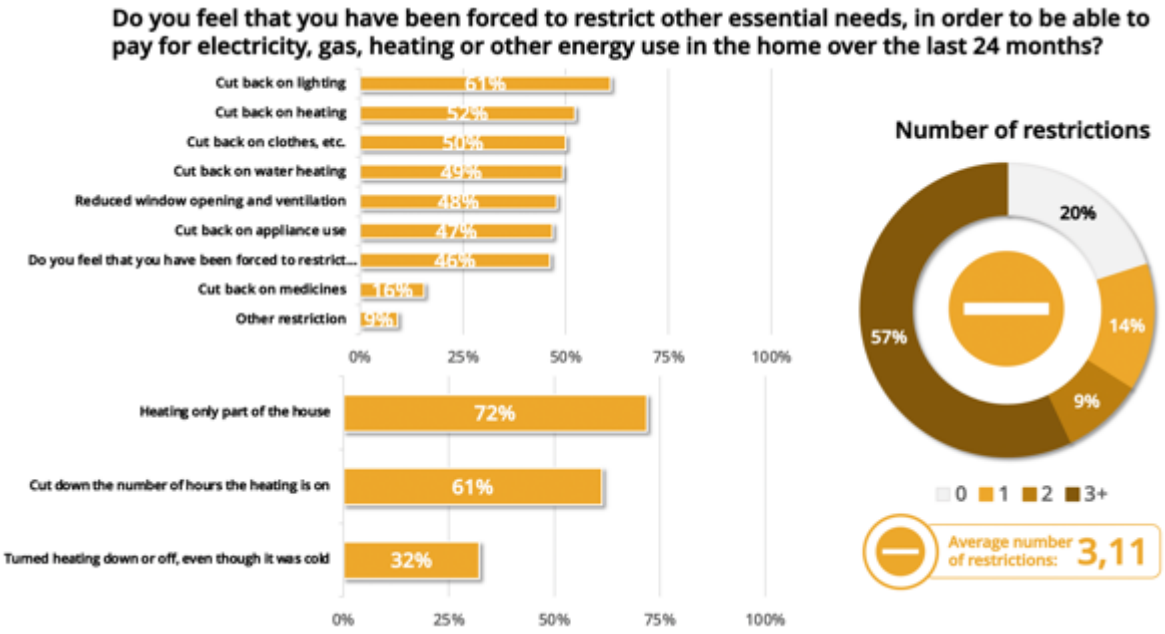

Figure 28: Restrictions – establishment survey - LL1

Only 20 percent of the households did not have to implement any restrictions. The two most typical strategies were cutting back on lighting (61 percent) and cutting back on heating (52 percent). Within those who had to cut heating, 72 percent chose to heat only part of the house, 61 percent cut down the number of hours the heating is on, and 32 percent turned heating down or off even though it was cold. We would like to highlight one additional result. 16 percent of the households had to cut back on medicines in order to pay the energy bills. This ratio was even higher in the case of pensioners and disabled people.

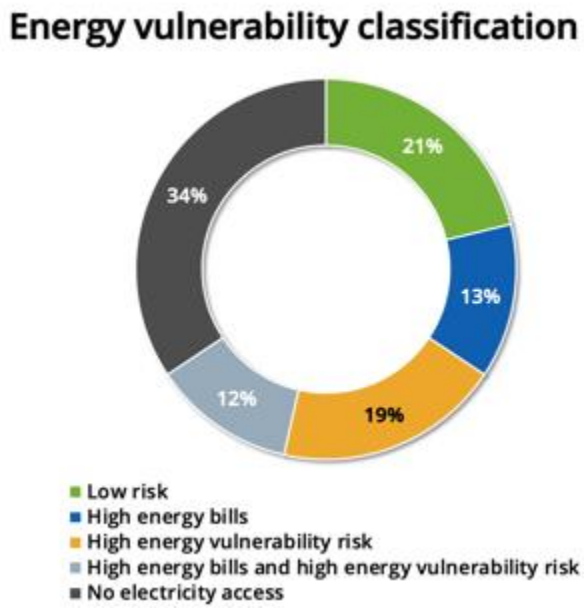

Figure 29: Energy vulnerability classification – establishment survey – LL1

We calculated the Energy vulnerability index described in section 0. Based on this typology, 21 percent of the households have low energy vulnerability risk. 13 percent of the households have to pay high

energy bills compared with their energy vulnerability, like low thermal comfort or arrears. 19 percent of the households have a high-income situation, but the consensual EVI value is not high in their case, which means they could avoid some negative consequences of energy vulnerability indices without the problem of high energy burden. Moreover, there is 12 percent who are at risk for both aspects, high energy vulnerability and high energy burden. The latter group is the most vulnerable regarding energy vulnerability, alongside with that, 34 percent respondent who had no electricity access[5].

Impact Assessment

The impact assessment surveys were typically conducted 9-12 months after the first household visits. We started the impact assessment in June 2020. We wanted to include the 2019/2020 winter season in the assessment period in order to measure the change in heating consumption. The first wave of COVID-19 hit Hungary in March 2020, and it had a serious impact on the energy consumption of the households. We will come back to this in a later chapter.

30% of the first LL round households took part in the impact assessment. More than 80% of the households did some refurbishment or bought new energy-efficient appliances.

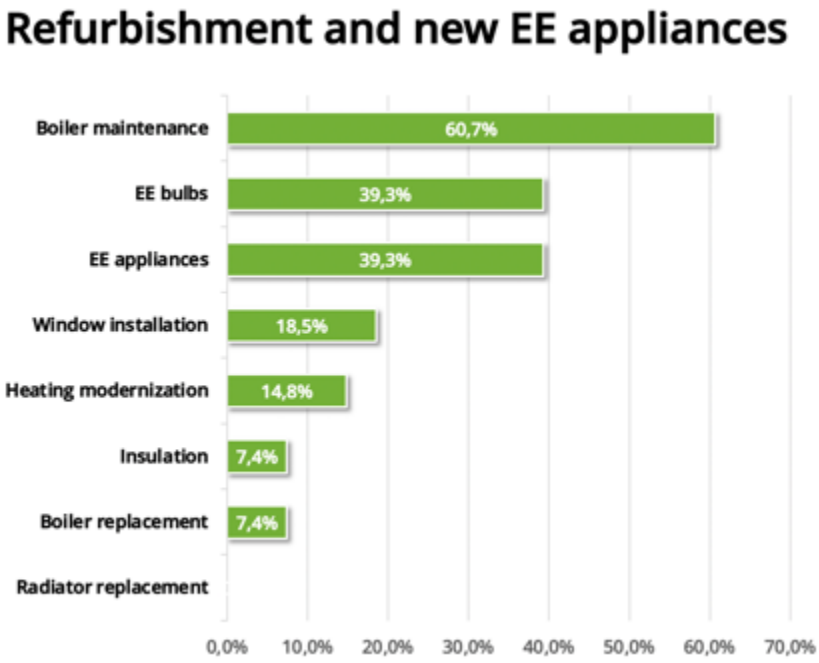

Figure 30: Refurbishment and new EE appliances – impact assessment survey – LL1

The most frequent action was the maintenance of the boiler (61 percent), but a lot of households bought energy-efficient bulbs or EE appliances. 7% of the households bought a new boiler. Based on these actions, we could **estimate a 3.5 percent possible reduction** in energy bills and a 2.9 percent reduction of energy usage in kWh.

[5] There is a small difference between the no access ratio in this figure and the figure about meter types. This is because we can't calculate the vulnerability classification for some households, so the valid sample size is smaller here.

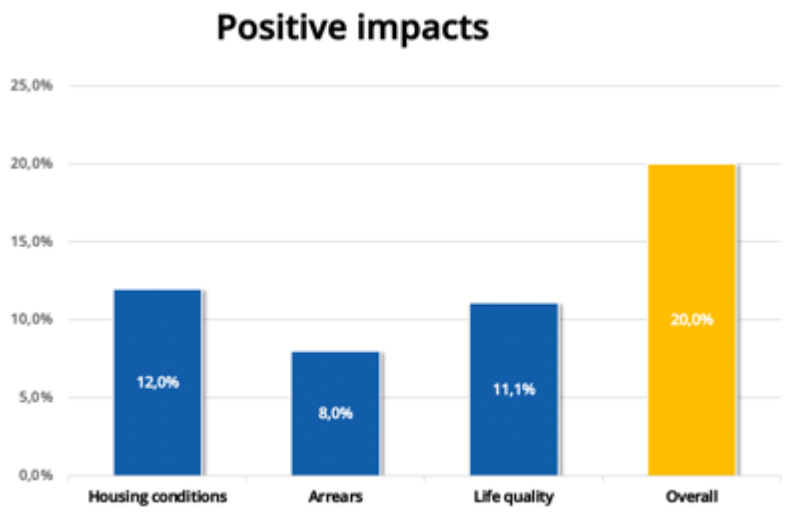

Figure 31: Measures of positive impacts – impact assessment survey – LL1

These actions had a positive impact on housing conditions. 12 percent noted better conditions regarding housing condition problems (mould, dampness, condensation on the wall, leaking roof, ideal temperature), and 8 percent felt improvement in arrears. We measured the quality of life of the respondents using 9 items. These items cover possible restrictions in order to be able to pay for energy. 77 percent of the households were forced to do some restrictions based on the initial home visit records. After the home visits, 11 percent of the households had an improvement in life quality based on the 9 indicators. We calculated an overall positive impact variable using the 3 areas, housing conditions, arrears and life quality. 20 percent of those who took part in the impact assessment questionnaire had improvement in at least one area.

The energy awareness also increased. 39 percent had higher energy awareness than before (read energy meters more regularly checked bills, compared consumption with earlier one).

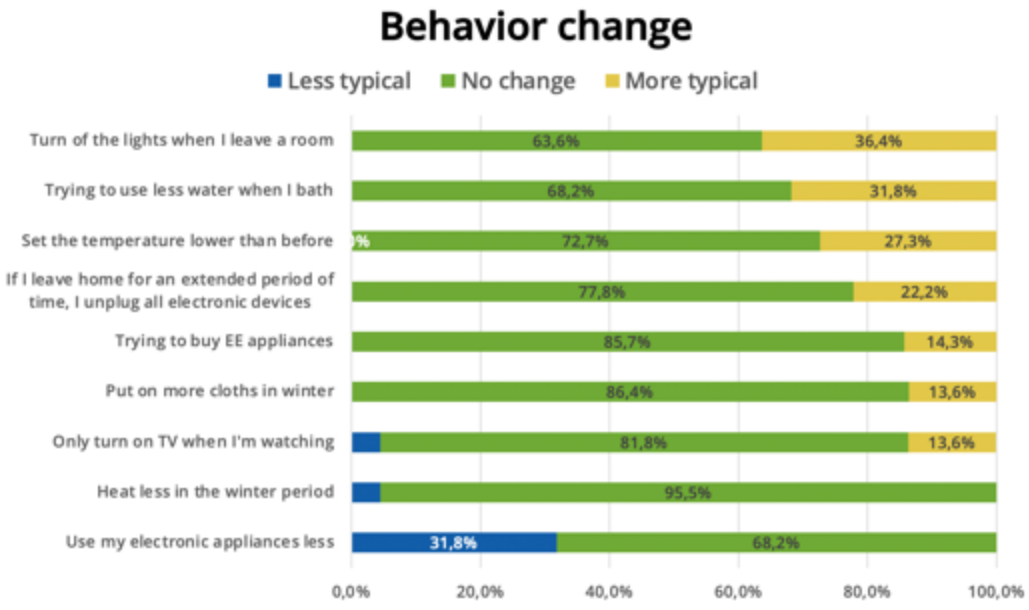

Figure 32: Measures of behavior change – impact assessment survey – LL1

We could also observe a positive behaviour change in many areas. 36 percent turn off the light more frequently when they leave a room, 32 percent use less water when bathing, and 27 percent set the temperature lower than before to avoid over-heating. We observed a negative result in one area. 32 percent use their electronic appliances more often. This is one of the impacts of the COVID pandemic. Overall, 52 percent of the respondent changed their behaviour as a result of counselling, and 70 percent said that they understood their energy expenses better.

We tried to estimate the change in energy consumption based on spending. We explained the difficulties of this in section 3.3 and along with the strategy we followed to calculate the energy consumption change. We can only use 8 households with complete and robust data to estimate the energy consumption change. As we did the impact assessment after the breakout of the COVID pandemic, we have to be aware that these results are highly impacted by COVID-19. The electricity expenses were increased by 1.6 percent, and the heating expenses went up by 4.3 percent. **Overall, the energy expenses of the first LL round participants increased by 2 percent, while the energy consumption by 6.7 percent.**

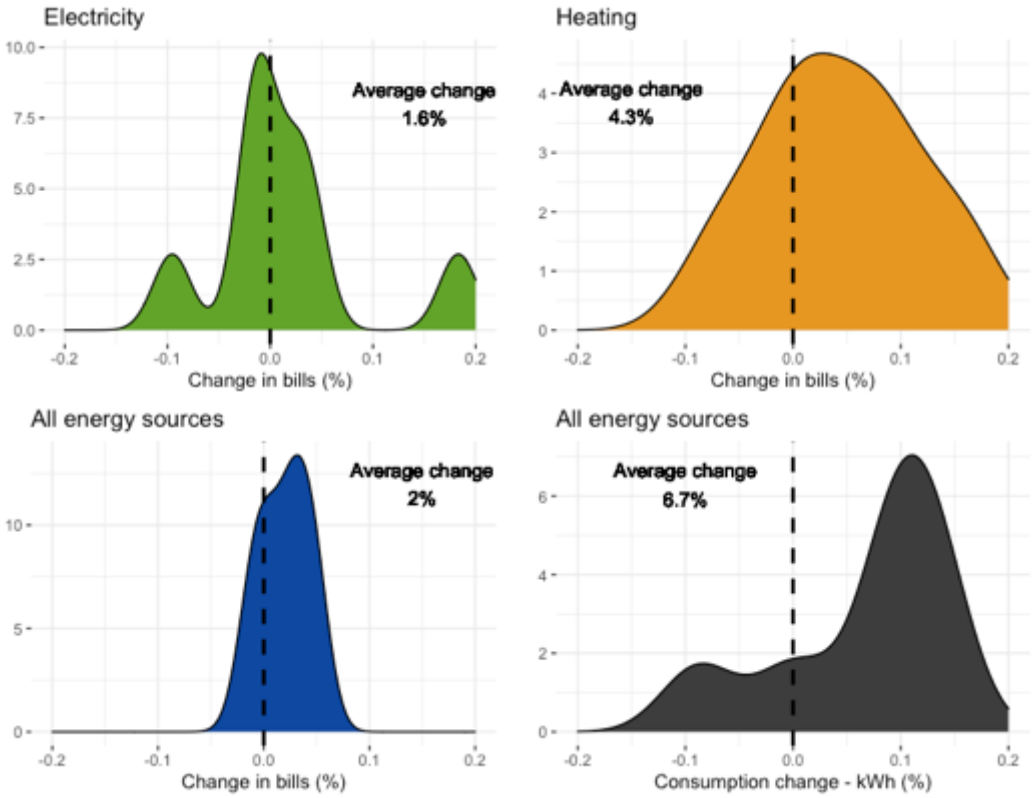

Figure 33: Measures of change in energy consumption – impact assessment survey – LL1

4.1.2 LL Round 2

Baseline

In the second LL period, **215** home visits were carried out. We started the second LL round in November 2019 and finished it in June 2020. The original plan was to finish the second LL round earlier, but we had to hold off for about 2 months due to COVID restrictions.

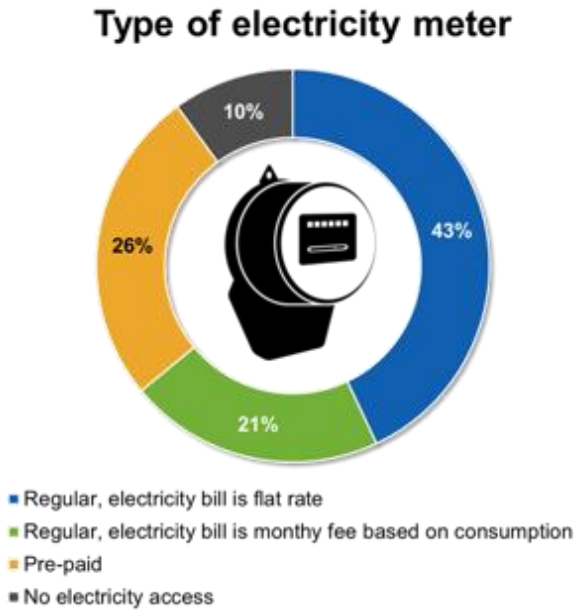

Figure 34: Type of electricity meter – establishment survey – LL2

10 percent of the second-round participant households had no electricity access at the time of the home visits. This is a lower number than round 1, but it still a lot of households. The most typical electricity meter type was regular: 43 percent paid based on a flat rate, and 21 percent based on monthly consumption. The remaining 26 percent had pre-paid electricity at the time of the home visits.

The average annual energy bill in this round is 314 euros; the median is 309. Compared to our expected consumption calculations, in half of the cases, the real consumption is significantly higher than expected (at least 400 kWh higher the consumption than the ideal one).

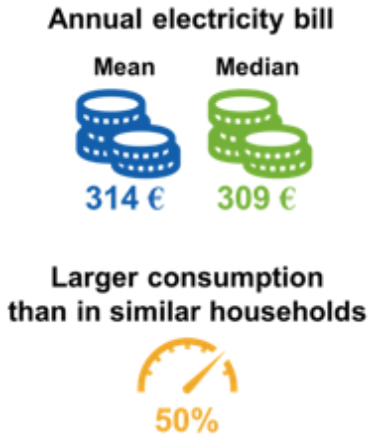

Figure 35: Electricity bill – establishment survey – LL2

The most typical heating source is firewood. Overall, 85 percent use firewood for heating, 60 percent as a primary, 15 percent as a secondary source. Gas and firewood are approximately half to half among the central heating households. Compared to the first round, firewood was even more frequent.

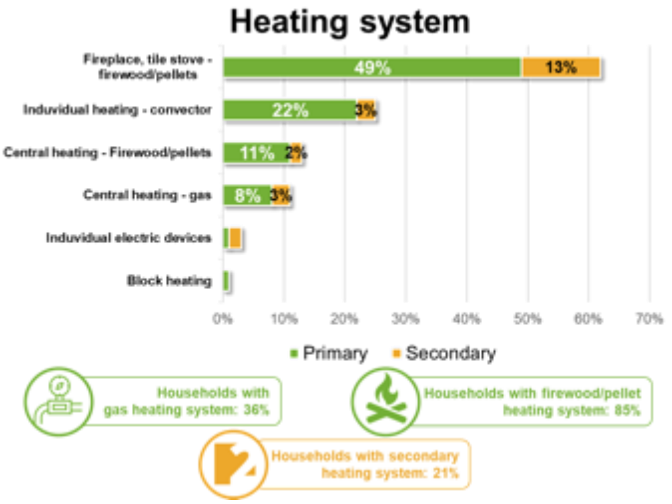

Figure 36: Heating system – establishment survey – LL2

The average gas consumption is 479 Euro (median 425 €) in those households where gas is used. Heating with firewood costs less money. An average household spends 432 Euro (median 394 €) to cover their firewood needs. Overall, participant households spend an average of 526 Euro (median 430 €) on gas and firewood.

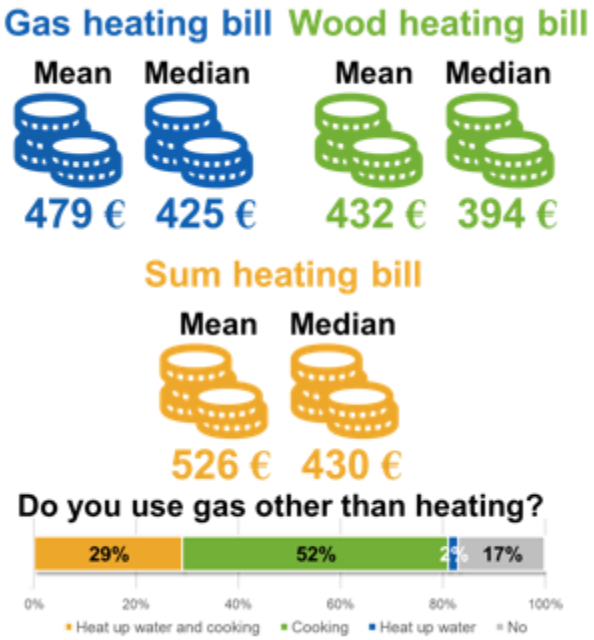

Figure 37: Heating expenses – establishment survey – LL2

While the average overall energy consumption of a household is 752 Euro, the median value is only 663 Euro. 28,5 percent of the inspected households spend more than 1,000 Euro on energy per year. This average value was slightly lower compared to what we have measured in LL1 round households.

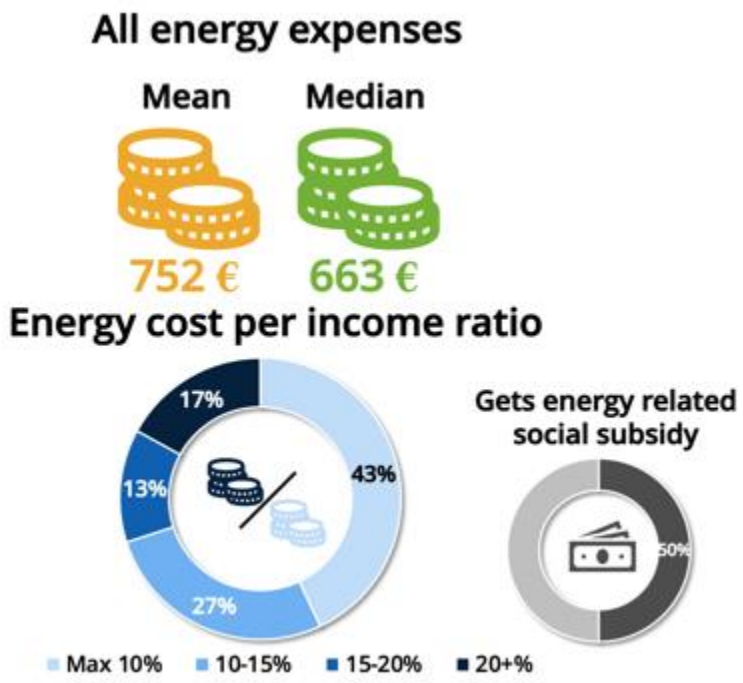

Figure 38: Energy expenses – establishment survey – LL2

An average household spent 16,5 percent of their income to cover their energy expenses. 17 percent of the households spend more than 20 percent of their income on energy bills. Exactly half of the participants said that they got some subsidy to help cover the energy expenses.

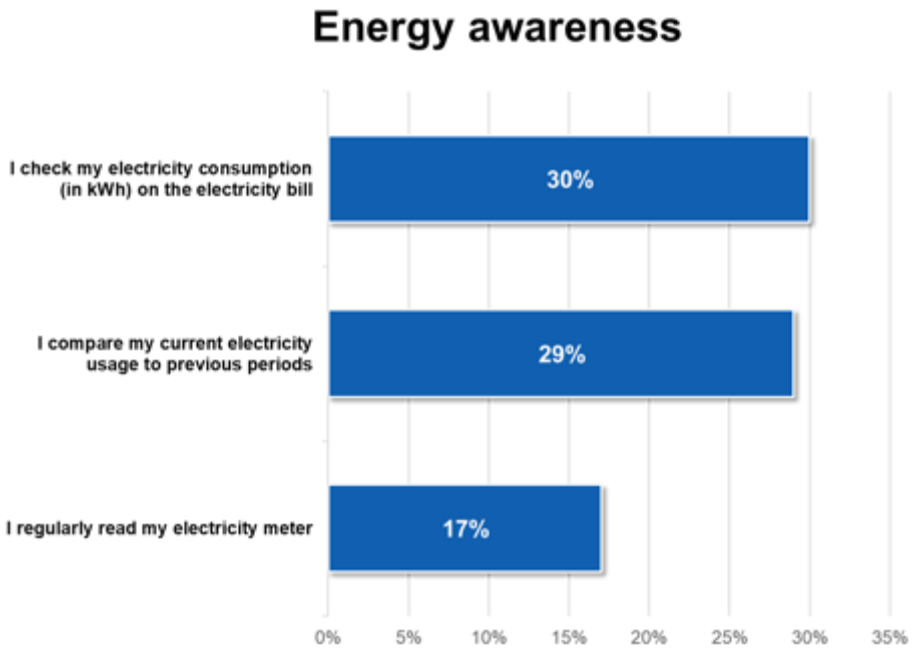

Figure 39: Energy awareness – establishment survey – LL2

Based on the respondents' answers, energy awareness is lower in this group than in the first one. 30 percent read the actual energy consumption indicated on the bills, 29 percent compared their energy usage with previous periods, and only 17 percent regularly read their energy meter.

35 percent of the households said that they did not have any problem with their dwelling. There was almost the same number of households which marked 3 or more of the problems below. The most common problem (45 percent) was that there is condensation on the windows and walls during winter. A lower but significant number of participants (31 percent) said that there was dampness on the walls or floors, and 29 percent said their dwelling is **not** comfortably cool during summer.

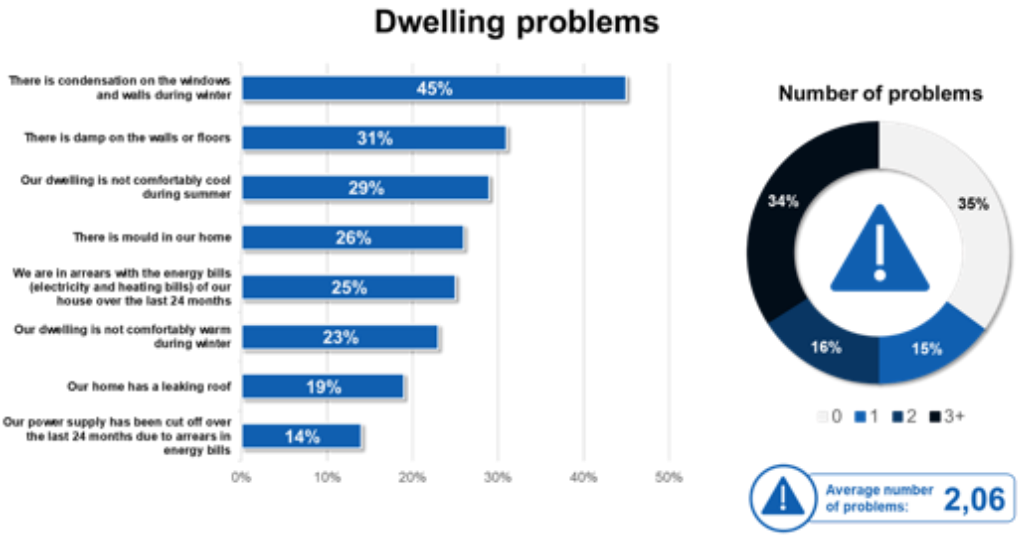

Figure 40: Dwelling problems – establishment survey – LL2

26 percent noticed mould in their home, 25 percent said that they were in arrears with the energy bills over the last two years, and another 23 percent said their house is **not** comfortably warm during winter. Leaking roofs presented as a problem in 19 percent of the households. 14 percent of the respondents said that the power supply had been cut off due to arrears over the last 24 months.

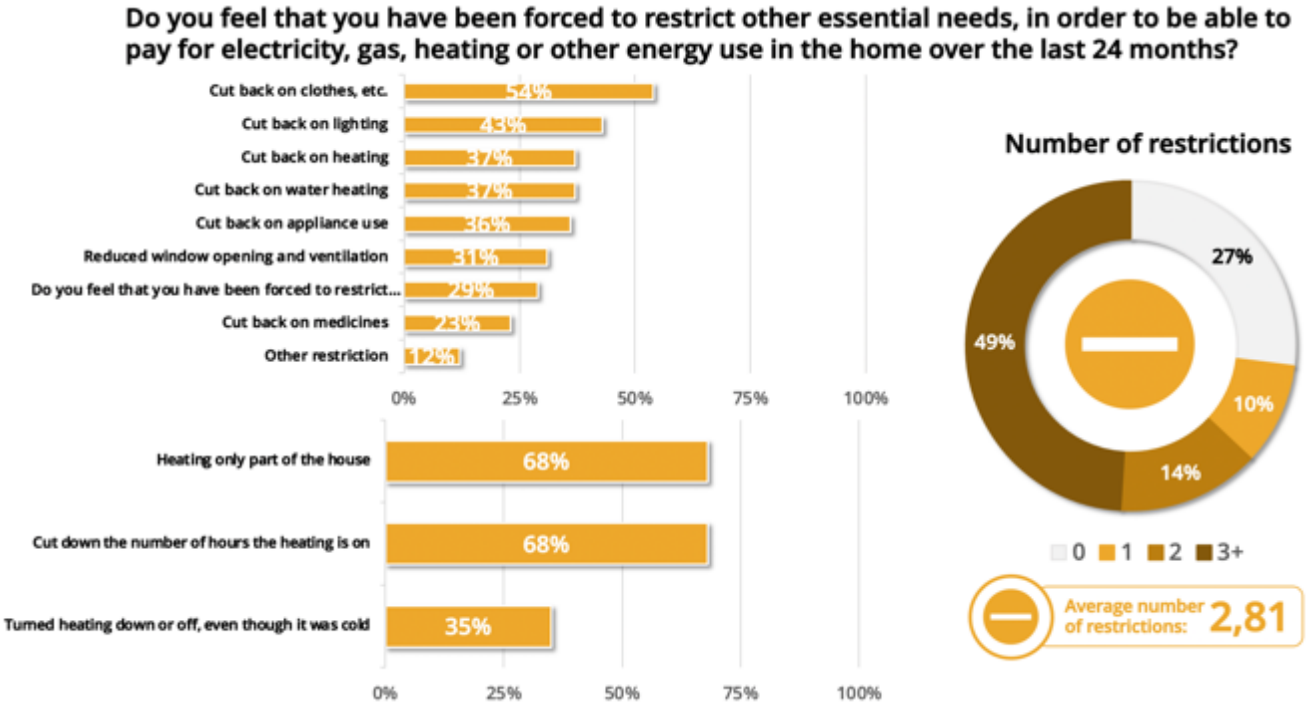

Figure 41: Restrictions – establishment survey – LL2

The participant households of the second LL round had to implement fewer restrictions than the households of the previous round. The average of the implemented restrictions was 2,8 compared to the average of the first round of 3,1.

Only 27 percent of the households did not have to implement any restrictions. The two most typical strategies were cutting back on purchasing clothing (54 percent) and cutting back on lighting (43 percent). 37 percent of the respondents' cut back on heating to be able to pay the bills. Within the group who had to cut heating, 68 percent chose to heat only part of the house, another 68 percent cut down on the number of hours the heating was on, and 35 percent turned heating down or off even though it was cold. The proportion of households that had to cut back on medicines in order to be able to pay the energy bills was 23 percent.

There were fewer energy vulnerable people in the second LL round; 51 percent of the households have low energy vulnerability risk. 17 percent of the households have to pay high energy bills compared with their income situation, but the Energy Vulnerability Index (EVI) value is not high for them. 12 percent of the households have high energy vulnerability indices without the problem of high energy burden. Moreover, there is 10 percent who are at risk for both aspects. These are the most vulnerable households regarding energy vulnerability, alongside the 10 percent of respondents who had no electricity access.

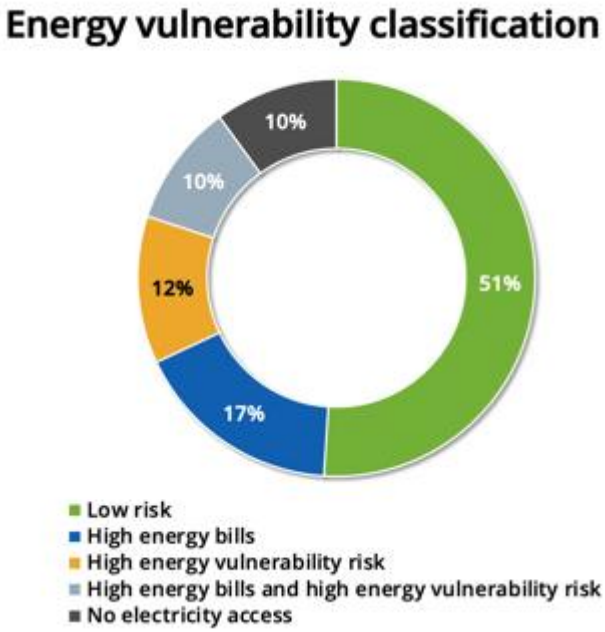

Figure 42: Energy vulnerability classification – establishment survey – LL2

Impact Assessment

Most of the second LL round impact assessments were carried out between November 2020 and January 2021. 78 households took part in the impact assessment. This is 37 percent of the second LL round participating households.

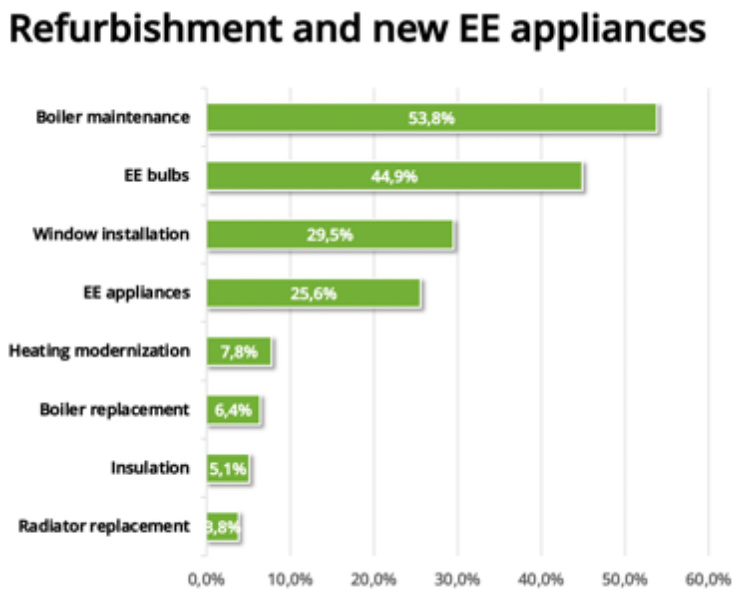

Figure 43: Refurbishment and new EE appliances – impact assessment survey – LL2

77 percent of the households did some refurbishment or bought new energy-efficient appliances. The most frequent action was the maintenance of a boiler (54 percent) and buying energy-efficient bulbs (45 percent). 6% of the households bought a new boiler, 5 percent did some insulation work, and 4 percent replaced their radiator. Based on these actions, we could **estimate a 5.2 percent possible reduction** in energy bills and a 5.3 percent reduction of energy usage in kWh.

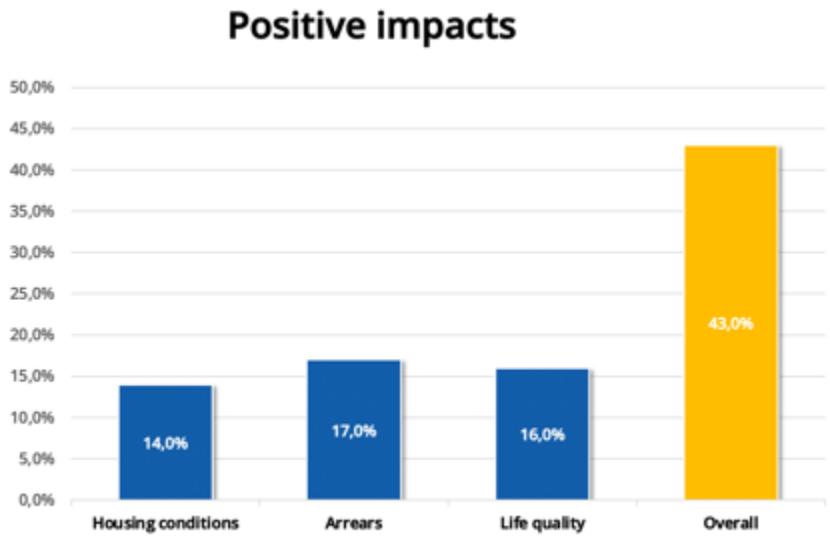

Figure 44: Measures of positive impacts – impact assessment survey – LL2

Overall, 14 percent of the households noted better conditions regarding housing problems (mould, dampness, condensation on the wall, leaking roof, ideal temperature), 17 percent felt improvement in arrears, and 17 percent of the households had an improvement in life quality. 43 percent of those who took part in the impact assessment questionnaire had improvement in at least one area. This high level indicates that usually, these improvements are uncorrelated, so it was not the same people who had improvement in housing condition and had improvement in life quality.

The second LL round participant households had overall lower initial energy awareness than the first-round households. The increase was a little bit higher in this wave - 42 percent.

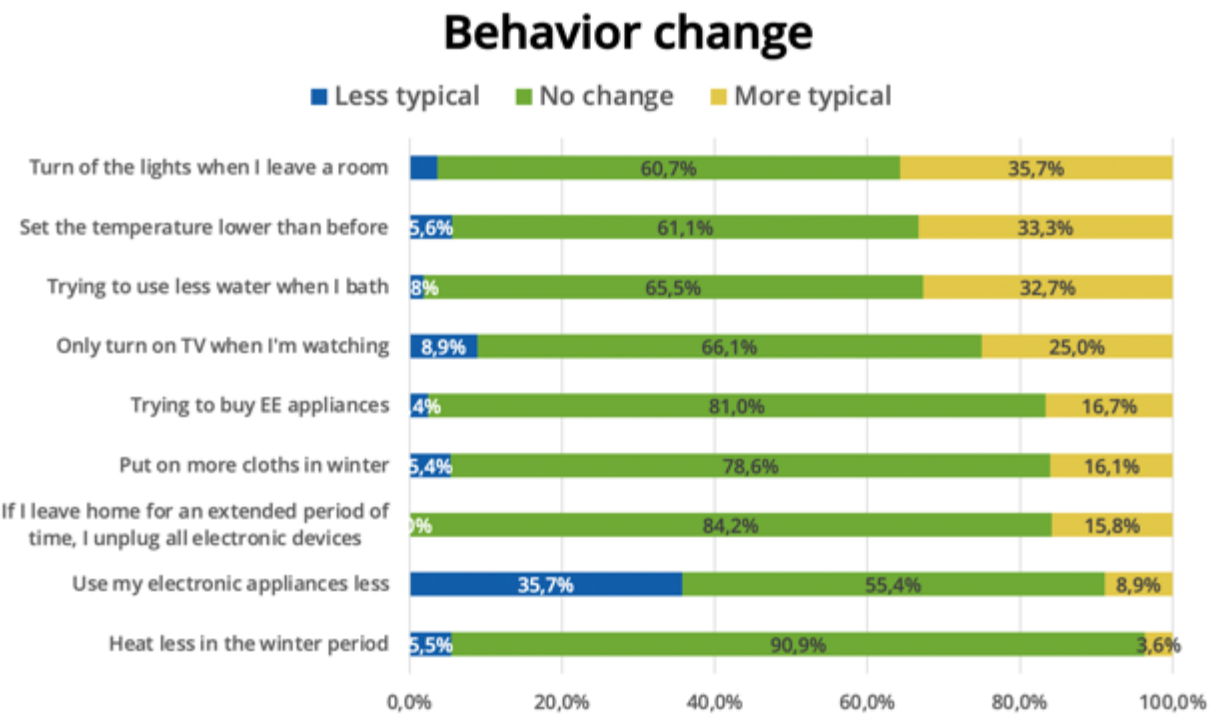

Figure 45: Measures of behavior change – impact assessment survey – LL2

The positive behaviour change was very similar here, like in round 1. 36 percent turn off the light more frequently when they leave a room, 33 percent set the temperature lower than before to avoid over-heating, and 32 percent use less water when bathing. The negative effect of COVID could also be observed here. 36 percent use their electronic appliances more often, which is even higher than in the case of round 1 impact assessment. Overall, 40 percent of the respondent changed their behaviour as a result of counselling, and 70 percent said that they understood better their energy expenses.

In the last part of the impact assessment, we analyze the estimates of energy usage change. We have to treat the energy consumption change estimates with caution. We had described before that the energy cost estimates were quite noisy. We can only use 17 households with complete and robust data to estimate the energy consumption change. The electricity expenses were increased by 2 percent, but the heating expenses remained the same. **The energy expenses of the second LL round participants increased by 0.9 percent, and the consumption in kWh by 1.8 percent.**

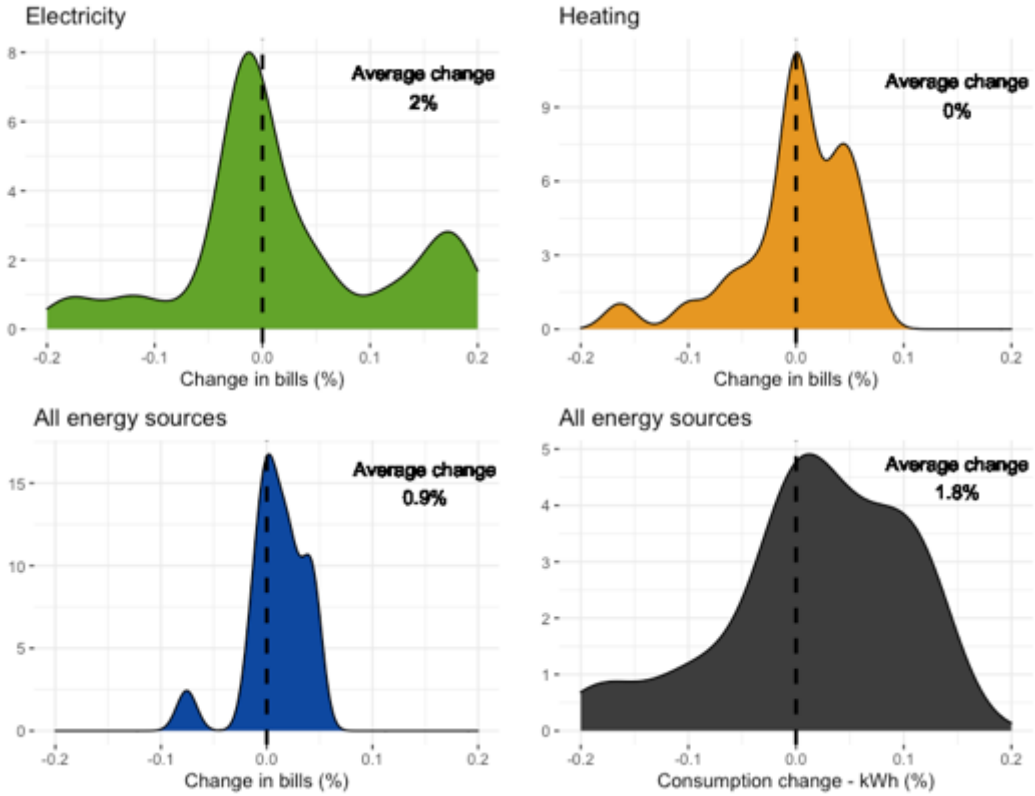

Figure 46: Measures of change in energy consumption – impact assessment survey – LL2

4.1.3 LL Round 3

Baseline

In the third LL period, **292** home visits were carried out between September and November 2020. Eight percent of the third-round participant households had no electricity access at the time of the home visits.

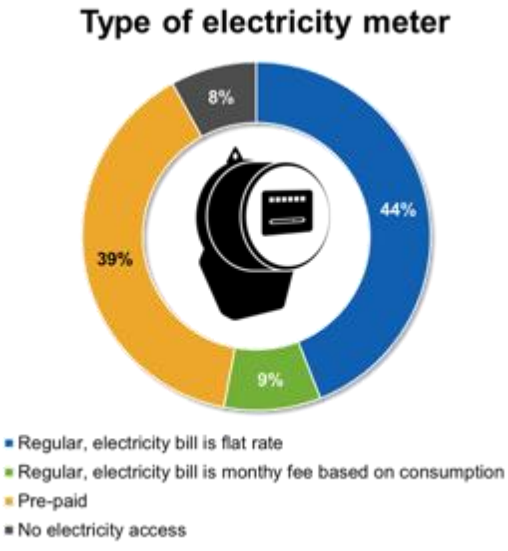

Figure 47: Type of electricity meter – establishment survey – LL3

More than half of the households used regular electricity meters. In this type, the majority (44%) were given electricity bills by flat rate, and the remaining 9 percent paid the electricity bill based on monthly consumption. Another 39 percent had pre-paid meters.

The average annual energy bill was 321 Euro; the median was 278 €.

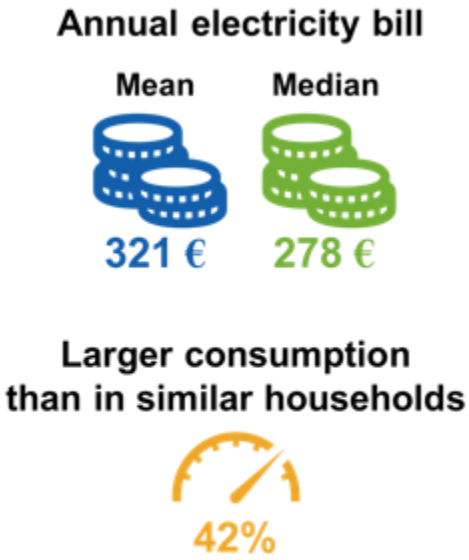

Figure 48: Electricity bill – establishment survey – LL3

In 42 percent of the cases, the real consumption was significantly higher than expected (at least 400 kWh higher the consumption than the ideal one). This was a lower proportion than in the first and second LL rounds.
Firewood and pellets were the most frequent heating source. Fifty-six percent of all households used them as a primary heating option and a further 13 percent as a secondary source. Overall, more than 2/3 of the participant households used firewood for heating. Central heating was less common. Overall, 21 percent of the households used gas for heating. Almost ¼ of the households have a secondary heating source.

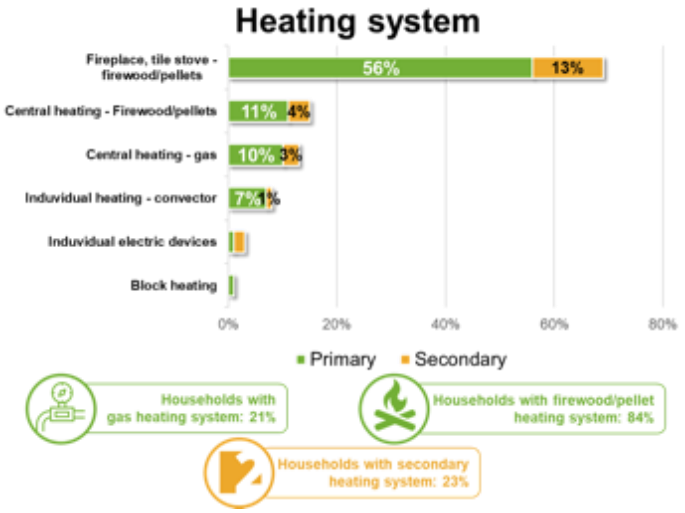

Figure 49: Heating system – establishment survey – LL3

The average gas consumption is 555 Euro (median 406 €), while heating with firewood costs 526 Euro on average (median 451 €).

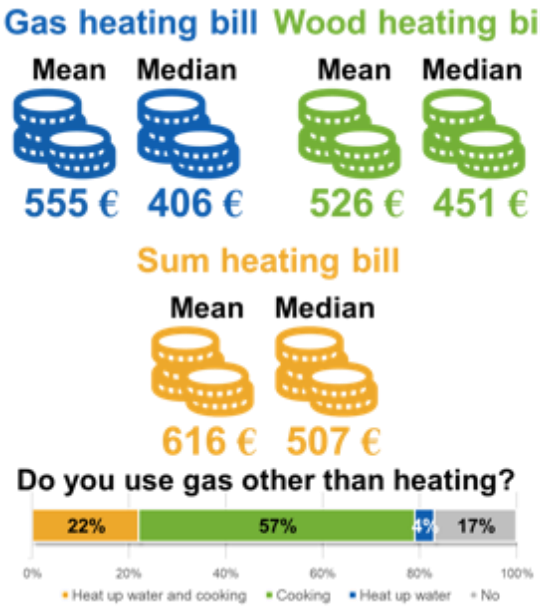

Figure 50: Heating expenses – establishment survey – LL3

Overall, participant households spend an average of 616 Euro (median 507 €) to cover their heating expenses. In most cases, gas is not only used for heating. 57 percent of the households use gas for cooking and baking, 4 percent to heat up water, and an additional 22 percent for both.

The overall energy consumption of an average household is 836 euros. The median value is remarkably lower, 737 Euro. 31 percent of the participant households of the LL Round 3 spends more than 1.000 Euro on energy per year.

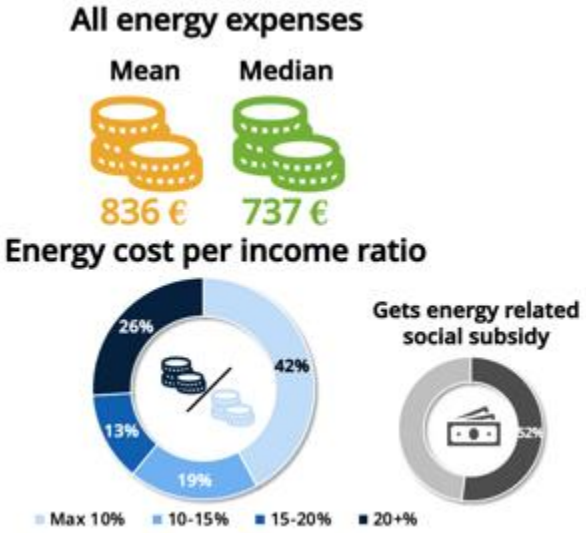

Figure 51: Energy expenses – establishment survey – LL3

The average energy cost was 17 percent of the household's income. While 58 percent of the households spend more than 10 percent of their income on energy, there is 26 percent which spends

more than 20 percent of their total income on energy. Approximately half of the participants received social support from the local government to help cover their energy expenses.

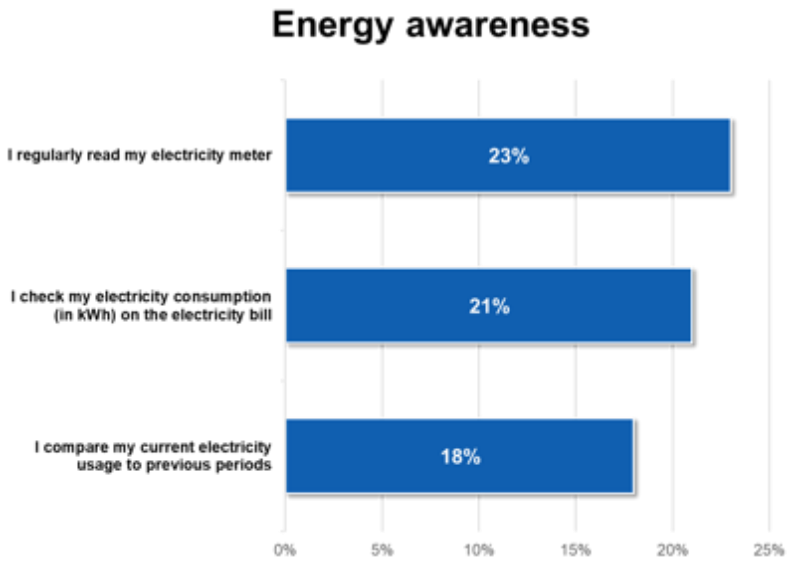

Figure 52: Energy awareness – establishment survey – LL1

23 percent of the respondents stated that they regularly check the electricity meter, 21 percent read the actual energy consumption indicated on the bills, and another 18 percent compared the current electricity usage to previous periods.

Only 20 percent of the households did not have any problem of the following with their dwelling. There were 64 percent who noticed condensation on the windows or walls during winter, 57 had dampness in the house. A less frequent but significant problem of 44 percent of the respondents was mould. 41 percent said that they were in arrears with the energy bills over the last two years, and 20 percent of the respondents said that the power supply had been cut off due to arrears.

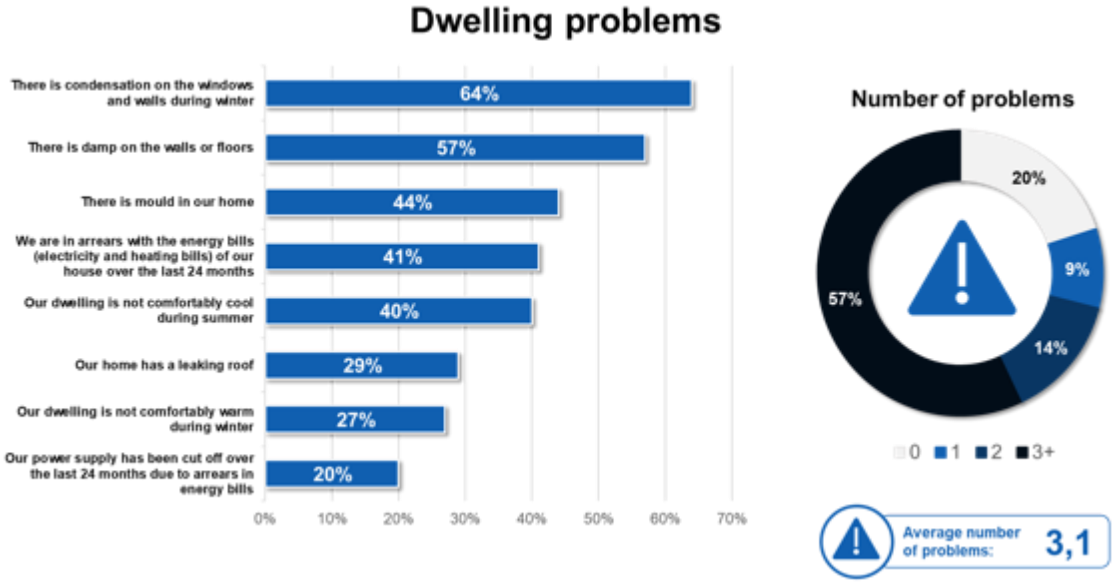

Figure 53: Dwelling problems – establishment survey – LL3

We also wanted to assess whether the respondents have been forced to restrict other essential needs in order to be able to pay for energy over the last 24 months.

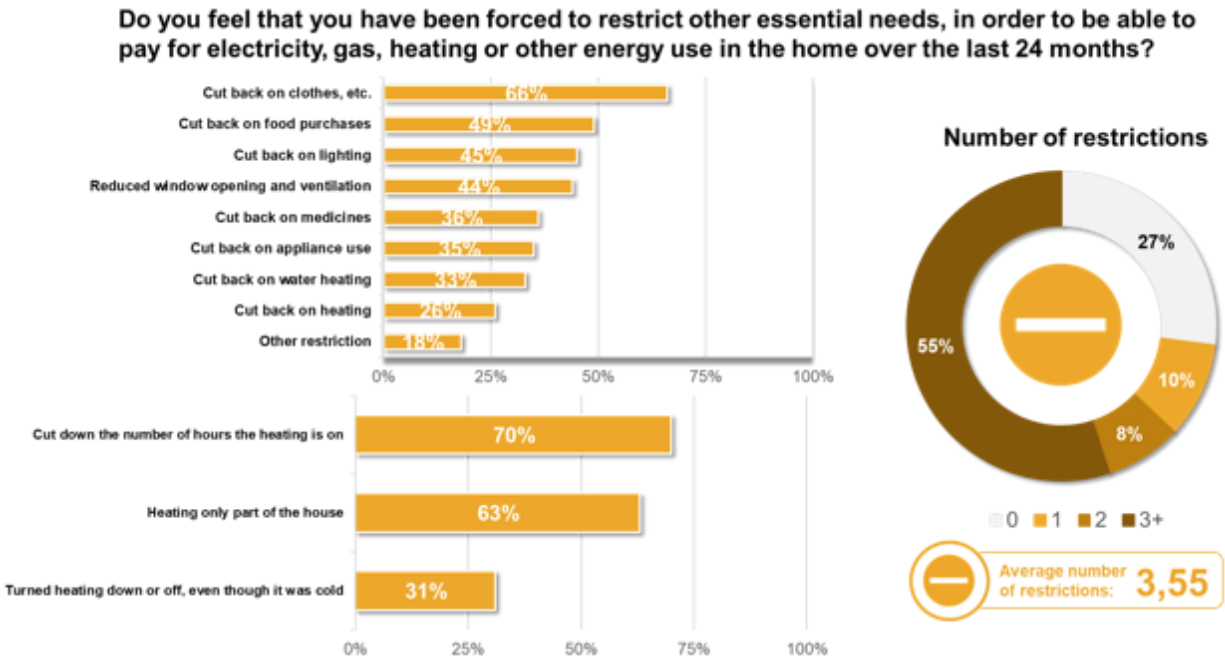

Figure 54: Restrictions – establishment survey – LL3

Only 27 percent of the households did not have to implement any restrictions. Approximately 2/3 of the households needed to cut back on purchasing clothing. Just under 50 percent cut back on food purchases (49 percent), lighting (45 percent) and ventilation during winter (44 percent). Around a quarter of the respondents had to cut back on heating. Within these households, the most typical strategies were reducing the number of hours the heating is on (70 percent) and turning off the heating in some parts of the house (63 percent). 31 percent had to turn the heating down or off, even though it was cold in the house. Over more than half of the households had to implement more than 3 of the listed restrictions.

According to the calculated EP index (described in section 3.3), 36 percent of the visited households belong to the low-risk category. 23 percent have to pay high energy bills compared to their financial position. 19 percent of the households are at high energy vulnerability risk, and another 14 percent are at risk of both former aspects. These are the most vulnerable households regarding energy vulnerability, alongside the 8 percent of respondents who had no electricity access.

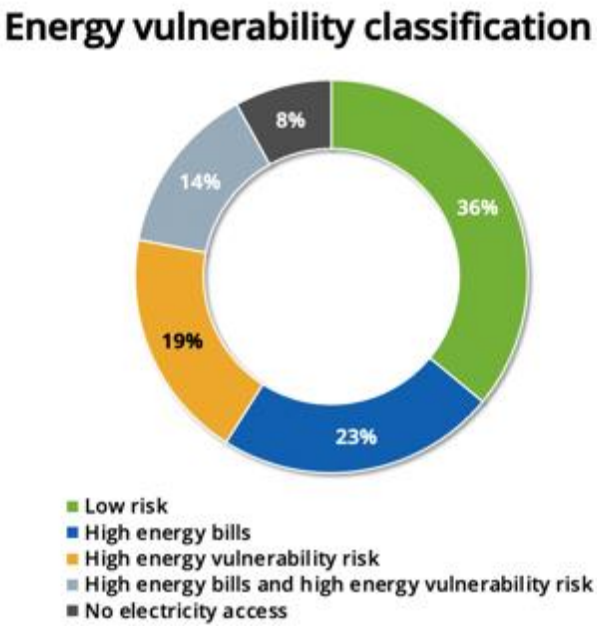

Figure 55: Energy vulnerability classification – establishment survey – LL3

Impact Assessment

The third LL round impact assessment was carried out in January 2021. 106 households took part in the impact assessment. This is 37 percent of the third LL round participating households (same ratio as in round 2).

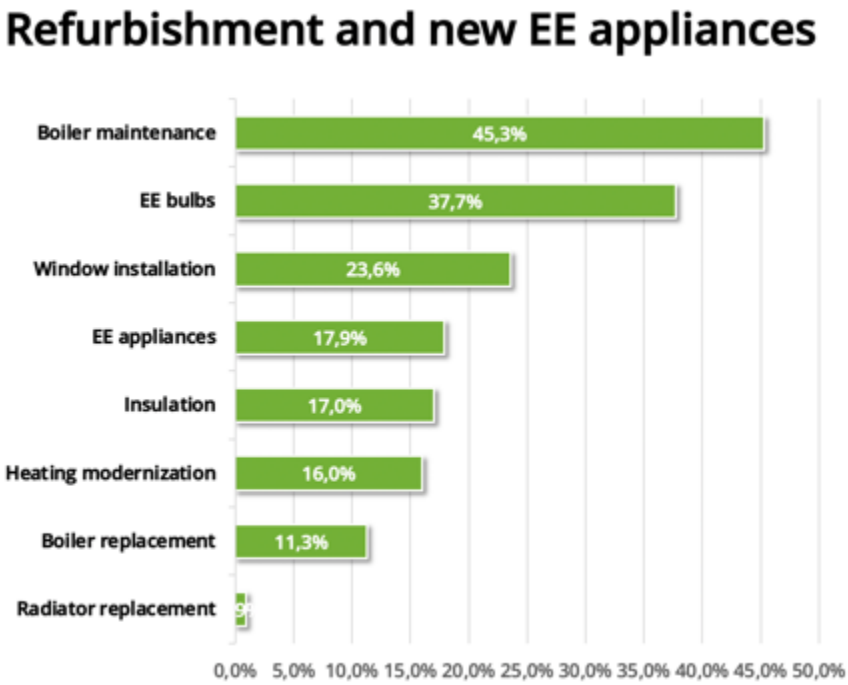

Figure 56: Refurbishment and new EE appliances – impact assessment survey – LL3

64 percent of the households did some refurbishment or bought new energy-efficient appliances. Boiler maintenance was the most common (45 percent) and buying energy-efficient bulbs (38 percent). 11% of the households bought a new boiler, 17 percent did some insulation work, and 16 percent did other heating modernization. Based on these actions, we could **estimate a 5.8 percent possible reduction** in energy bills and a 7.2 percent reduction of energy usage in kWh.

Although fewer people did any action this round, the average value of these actions was higher, so the overall energy reduction estimate was also higher.

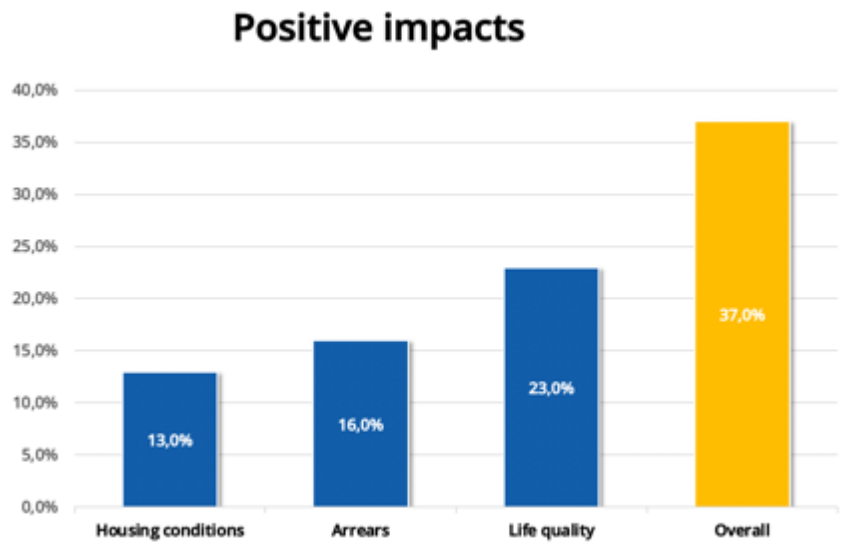

Figure 57: Measures of positive impacts – impact assessment survey – LL3

13 percent of the households noted better conditions regarding housing problems (mould, dampness, condensation on the wall, leaking roof, ideal temperature), and 16 percent felt improvement in arrears, and 23 percent of the households had an improvement in life quality. 37 percent of those who took part in the impact assessment questionnaire had improvement in at least one area. The correlation between different positive impacts was stronger here compared with round 2.

The third-round households had the lowest starting energy awareness level. But the increase here was similar to what we found in previous rounds – 39 percent.

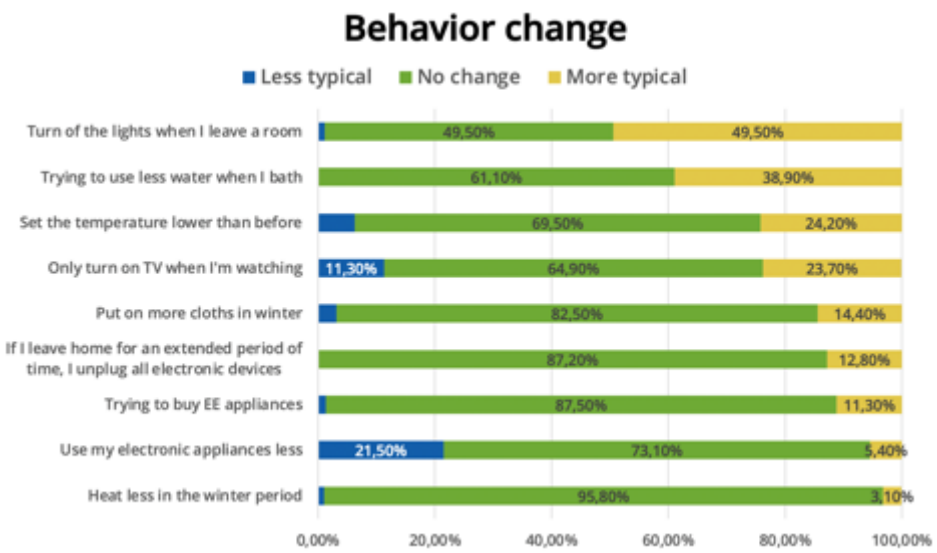

Figure 58: Measures of behavior change – impact assessment survey – LL3

The positive behaviour change was very similar here to the previous rounds, even a little bit higher. 50 percent turn off the light more frequently when they leave a room, 24 percent set the temperature lower than before to avoid over-heating, and 39 percent use less water when bathing. But 22 percent use their electronic appliances more often. Overall, 45 percent of the respondent changed their behaviour as a result of counselling, and 71 percent said that they understood better their energy expenses.

We finish the analysis with the estimation of energy usage change. We have to treat the energy consumption change estimates with caution here, too. We can only use 30 households with complete and robust data to estimate the energy consumption change. The electricity expenses decreased by 0.7 percent, and the heating cost decreased by 1.3 percent. **Overall, the energy expenses and the consumption of the third LL round participants decreased by 0.6 percent. So, in this group, we could manage to save some money and energy as well.** As explained earlier, the first home visits were carried out in the autumn of 2020. In this group, the initial numbers were also affected by COVID, not just the impact assessment measures. Here the negative effect of the COVID on the measurement was lower. That is one of the reasons why we have better results. And it also explains a bit the weaker results of the previous rounds.

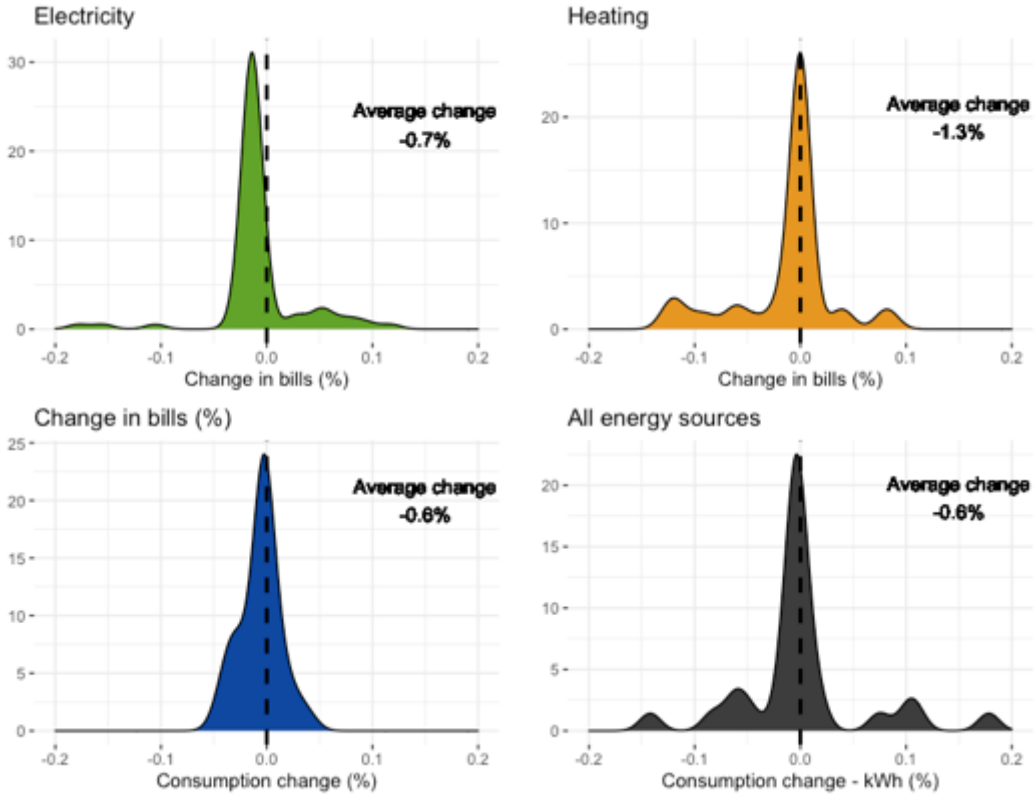

Figure 59: Measures of change in energy consumption – impact assessment survey – LL3

4.1.4 Case Study

In the next section, we present two qualitative case studies in order to contextualise the quantitative results. These case studies provide some impression on the complexity of the home advisors' work. As we highlighted many times: there is no universal solution; we have to tailor our work to all the households who participate in our program.

Case 1

The family was invited to the STEP-IN survey through the local social program. Because of improper living conditions, such as dangerous electricity consumption practices, lack of windows, children were at risk of being taken into care by social services. Due to their low income, they were unable to upgrade living conditions.
At first, the family awaited support in kind, which would contribute to quick and significant improvement in their living environment. As they had a complex problem, a local social worker and a STEP-IN advisor worked together with the family, combining everyday social work, support in childcare procedure on the one hand and improving financial and energy consciousness on the other hand.

Unsettled ownership was the first obstacle. The owner of the house passed away with no probate decree. Two parts of the house were used by two heir and their families, with separate households. Considering energy efficiency, the house was in very bad condition: no insulation; roof needs maintenance; broken door and windows and do not fit properly; windows were insulated by the shutter all day down resulting in constant need for lighting inside; cooking was performed on a heating wire removed from an oven imposing constant threat of accidents; old type TV and washing machines with large electricity consumption. Electronic devices were not used in a conscious manner. The household did not have formal access to electricity. They could not rely on family support or savings but were willing to work with a social worker and energy advisor. The preparation phase of the reconnection process took several months. After multiple visits, we agreed on the steps of the joint work with the family, which has been going on for more than a year.

First, the client had to initiate probate proceedings to settle ownership of the house. At the same time, social support work, including debt management, health insurance, motivation practices, was also started to ensure that the client can take a lasting job. Parallel with this, support work with the mother was also launched to make a basic upgrade of their living environment, e.g., cleaning, waste management, furniture donation, as well as energy-conscious practices such as excessive use of TV and finding a safer cooking alternative. Also, we did a survey to create a list of the necessary renovation work in order to improve living conditions.

Second, after the successful probate proceedings, we initiated the reconnection procedure. They were engaged in electricity theft but luckily had no fine from the electricity provider company. Together with the family, we filled out the documents necessary for reconnection. A grant agreement was drawn up so that the Emerging Settlements program fund could provide an advance payment so that the family can pay reconnection costs in instalments. Thus, the client became the consumer. However, another separate family was also living in the house; therefore, mediation was necessary to agree on common responsibility for future electricity consumption charges.

Inside the house, wires were in usable condition; thus, after the successful reconnection, they could use electricity in a safe way. The problematic cooking on a heating wire phenomenon was first replaced by cooking at another family home in exchange for washing for them. Meanwhile, the washing machine stopped working, but they could afford to buy a better second-hand wringer washer due to extra day labour income. As a temporary cooking solution, they received a properly working - although not energy efficient - hot plate by donation. The future goal is to buy a gas stove. Along with the

reconnection, the family applied for municipality support for the upload of the prepaid electricity meter.
Regarding necessary renovation works, roof leaks were fixed before the heating season, successfully preventing damp patches and mould. As a donation, the family received an inside door, linoleum flooring and two windows fixed, which contributed to less heat loss.

During our one-year work, we could alleviate but could not fully solve their living condition problems. As a positive outcome, the family shows interest and willingness for change. However, to overcome entrenched bad habits, develop a more energy-conscious behaviour and perform further investments is expected to take years.

Case 2

The woman was engaged in the STEP-IN survey in the summer of 2020 and a few weeks later asked for help concerning administrative issues of buying a new house and changing the consumer in the electricity contract.
She has a five-member household made up of four adults and a child. Their highest education is primary school. The lady works as a public worker[6]; her husband is a casual worker with at most 2 workdays per week. Their average monthly income is HUF 170.000, which is hardly enough to cover basic consumption. They can rely on the emotional support of their family support, but not any financial one.
They bought the house in 2020 because of the high energy costs of their previous home. The house has pise walls with crumbling plaster.

First, we helped the lady to gather and fill out the necessary documents to change the consumer in the electricity contract. During the administrative work, it turned out that the lady did not know how to read the electricity meter, so she received advice at a family visit.
She received the new contract, but for the wrong name, so she asked for administrative support again to reconcile it with electricity provider company E.ON. We raised the name issue in an email with E.ON, and they quickly resolved the problem. Hereinafter, the lady has paid all her electricity bills on time, but during the transitory period of the consumer change, two bills arrived for the name of the previous owner. She neglected these two bills and the upcoming warnings of arrear accumulation, so as a general practice with claims beyond 60 days, the electricity company initiated enforcement procedure. Thus, in late 2020, the lady turned to the energy advisor for help again. She received a disconnection warning and wanted to avoid the enforcement procedure. Although, at first, she did not understand why she had to pay the bills that are not in her name. She was advised that the consumer change procedure needed time, but as she was using electricity in the respective period, it is her responsibility to settle the payments no matter whose name is on the bill.

As a quick response was necessary to avoid disconnection, the lady was advised to negotiate with E.ON via phone and ask for an instalment payment option on the arrears. However, the lady was utterly reluctant to engage in any communication with the electricity provider, claiming she is unable to handle administrative tasks. Finally, she agreed to the solution that the energy advisor would back her during the phone call. The E.ON administrator was very helpful, properly explained the situation and agreed to instalment payments. Thus, the lady perceived the call as a success, and the notion that she is able to handle issues on her own in the future was reinforced.

Along with the support work, energy consumption patterns were discussed in multiple rounds, and the lady received thorough advice on how to interpret the electricity bill. She reported that after the

[6] Public Work scheme provides temporary job for registered job seekers. It mostly helps clients with low education and no profession.

energy advisory sessions, she paid much more attention to simple practices such as cooking with the lid on and buying energy-efficient light bulbs when old ones had burned out. She is also considering switching to a prepaid electricity meter to prevent arrears.

As a result of the energy advisory sessions, the lady has become much more energy conscious than before. Within her financial limits, she tries to change her family's entrenched habits. She has learnt how to read consumption on the electricity meter as well as that she is able to handle administrative issues with the energy provider and can turn to them for help.

4.1.5 Aggregated Electricity Consumption

As described in Figure 60, E.ON as a project partner, gave access to aggregated energy consumption data. This data comes from one settlement, Nyírbéltek. Nyírbéltek was one of the settlements we included in LL round 3. We organised an Energy Café there, and we also conducted a limited number of home visits. We have data from two aggregator districts. Around 100-150 households live within an aggregator district. These two districts cover that part of the settlement, where most of the deprived households live. This aggregated data helps us to understand better how people use electricity. We can use this data to draw the within-day curve of consumption, compare the different day types or even check the impact of COVID-19 on consumption.

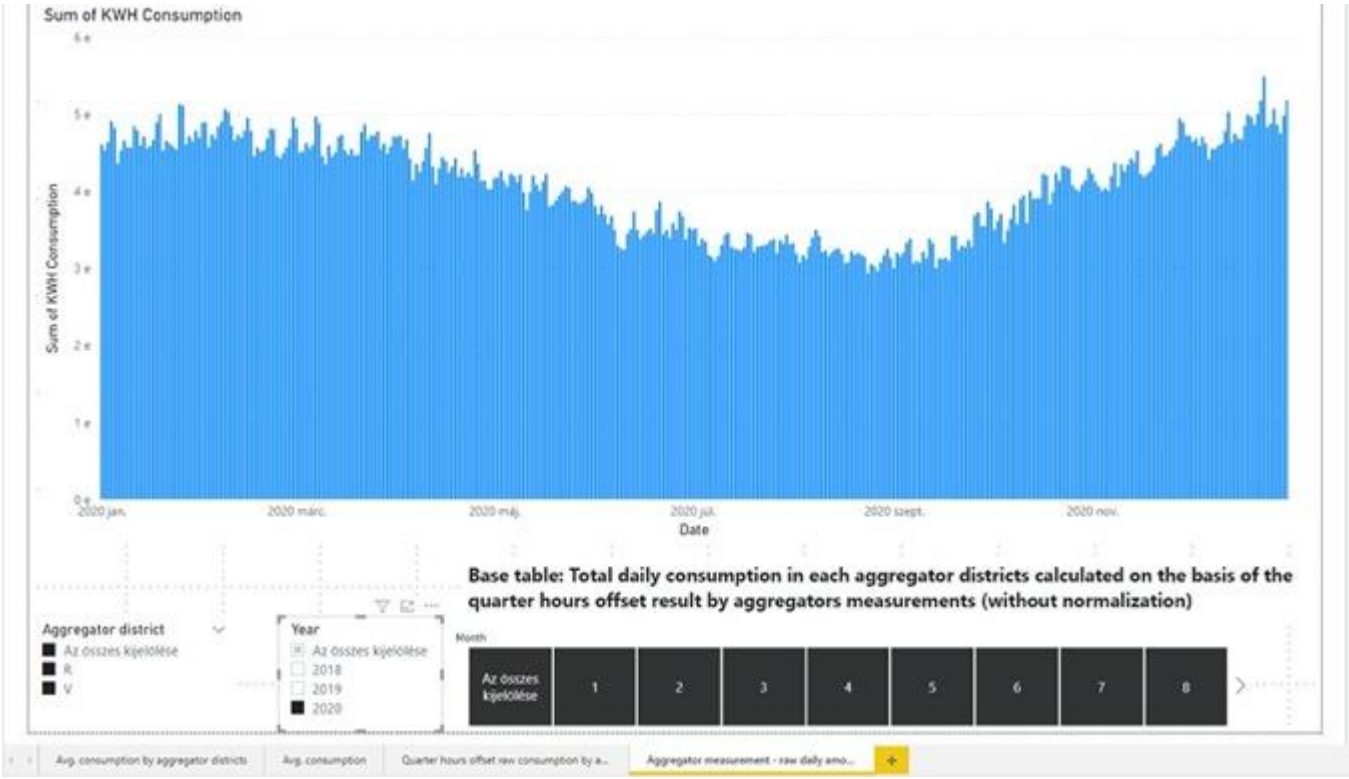

Figure 60: Daily energy usage (aggregator data)

The daily aggregated energy consumption in this area followed the usual pattern. In Hungary, the consumption was high in the winter period and low in the summer period. Air-conditioners are quite rare in this area, so the consumption mainly follows the temperature.

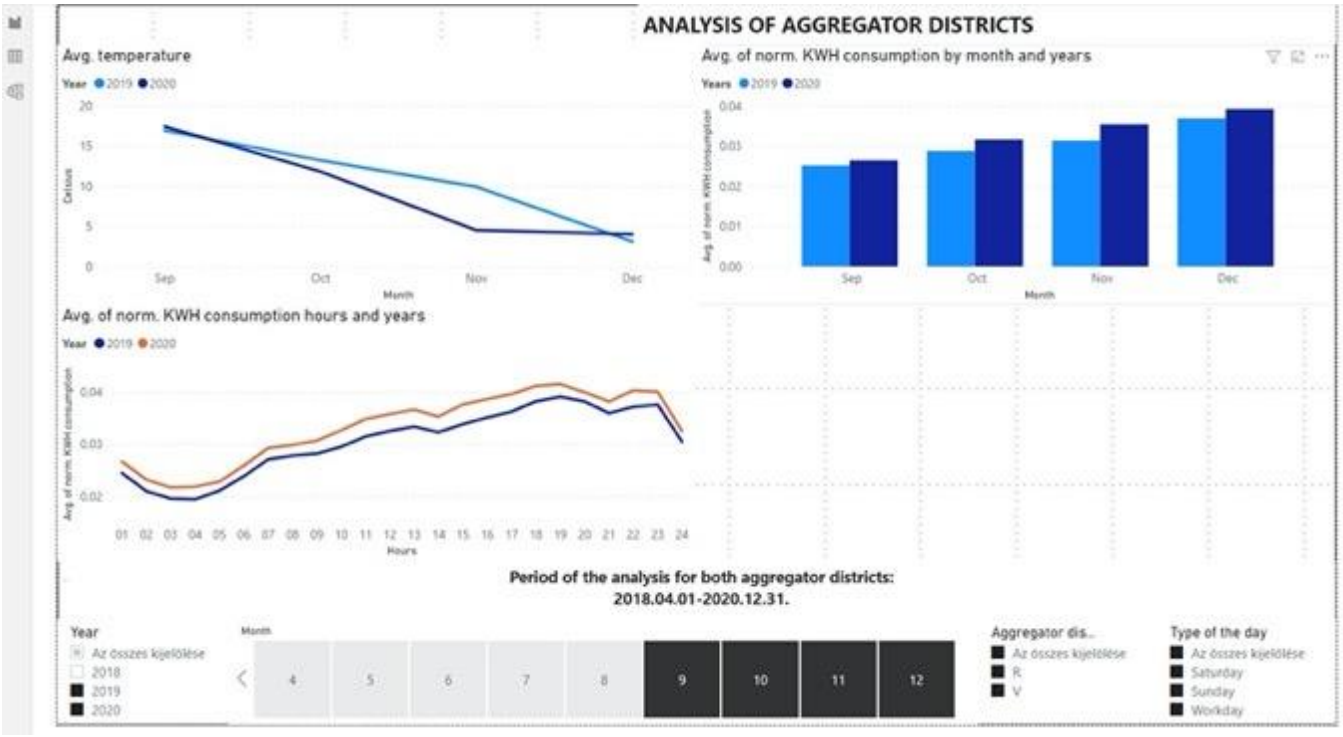

Figure 61: Comparison of 2019 and 2020 electricity consumption (aggregator data)

In order to understand better the impact of COVID-19, we compared the electricity consumption of 2020 with 2019. We focused on the September-December period. The second wave of COVID-19 started at the end of August in Hungary, and new restrictions came into force beginning in September. The electricity consumption was higher in 2020 compared with 2019 in all the analyzed months. The overall difference was 9 percent. We measured the smallest difference in September - 5 percent. The COVID numbers were not so high that month and people lived a close-to-normal life. The highest difference was in November when the pandemic really hit the country. But this big difference could be partly explained by the lower temperature too (figure left top). The daily load curve is also very instructive. There was a constant consumption increase all day, not just in specific hours. But the extra consumption was more typical in the morning and in the afternoon hours. But the load curve of this area was already atypical even in 2019. Usually, there is a peak consumption in the morning period and lower consumption in the afternoon. But here we can observe a continuously increasing consumption within the day. This is a typical consumption pattern of pensioners or households where people are unemployed or stay at home.
We calculated the same measurements for the weekdays, and all the trends were the same there. We can draw the conclusion: due to the restrictions people stayed at home, used more appliances and used more electricity. This was a heavy burden on those households who were already deprived. In the next section, we present this in more detail based on our impact assessment questionnaires.

4.1.6 COVID-19

The COVID pandemic had a serious impact on everyday life. The pandemic started around March 2020 in Hungary. In the first months, the case number was quite low, as the Hungarian government successfully implemented many restrictions to prevent the outbreak of the first wave. Schools and shops were closed, and people were asked to stay at home. Around June, life returned to normal, most of the restrictions were lifted. The second wave started around the end of August and reached its peak around November. Primary schools were not closed during the second wave, just the secondary schools, and a curfew has been introduced between 8 pm and 6 am.

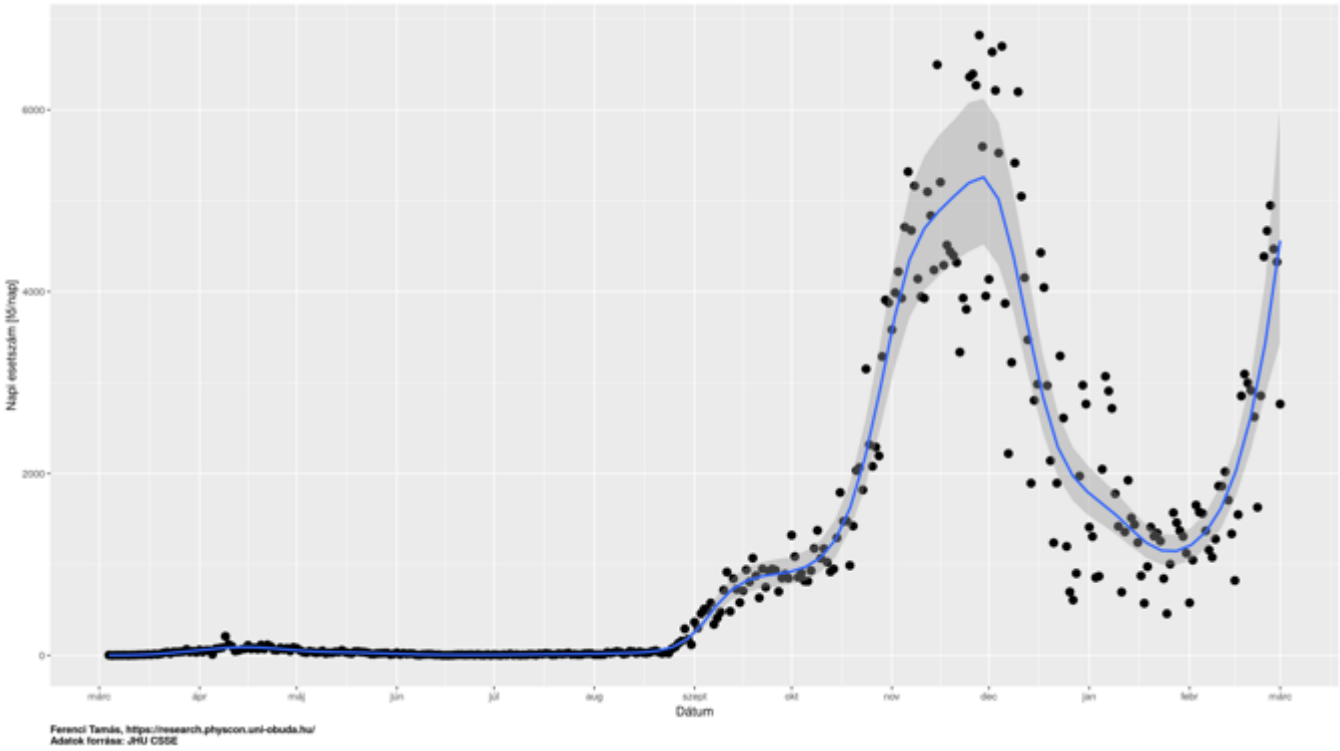

Figure 62: Daily confirmed COVID-19 cases in Hungary (source: Tamás Ferenczi)

The pandemic had an impact on our project as well. We couldn't finish the second LL round before the restriction came into force in March, so part of the LL round 2 was carried out after the restrictions were lifted in the summer period. What is more important: all the impact assessment questionnaires were conducted after the COID outbreak. When we are calculating our impacts, we have to consider how it was affected by COVID-19.
In order to map the COVID impacts, we added a COVID block to the impact assessment questionnaire. This question block was identical to the ones we used in the other LL's (Metsovo, Manchester).

Based on this data, 46 percent of the participants said that they spent more time at home. The average increase was around 3 hours. For 15 percent of the households, this increase was equal to or more than 8 hours. 50 percent of the households reported a more frequent usage of electricity appliances after the COVID breakout. Besides the small appliances, TV, microwave and computer were the appliances which were used more often.

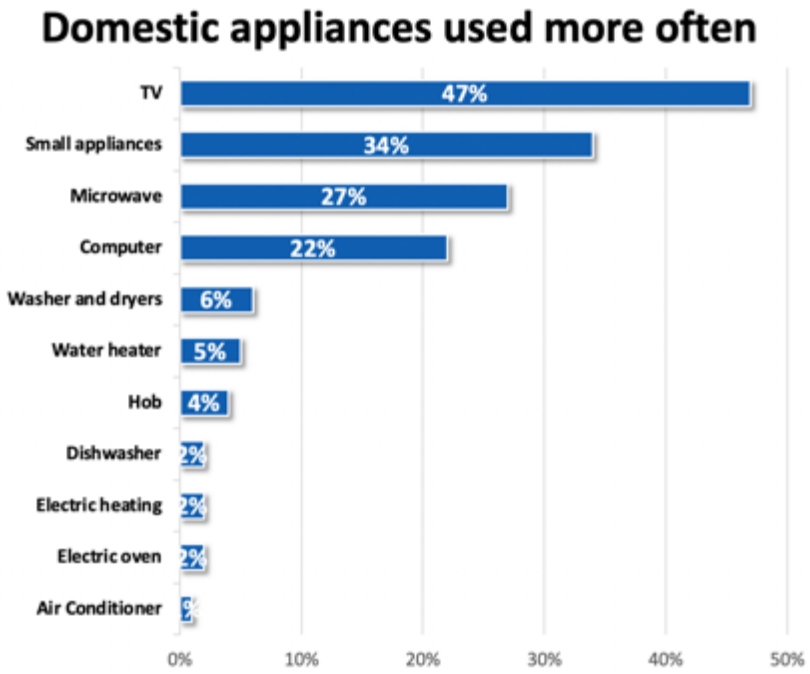

Figure 63: Appliances used more often after restrictions (impact assessment survey)

Participants experienced many negative consequences of the restrictions, and it affected the basic needs of these households. 54 percent of the households had difficulties in affording adequate food. Childcare was another issue; 46 percent had difficulties in managing the kids. On top of that, 32 percent had difficulties managing care for other members of the household. Only 5 percent of the households reported zero problems, but 20 percent reported all the 5 difficulties.

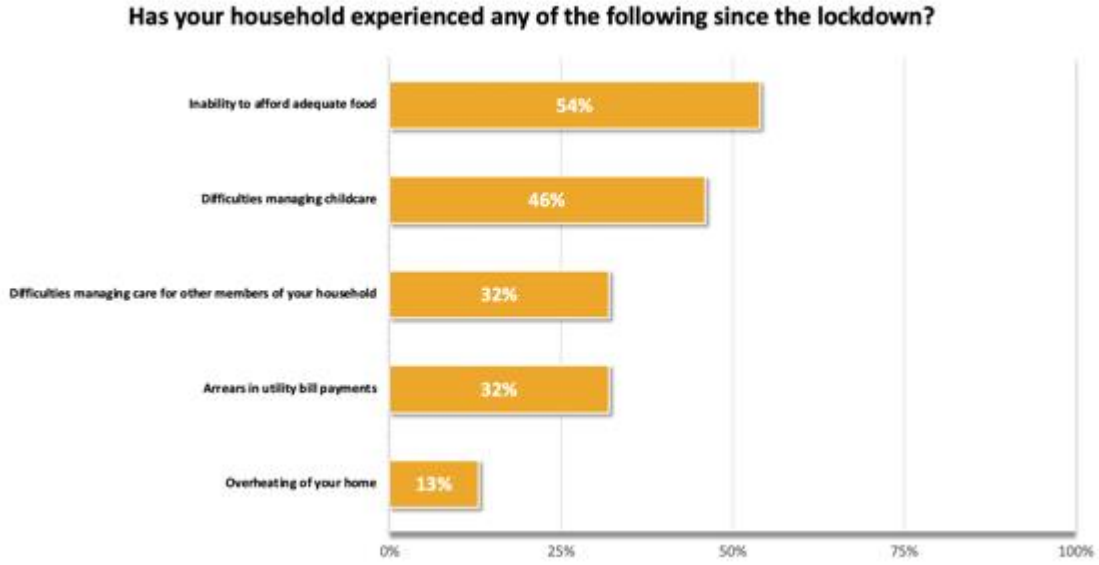

Figure 64: Negative impacts of lockdown (impact assessment survey)

We found one additional negative consequence of COVID. Heating with rubbish was more common than before. 37 percent reported that they sometimes use rubbish for heating. This number was 10 percent lower in the home visit questionnaires. The hopeless situation of these households explains this process, but from an environmental point of view, this result is disastrous.

Due to the COVID outbreak, many people lost their job in Europe. We asked our respondents about their employment status and their subjective income position. One-third of the respondents reported changes in their employment status. In most cases it meant, they worked less than before. But the unemployment rate was also increased by three percent. Overall, 72 percent of the households barely make it on their monthly income, which is a really high number. But this rate was similar before COVID, so the subjective income position did not change.

We would like to raise one final point here. Due to the COVID pandemic, the Hungarian government introduced a moratorium on arrears. We didn't have a specific question about that in our survey, so we don't know how many people stopped paying their arrears. But based on the experience of our local Energy Advisors, most households took advantage of this opportunity. In the short term, this could have a negative impact on energy awareness, as these households do not have to pay attention to their bills. Where the financial situation was adequate, our advisors suggested that the households pay their bills on time and try to avoid accumulating the arrears. In the long term, accumulating arrears will cause many more problems.

4.1.7 Summary of results

In the last section, we sum up the results of the three LL rounds and estimate the overall impact of the home visits. 602 home visits were carried out in the rural LL. Originally, we planned 200 home visits per round, but in the first period, we had some difficulties in the organization of home visits. We had to find the best ways to engage the communities. We will get back to this in the next section.

We defined three target groups in the "market segmentation" phase: minorities, pensioners living alone, and households with 3+ children. 53 percent of the participant households belonged to the Roma minority, and 20 percent had 3+ children. There was a strong overlap between the two groups. 75 percent of the 3+ children households were Roma. The third group, pensioners living alone, was the smallest – only 7 percent. In this section, we will present the overall impacts and will also highlight the differences between the target groups.

36 percent of the visited households (212) took part in the impact assessment. 67 percent of the households did some refurbishment or bought new energy-efficient appliances. **Based on these actions, we could estimate a 5.3 percent possible reduction in energy bills and a 5.9 percent reduction of energy usage in kWh. If we project this number to our whole sample, we could estimate an annual 0.66 GWh energy saving.** But as our earlier results showed, we could not measure a significant change in consumption based on the energy bills. Even there was a small 0.2% increase in bills and 1.1% increase in energy usage.

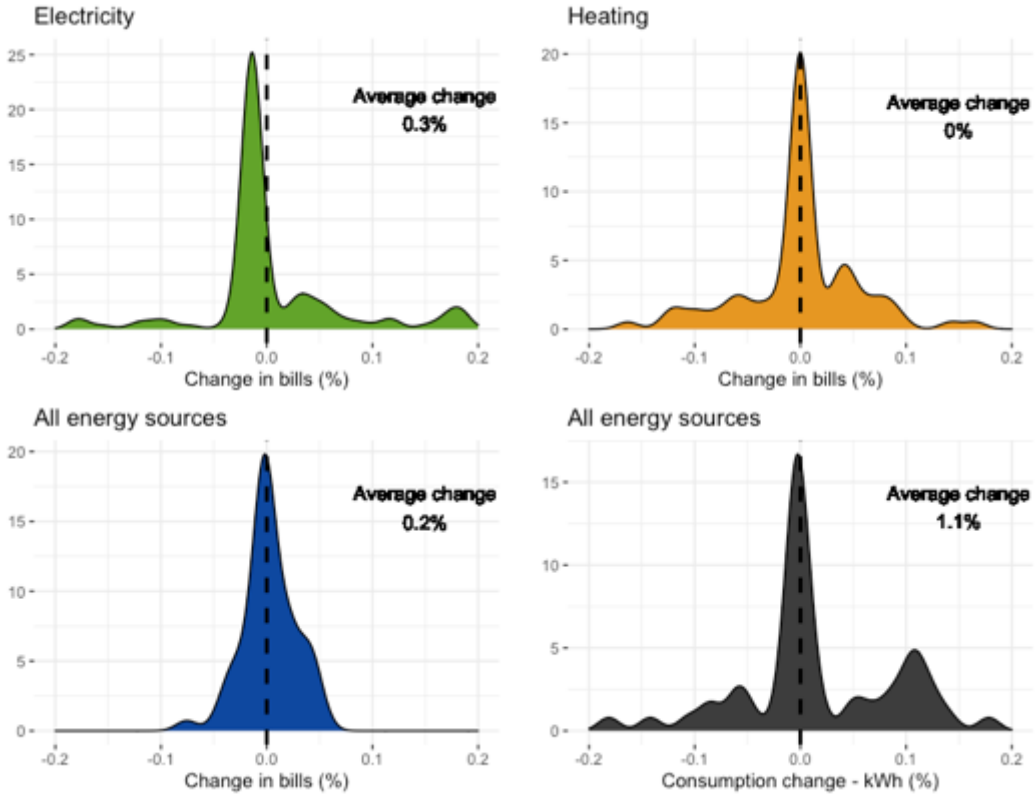

Figure 65: Measures of change in energy consumption – impact assessment survey – all rounds

As our initial home visits showed clearly, there was massive underconsumption in many households. The comfort level was very low in the targeted population, and some of the households had to cut back on basic needs in order to pay their bills. So, we can assume that some of the above calculated estimated energy savings were turned back to improve the comfort level of these households. We also have to consider how COVID impacted our results. Based on our COVID-19 question block, people

stayed at home more and used their appliances more often. Some people lost their job; wages were cut; more arrears accumulated. The aggregated energy consumption data gives us a good estimation of how the overall electricity consumption changed in this area. The consumption was 9 percent higher between September and December 2020, compared with the previous year. This is alone enough to diminish the savings we measured. We don't have aggregated data on gas consumption, but we could assume a similar tendency here, as gas consumption is even stronger determined by the hours stayed at home.

We couldn't find any significant differences between the three target groups of the program. We only had enough data in the case of electricity expenses for the comparison. We measured a small (1 percent) energy expense reduction for the pensioners and a small (1 percent) increase for the households with 3+ children. But these differences are quite small, so we cannot draw a strong conclusion here.

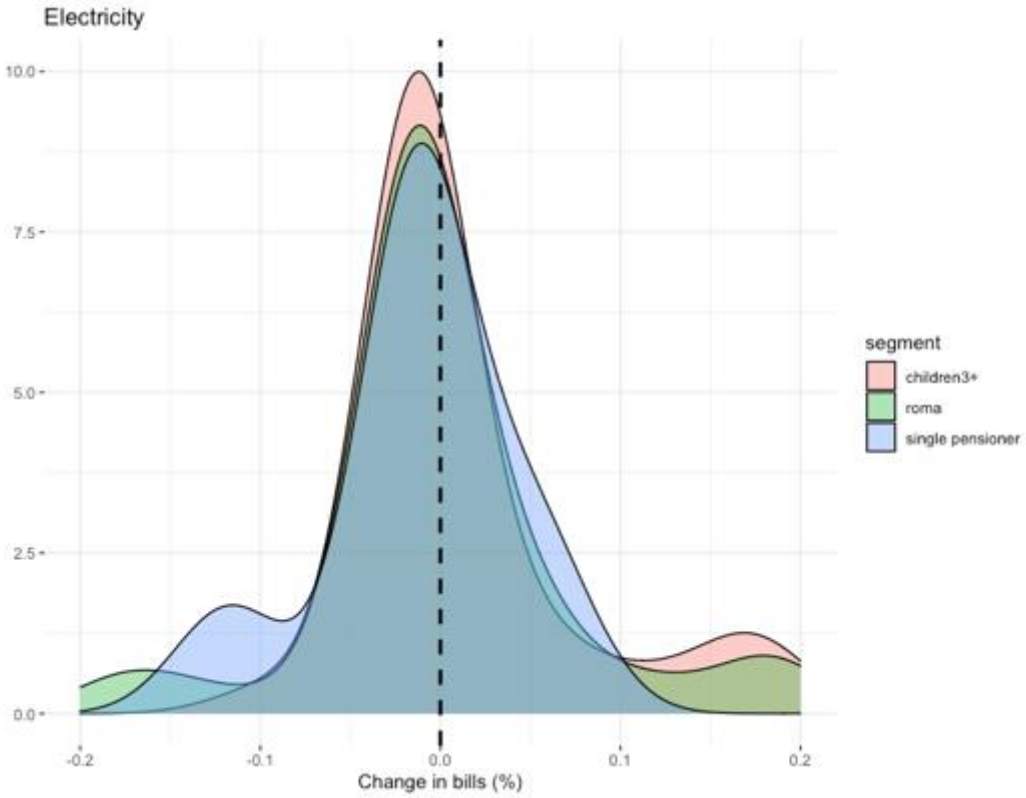

Figure 66: Measures of change in energy consumption per target group– impact assessment survey – all rounds

13.2 percent of the households had better conditions regarding housing problems (mould, dampness, condensation on the wall, leaking roof, ideal temperature), and 15.3 percent felt improvement in arrears. 18.8 percent of the households had an improvement in life quality. 36.8 percent of those who took part in the impact assessment questionnaire had improvement in at least one area.

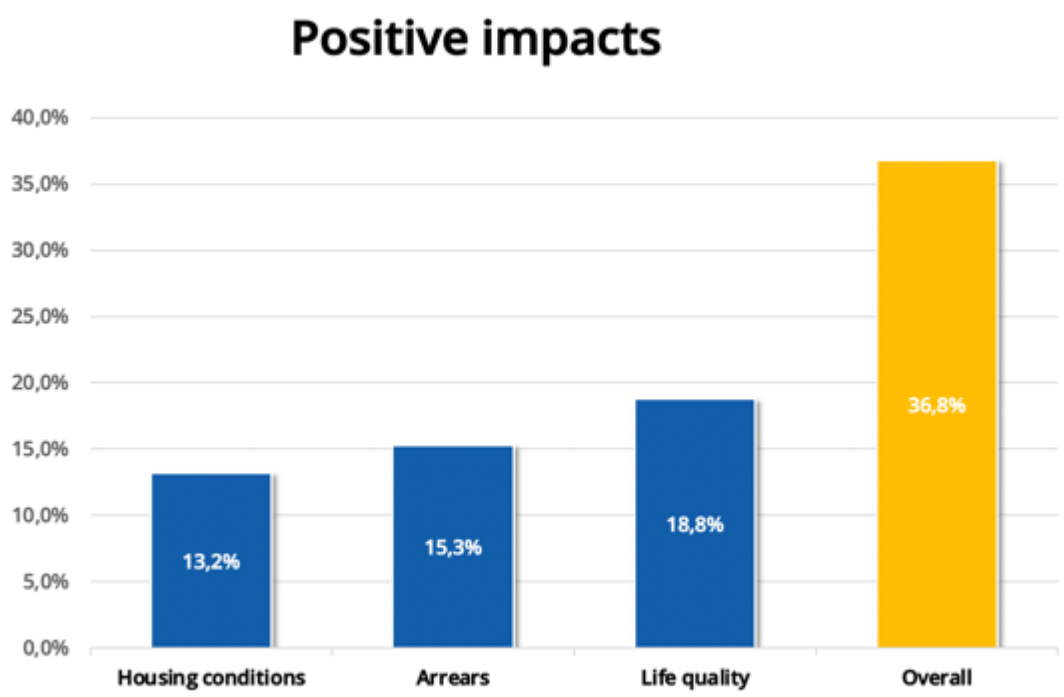

Figure 67: Measures of positive impacts – impact assessment survey – all rounds

There were huge differences between the target groups regarding positive impact types. More than 20 percent of the Roma and households with 3+ children reported improvement in arrears, but this number was close to zero in the case of single pensioners (most of them didn't have arrears). On the other hand, 30 percent of single pensioners felt improvement in life quality measurements, while this number was "just" 20 percent for the Roma group. All three target groups had greater overall improvement than the sample average. This means that primarily we were able to help those households which were identified in the project as the main victims of energy vulnerability. **In the project description, we aimed to improve the life of 750 people. Based on our results, we managed to improve the life of 793[7] people in the project period, despite the negative impact of COVID-19.**

The improvement of quality of life went hand in hand with a positive behaviour change. 43 percent turn off the light more frequently when they leave a room, 28 percent set the temperature lower than before to avoid over-heating, and 36 percent use less water when bathing. But as the effect of COVID, 28 percent use their electronic appliances more often. Overall, 45 percent of the respondent changed their behaviour as a result of counselling, and 70 percent said that they understood better their energy expenses. **In the project description, we expected a positive behaviour change for 750 people. We reached a higher number at the end; 970 people changed their behaviour and made better decisions than before.** We did not find significant differences between the target groups in this dimension.

[7] The average household size was 2.58 in the sample. We used this number for the calculation.

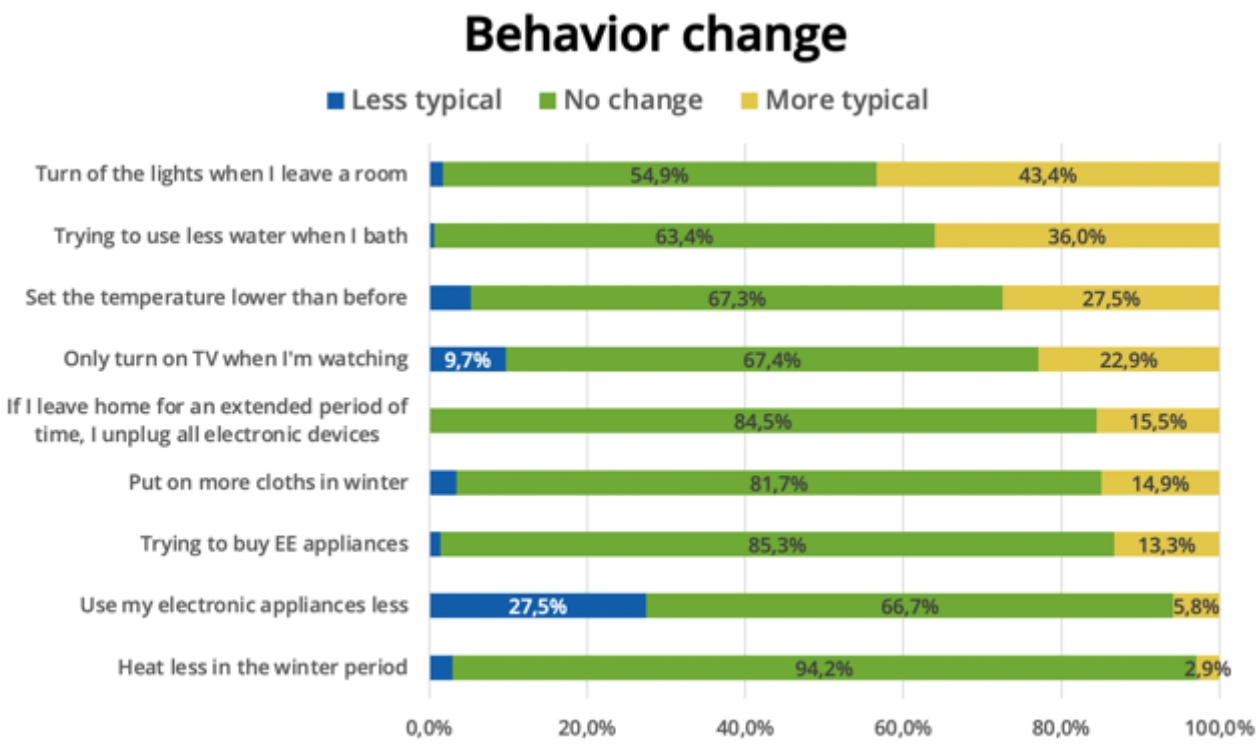

Figure 68: Measures of behavior change – impact assessment survey – all rounds

Finally, we show the results of energy poverty. As described before, we calculated a complex energy poverty index based on income, energy expenses, arrears and housing conditions. For an easier overview, we merged those who either had high energy bills or had high energy vulnerability risk. 60 percent was in the diagonal – their energy poverty status was not changed. There were no significant differences between those who had improvement in their status and those who had deterioration. Around 20-20 percent belonged to each category. Although we noted improvements in housing conditions, we also found that due to the COVID-19 pandemic more people have arrears, some people lost their job, or his/her wage has been cut. This obviously had a negative impact on the current energy poverty situation in the area. But at least we could prevent a massive deterioration in the quality of life.

		Initial status			
		Low risk	Hi energy bills or Hi energy vulnerability risk	High energy bills and high energy vulnerability risk	No electricity access
Impacted status	Low risk	18,4%	6,1%	0,9%	1,4%
	Hi energy bills or Hi energy vulnerability risk	10,4%	20,3%	6,6%	4,2%
	High energy bills and high energy vulnerability risk	0,0%	7,5%	9,0%	0,0%
	No electricity access	2,4%	0,9%	0,0%	11,8%

Table 4 Change in vulnerability (impact assessment survey)

4.2 Methodological Aspects

In this part of the report, we present the methodological lessons we learned from the LL rounds. We focus on the home visits and the information collected by the home advisors. As well, we summarise the lessons of the Energy Cafes very briefly.

4.2.1 Energy Cafes

Energy cafes served as a promotion event and, more importantly, a cooperation building opportunity to involve people having a key role in the settlements, such as public work group-leaders, municipality, and community house workers. The immediate result of Energy Cafes was that we could reach a narrow but typical group of the local population to introduce STEP-IN to them, emphasise the necessity of the surveys and how its outcome can help them.

In the long run, energy cafes helped to make our presence accepted and understood. It was a good start to address people, as most of the participants were engaged in the surveys and advisory sessions. Those interested also passed information about the program to their relatives, friends, neighbors, supporting the successful conduction of establishment surveys.

Apart from these, topics discussed at the energy cafes marked the start of attitude formation. We could bring new knowledge and approach to energy topics which initiated the discussion on prevailing energy consumption practices and their reconsideration. Energy cafes provided the opportunity to raise unique or typical issues, which participants discussed before but never turned to professionals or the utility to solve them. It was a shared experience at these events, and at energy advisory sessions, people having energy problems are reluctant to communicate with the utility because they are afraid of potential consequences or have bad experiences with utility administrators. HEAs could ease this tension by discussing hot topics such as engagement in energy theft actions as neutral professionals. At those energy cafes, where there were no utility representatives, the discussion was more open with concrete problems raised.

It is an important lesson learned that people prefer short, interactive events. Even when the topic was interesting from a professional point of view, after a particular time, it was pretty hard to hold the attention of the participants. In the later stages, we adjusted energy cafes to be shorter with less but precise information. We shortened or skipped those topics that were not relevant for the respective participants and changed the discussion flow according to their questions and interest.

One of the most handful topics was heating by wood. This provided new information not only for the participants but local social workers as well, and they could directly apply the practices discussed. Electricity consumption was also a challenging topic, but as families have limited resources, they mostly rely on external support to upgrade energy-efficient devices and ensure regular electricity supply.
As a general observation, raising energy awareness needs a long time, and HEAs can get forward in small steps to change entrenched energy consumption habits. For example, electricity consciousness is mainly restricted to buying energy-efficient lightbulbs, but many families do not connect it with switching lights off when they leave the room.

4.2.2 Home visits

At the start of STEP-IN, we had to develop efficient advisory services almost from scratch. Efficient advisory requires multiple conditions: adequate circumstances, professional and material preparedness, and efficient communication. It is important what HEAs say, how they form the message, and how they act in the field.
Although HEAs were experienced social workers, advisory skills had to be adjusted and new ones incorporated during the first phases of fieldwork. In contrast with social support work, when clients initiate contact, HEAs had to address the population and convince them of energy advisory services' usefulness. They had to learn how to screen the homes to locate potential energy issues and constantly pay attention to select proper advice that targets the unique conditions of the house and acceptable and feasible by the family.
First, it was tough to overcome the prejudice that Maltai is generally regarded to be engaged with only people at the margins of society. However, energy advisory could be most beneficial for families with proper energy supply, with adequate knowledge and finances to reconsider consumption patterns and initiate potential changes. These families were the hardest to be engaged in the STEP-IN program.
Local presence and contact network, a key influencer for practical energy advisory work, has developed parallel to the STEP-IN program. As long as the local people did not have any information about HEAs or related social programs, they were not open to the survey. The second and third round survey results reflect the acceptance of HEAs' presence in the settlements.
Before the survey and energy advisory sessions, it took considerable time to build good relations with local social workers, respected local people, and get their support for STEP-IN fieldwork. Without this time-consuming work in the background, HEAs would have struggled to involve people in STEP-IN.
Towards the end of STEP-IN, we could show results that are directly visible for the local people, e.g., reconnecting to the grid, supporting administrative energy issues, preventing disconnection, and arrear management. Relying on these achievements, we could loosen people's firm expectations for prompt and life-changing solutions.

Our home advisors highlighted the following important lessons based on the visits:

- A development program with associated financial and material assistance. In this way, it is possible to bring families' housing conditions to a basic level where energy awareness counseling can start.
- Unsettled ownership is a severe problem in the advancement of safe and regular electricity collection.
- Due to administrative inexperience and fear, most families could not arrange the reconnection without the continuous help of social workers.
- Energy awareness-raising focused on the most straightforward, most basic practices. Interventions that require more financial expense are not allowed by the financial circumstances of most families.
- Prepaid meters contribute significantly to the realization of consumption patterns, raise awareness, and help with financial planning.

The **housing and living conditions** were far from good in this area. According to our baseline survey, more than half of the local households struggle with dwelling problems. The most common problem (32 percent) is that dwellings are not comfortably cool during the summer. Nearly the same number of respondents said (28 percent) that their dwellings were not comfortably warm during the winter. The lack of good quality insulation could be the cause of this. Nineteen percent noticed condensation on the windows and the walls during the winter, 15 percent said there was dampness on the walls or floors, and another 15 percent said there was mold in the house. A leaking roof presented as a problem in 8 percent of households. These numbers were even higher for those who participated in the STEP-IN home visits. We had many discussions with the project team and the home advisors about the home visits' ethical dimension: if the comfort level is deficient, is it ethical to suggest consumption reduction? We estimated the given household's ideal/regular energy consumption based on their home visit

survey answers to support our advisors. This estimation helped the advisors to decide what is fair to suggest to a household. If we found massive under-consumption, we tried to find schemes to improve the household's situation instead of asking them to reduce their bills.

The **proper measurement of energy consumption** was really challenging. In the first Living Lab iteration, we asked participant households to dictate the amount of money they spend on different energy sources, and we also asked them to estimate their energy consumption in kWh (electricity), M^3 (gas), or kg (wood). We got a very high missing rate for the latter question. Moreover, the statistical correlation between the money and volume measures was zero. We discussed this issue with the home advisors, and based on their experiences, we used the money measures as a primary information source and estimated the consumption in kWh/ M^3 /Kg based on that. The situation was even more complex where people use firewood.
In some cases, participants know how much money they spent on firewood. However, in other cases, we only have information about the quantity (kg or m^3), which is unreliable. Households buy firewood several different times and from several vendors. They buy it in kg, sometimes in m^3, sometimes just from a trailer. And the heating value of the firewood heavily depends on the species of the tree and the humidity level of the firewood. So even if we know the proper amount of money, we still have a problem estimating the quantity and, in the end, the heating value in kWh.
Furthermore, we can add a further layer to this problem. Local municipalities sometimes give firewood to the citizens as subsidies. It is also frequent that people collect firewood from the local forest. In most cases, this is not illegal, as they got this "free" firewood as a "payment" for their work. So, in the end, it becomes difficult to estimate the firewood consumption of a household.

Piped gas is not available in every dwelling. In Nyírbátor, there is piped gas in the city center, but in the segregated/outer part of the city (where mostly Roma people live), there is no access to piped gas. These households can only choose firewood or pellet for heating. This highlights a serious problem in the rural areas where gas heating is not available in all the houses. The price of gas is regulated by the state, and it was frozen by the state in recent years. But the price of firewood is not regulated, and there was a serious increase in the last few years (10 percent just last year). This is a key driving factor of rural energy vulnerability in Hungary. But our advisors also met with the opposite situation. Pensioner households (mostly older women) cannot deal with the packing and cutting of firewood. So, they also don’t have any choice, and they have to rely on piped gas in the case of heating.

The **COVID-19** pandemic had an impact on our project as well. We could not finish the second LL round before the restrictions came into force in March, so part of the second LL round was carried out after the restrictions were lifted in the summer period. What is more important: all the impact assessment questionnaires were conducted after the COVID outbreak. When we are calculating our impacts, we have to consider how it was affected by COVID-19. People stayed at home longer, used their electrical appliances more frequently, some of them lost their job. In a crisis, energy awareness is not the most crucial issue for families. We tried to minimise the f2f contacts. We spent less time with the associated households, so we had less time to understand their needs. We tried to substitute the f2f meetings with telephone calls, but this channel's efficiency was much worse.
Due to the COVID pandemic, the Hungarian government introduced a moratorium on arrears. In the short term, this could have a negative impact on energy awareness, as these households don't have to pay attention to their bills. In the long-term accumulating arrears will cause many more problems.

4.2.3 Smart Data

Smart-meter data could solve part of the measurement problem we mentioned before, and it could also serve as an excellent data source for detailed energy reports. Smart meter penetration is very low in Hungary, but E.ON deployed pole-meters in many settlements, which work like a smart meter, as they record the household's electricity consumption every 15 minutes. However, it was also challenging to include this data source. Due to data transmission problems, there are missing patterns within this

data too. We need to apply complex models to create a good quality energy report. However, this can be solved quickly. A more complicated part is the legal one. Consumers own this data, but the utility stores it. So when we are doing the first home visit, we also need to ask the participants to fill out a particular consent form (above the general one), which permits E.ON to share the participant data with a third actor (in this case, Ariosz and Máltai). We could then use this data to create unique energy reports or measure the program's effectiveness.

This data is unique, and good services could be built on it. Nevertheless, first utilities have to develop their legal protocols, which could create a secure environment for this data source's efficient use.

4.2.4 Energy Diaries

We developed an **energy diary** and distributed it to 10 households. We asked the participants to fill these diaries for two weeks. Every day, they have to record the daily meter standing and how much they use each of their electric appliances. We also give them a detailed description of how they have to use the diary. Participants did not get any incentives for this.

STEP-IN ENERGIA NAPLÓ

Háztartás sorszáma (tanácsadó tölti ki):	
Kezdő dátum:	
Villanyóra állás a kezdő napon:	

Napok száma	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Klíma (nyári használatra gondoljon)														
Elektromos tűzhely (csak főzőlap)														
Elektromos sütő														
Mikrohullámú sütő														
Számítógép, laptop														
Rádió, hifi														
Elektromos fűtés														
Átfolyós elektromos vízmelegítő														
Kerti szivattyú														
Televízió														
Mosogatógép														
Mosógép														
Mosó-szárítógép														
Egyéb elektromos eszköz (porszívó, szagelszívó elektromos kávéfőző...)														
Villanyóra állás														

Útmutató: Köszönjük, hogy segíti munkánkat azzal, hogy kitölti a fenti energianaplót. A napló alapján pontos képet adunk Önnek arról, hogy melyik eszköze mennyi energiát fogyaszt. Ezt az elemzést tanácsadónk eljuttatja majd önnek. Az eszközök használatának lejegyzése Önt is segíti abban, hogy energia tudatosabbá váljon. Kérem a naplót naponta töltse, 14 napon keresztül. Minden eszköz esetében írja le, hogy az adott napon hány órát használta. Írhat nem egész számokat is. 30 perc használathoz, 0.5 órát írjon, 15 perc használathoz 0.25 órát. Kérem naponta jegyezze le a villanyóra állást is. Ezt bármikor megteheti (reggel/délben vagy akár este), csak arra figyeljen, hogy mindig ugyanabban az időszakba írja le az óra állást. Ha bármi kérdése felmerül, akkor kérem forduljon bizalommal a Tanácsadójához.

KUTATÁSUNK AZT VIZSGÁLJA, HOGYAN LEHET CSÖKKENTENI A CSALÁDOK ENERGIA SZÁMLÁIT ÉS HOGYAN LEHET SEGÍTENI ABBAN, HOGY MEGFELELŐEN FŰTÖTT LAKÁSBAN ÉLJENEK TÉLEN. A KUTATÁS MAGYAR PARTNEREI A MAGYAR MÁLTAI SZERETETSZOLGÁLAT, AZ E.ON VALAMINT AZ ARIOSZ KUTATÓINTÉZET. A KUTATÁST AZ EURÓPAI UNIÓ FINANSZÍROZZA

Figure 69: Energy diary (Hungarian)

The results were the same as in the UK Living Lab. We did not get any useful data from the diaries as participants did not fill it in a proper way. It was too much time and effort for them, and because they did not get any remuneration for that, they were not motivated enough. Despite the fact that the diaries themselves couldn't produce any useful data, the participants felt it helped them to raise awareness, so the diaries were not entirely useless on the project level. We tried to incorporate this project element in the case of household reconnection. After the deployment of a pre-paid meter, we asked consumers to complete the diaries. This tool helped them to raise energy awareness. However, the data was far from perfect, it was suitable for qualitative assessment, but it can not be used for quantitative calculations.

4.3 Dissemination Activities

During the V2 and V3 rounds of the LL, several dissemination actions took place beyond the local scale as a means to create knowledge for sustaining and scaling up these benefits at both national and European levels.

Nyírbátor local television (Bátori TV) broadcast an interview with one of our Energy Advisor on the 4th of December 2019. The interview also reported on the STEP-IN winter school. On the third day of the event, the STEP-IN team visited the rural Living Lab and had a live discussion with the local Energy Advisors. The report is available here: https://www.youtube.com/watch?v=MxWxrqsgbQs – (430 views just on Youtube)

We disseminate the project in conferences and expert meetings:

- We organised a meeting with the experts of the Regional Centre for Energy Policy Research (REKK) on 6.11.2019 – 10 participants.
- We presented our project at a Conference about Energy Poverty hosted by the Hungarian Academy of Science on 25.11.2019 – 50 participants.
- A winter school was organised from 26.11.2019 to November 28.11.2019 with the support of ARIOSZ, MALTAI and E.ON. The first two days of the Winter School were dedicated to interactive workshops with the participants, while the third day was dedicated to visiting the Nyírbátor region, which holds the Hungarian Living Lab of our project. Approximately 15 social workers attended the Winter School, and 12 students attended the dedicated University session. On the third day of the Winter School, a visit to Nyírbátor was organised with the participants. Presentations were given to explain what was being done at the Living Lab, and discussions with local home energy advisors were held. Small groups home visits were also organised in order to grasp the global situation.
- Ariosz held an oral presentation in the "Right to Fair Energy Access" Conference organised by Adiconsum on 18.02.2021 – 100 online participant + 500 Facebook views.
- We organised a webinar on 24.03.2021 for colleagues and experts to present the main findings of the Hungarian Living Lab. – 40 participants.

We shared all project-related information on the Hungarian Rural Living Lab Facebook page (https://www.facebook.com/stepinhungary2019). In the project lifetime, we posted 104 posts. We shared energy reduction tips and suggestions, Energy café related content or posts about other STEP-IN events (like the STEP-IN Winter School). The Hungarian Facebook page of the rural LL was followed by 116 people. The daily page engaged user was 1,622, the daily total reached16,853.

The rural STEP-IN program was cited in **two documents** On the European level, it was cited in the ESPN report: Access to essential services for low-income people – Hungary country report (https://ec.europa.eu/social/BlobServlet?docId=22811&langId=en)
On the national level, the project was cited in a Cooperation Agreement between the Hungarian government, E.ON and Máltai – related to a new program in Tiszabő.

5. Conclusions

The rural LL methodology followed the global LLs methodology. The methodology has been designed to be customisable for different locations, and therefore certain peculiarities exist between the rural and the other two LLs, although the overall key steps remain in place.

Keeping in mind the above-mentioned remarks, the rural LL process, which was implemented in the second and third round, includes the following activities:

- Information campaigns
- Organisation of the energy café
- Recruitment of Living Lab Participants (for the V1 LL activities)
- Reconnecting households to the energy grid
- Home visits from the Energy Advisors
- Operation of an Information Centre
- ICT tool
- Analysis of aggregated data sources
- EnergyAdventure school program
- Focus group discussion
- Evaluation of impacts

In parallel with STEP-IN, the Emerging Settlements program has been launched in Hungary. Nyírpilis and Nyírmihálydi, where STEP-IN energy advisory services reached a significant part of the population, are also included in the Emerging Settlements program. In the Emerging Settlements program framework, a strong emphasis has been put on support for setting up a formal connection to the electricity grid. Lack of formal electricity access is a core issue in these settlements. Its management requires a complex approach incorporating social work with families and financial support - which the Emerging Settlements program has ensured - and professional advisory work which has been given in the framework of STEP-IN. During the STEP-IN project timeframe, we were able to reconnect 11 households in Nyírpilis and three additional households in Nyírmihánydi. During mass checks, electricity provider E.ON has revealed irregular electricity consumption of multiple families.

We used soft and hard measures and quantitative and qualitative elements for the impact assessment. We build the quantitative impact assessment on two data types, surveys and electricity aggregator data. We had access to aggregator data in Nyírbéltek from two districts. This aggregator data allowed us to monitor the aggregated electricity usage of these districts continuously. Around 100-150 households live in each district. The 15 minutes granular electricity consumption data is available here from 2018. We primarily used this data to estimate the impact of COVID-19 on electricity consumption. We used survey data to measure the impact of STEP-IN advisory work on the consumers. Six-hundred-two households participated in the STEP-IN program. The home visits started with an establishment survey. This survey fed the PEAS, and it also served as a baseline for the impact assessment. We asked detailed questions about current energy usage (both quantity and price), dwelling problems, and energy expense restrictions.

To measure the impact of the project, we conducted a second round of the survey. Thirty-six percent of the visited households (212) took part in this impact assessment survey. We measured the project impact in 4 dimensions:

- Behavior change
- Change in life quality, arrears, and dwelling condition
- Refurbishment actions and new appliances
- Change in consumption

The Hungarian rural Living Lab program met all the objectives which were set in the project.

- We held 7 energy cafes, 2 focus group discussions 2 expert meetings, and we also organised a school visit in Nyírpilis.
- We trained three Energy Advisors. They visited 602 households in the three LL rounds.
- 67 percent of the participating households did some refurbishment or bought new energy-efficient appliances. Based on these actions, we could estimate a 5.3 percent possible reduction in energy bills and a 5.9 percent reduction of energy usage in kWh. If we project this number to our whole sample, we could estimate an annual 0.66 GWh energy saving.
- But it is important to highlight that we couldn't measure a significant change in consumption based on the energy bills. We can assume that some of the above calculated estimated energy savings were partly turned back to improve the comfort level of these households. On top of that, as a consequence of COVID, we measured a 9 percent energy consumption increase in Nyírbéltek. This is alone enough to diminish the savings we measured.
- 13.2 percent of the households had better conditions regarding housing problems (mould, dampness, condensation on the wall, leaking roof, ideal temperature), and 15.3 percent felt improvement in arrears, and 18.8 percent of the households had an improvement in life quality. 36.8 percent of those who took part in the impact assessment questionnaire had improvement in at least one area. Based on our results, we managed to improve the life of 793 people in the project period, despite the negative impact of COVID-19.
- Overall, 45 percent of the respondents changed their behaviour as a result of counselling, and 70 percent said that they understood better their energy expenses: 970 people changed their behaviour and made better decisions than before.
- We directly engaged 709 households throughout the Living Lab lifecycle. Overall, these households were estimated to contain 1829 people.
- Through other dissemination channels, we were able to reach a further 2000 people.

Regarding the general context of the LL, the following methodological remarks can be made: The **COVID-19** pandemic impacted our project as well. We could not finish the second LL round before the restrictions came into force in March, so part of the second LL round was carried out after the restrictions were lifted in the summer period. What is more important: all the impact assessment questionnaires were conducted after the COVID outbreak. When we are calculating our impacts, we have to consider how it was affected by COVID-19. People stayed at home longer, used their electrical appliances more frequently, some of them lost their job. In a crisis, energy awareness is not the most crucial issue for families. We tried to minimise the f2f contacts. We spent less time with the associated households, so we had less time to understand their needs. We tried to substitute the f2f meetings with telephone calls, but this channel's efficiency was much worse.

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Regarding the home visits: local presence and contact network, a key influencer for practical energy advisory work, has developed parallel to the STEP-IN program. As long as the local people did not have any information about HEAs or related social programs, they were not open to the survey. The second and third round survey results reflect the acceptance of HEAs' presence in the settlements.
Before the survey and energy advisory sessions, it took considerable time to build good relations with local social workers, respected local people, and get their support for STEP-IN fieldwork. Without this time-consuming work in the background, HEAs would have struggled to involve people in STEP-IN.

Towards the end of STEP-IN, we could show results that are directly visible for the local people, e.g., reconnecting to the grid, supporting administrative energy issues, preventing disconnection, and arrear management. Relying on these achievements, we could loosen people's firm expectations for prompt and life-changing solutions.

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- Unsettled ownership is a severe problem in the advancement of safe and regular electricity collection.
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- Energy awareness-raising focused on the most straightforward, most basic practices. Interventions that require more financial expense are not allowed by the financial circumstances of most families.
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7. Annexes

Annex 1. Quiz at Bátori Napok (Hungarian)

Energiakvíz

1) Melyik szobába érdemes energia takarékos izzókat felszerelni a lakásban?
   a) Minden izzót érdemes lecserélni energiatakarékosra
   b) Azokon a helyeken érdemes cserélni, ahol sok villanyt használunk
   c) Olyan helyeken érdemes leginkább cserélni, ahol ritkán használunk villanyt (garázs, pince)

2) Hány százalékos **fűtőenergia-megtakarítást** eredményez 1**°C** hőmérséklet-csökkentés a lakásban?
   a) 1%
   b) 3%
   c) 5%

3) Hány fokos lakáshőmérséklet elegendő **általában** a komfort érzéshez?
   a) 21
   b) 23
   c) 25

4) Főzéshez érdemes előmelegíteni a vizet vízmelegítővel?
   a) Igen, energia spórolható meg vele
   b) Mindegy, hasonló energia fogyasztása van a vízmelegítőnek és a főzőlapos melegítésnek
   c) Nem javasolt, több energiába kerül a vízmelegítő használata

5) A 60 fokos mosás általában hány százalékkal fogyaszt több energiát, mint a 40 fokos mosás?
   a) 20%
   b) 30%
   c) 40%

6) Hány fokra érdemes állítani a hűtőt az ideális működéshez?
   a) 3
   b) 5
   c) 7

7) Általában mennyi energiát használ egy elektromos készülék készenléti (stand-by) üzemmódban?
   a) semennyi
   b) 3-15
   c) 20-30

8) A++ energiaosztályú hűtővel hány forintot lehet 1 évben megspórolni egy régi kevésbé hatékony hűtőhöz képest?
   a) 4000
   b) 8000
   c) 15000

9) Hány forintos éves megtakarítást eredményezhet, ha a villanybojlert éjszakai áramról működtetjük?
   a) 5000
   b) 15000
   c) 30000

10) Hány százalék energiát lehet megtakarítania a radiátor mögé elhelyezett aluminimum fóliával (hőtükörfólia)?
   a) 2%
   b) 4%
   c) 6%

Jó válaszok **vastagítva!**

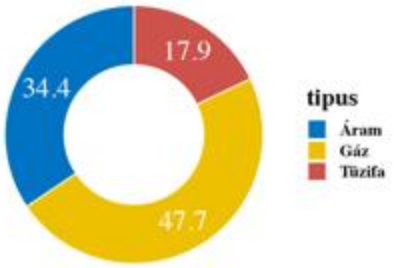
Annex 2: Personal Advice Sheet (PEAS) – sample document – Hungarian

Áram: 144000 forint.
Mennyiség: 3892 kWh

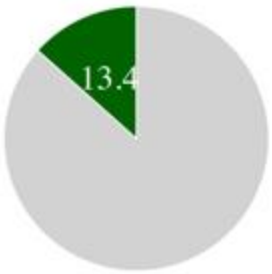
Gáz: 200000 forint.
Mennyiség: 2280.9 m3

Tüzifa: 75000 forint.
Mennyiség: 3 m3

Energia költségek megoszlása (%)

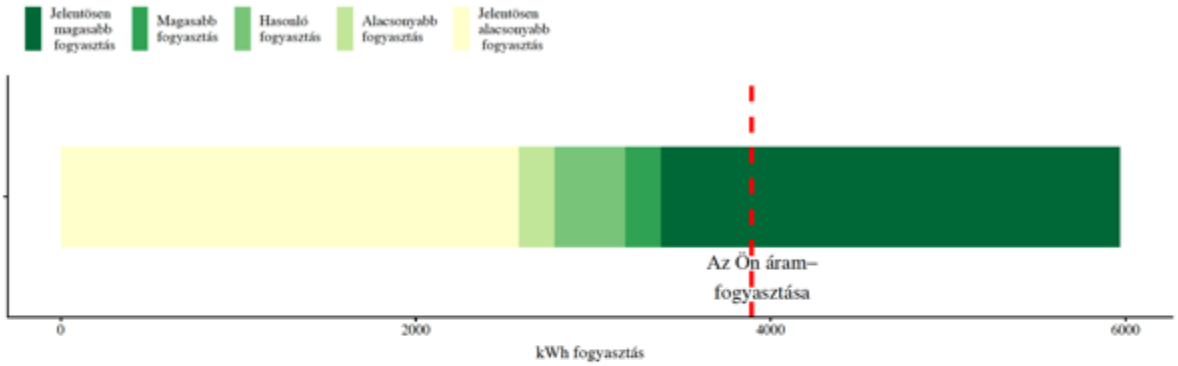


A háztartás bevételének mekkora arányát költik el energiára (%)



Energiára elköltött összeg és elfogyasztott mennyiség
Éves bontás

Hasonló típusu háztartáshoz képest az áram fogyasztás

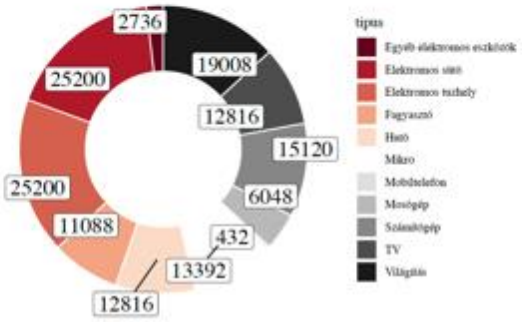


Jellemző	Érték
Földrajzi elhelyezkedés	Kelet–Magyarország
Kertesház	Igen
Lakás nagysága	120 M2 nagyobb
Háztartás nagysága	2 vagy 3 fös háztartás

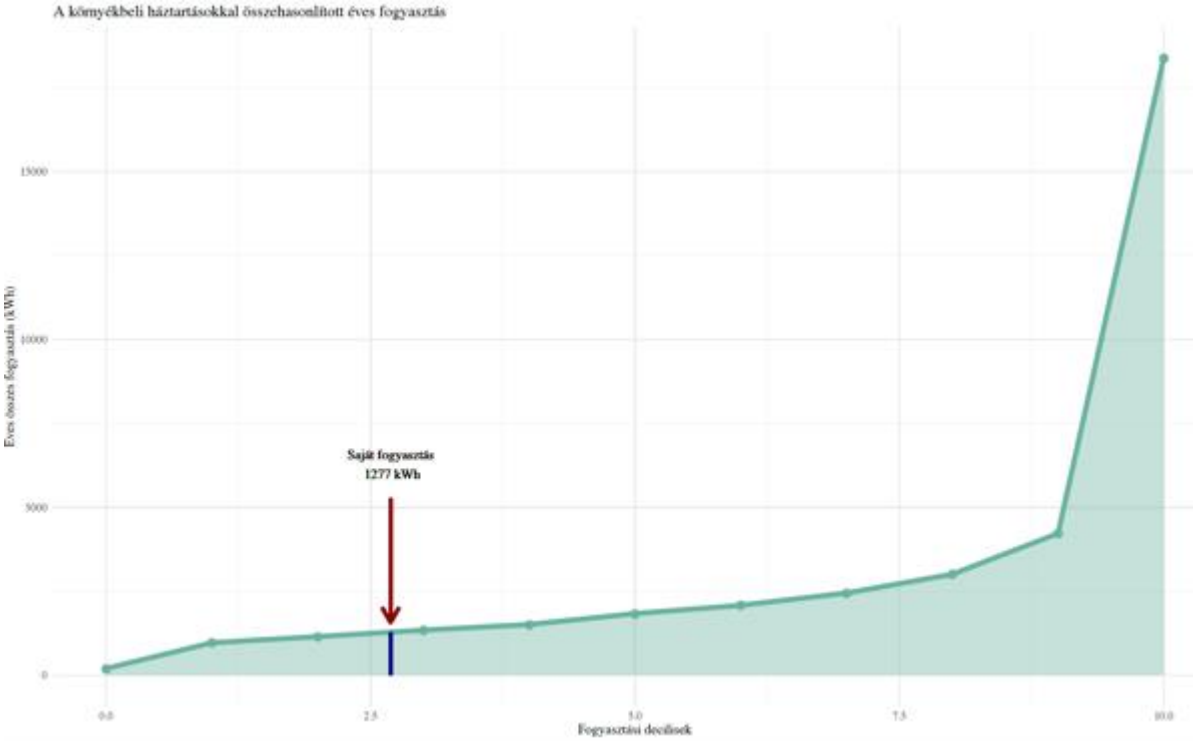
A becsült áramfogyasztása a kérdőív alapján 3892 kWh. Az önéhez hasonlö jellemzökkel rendelkező háztartásban az átlagos fogyasztás 2983 kWh. Az összehasonlítás alapján azt mondhatjuk hogy az ön háztartásának áram fogyasztása nagyon magas.

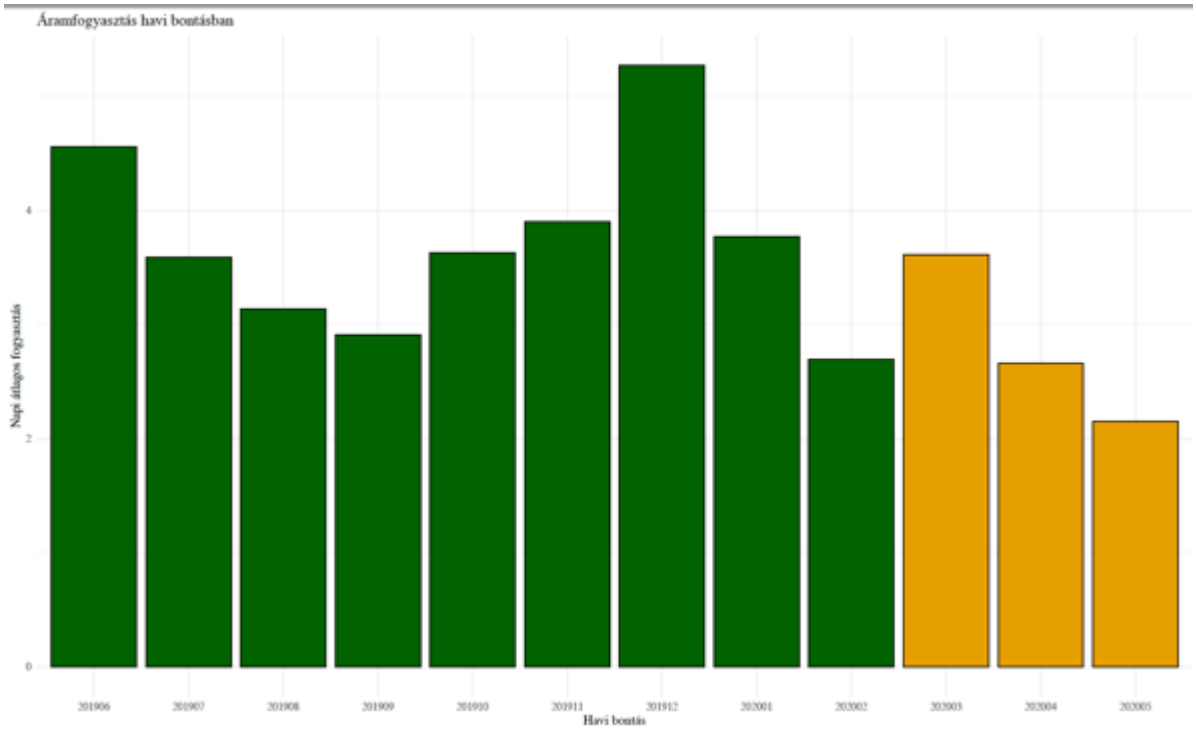
Elektromos eszköz	Fogyasztáson belüli arány (%)
Világítás	13.2
Elektromos tuzhely	17.5
Elektromos sütö	17.5
Mikro	9.3
Számítógép	10.5
TV	8.9
Mosógép	4.2
Hutö	8.9
Fagyasztó	7.7
Mobiltelefon	0.3
Egyéb elektromos eszközök	1.9

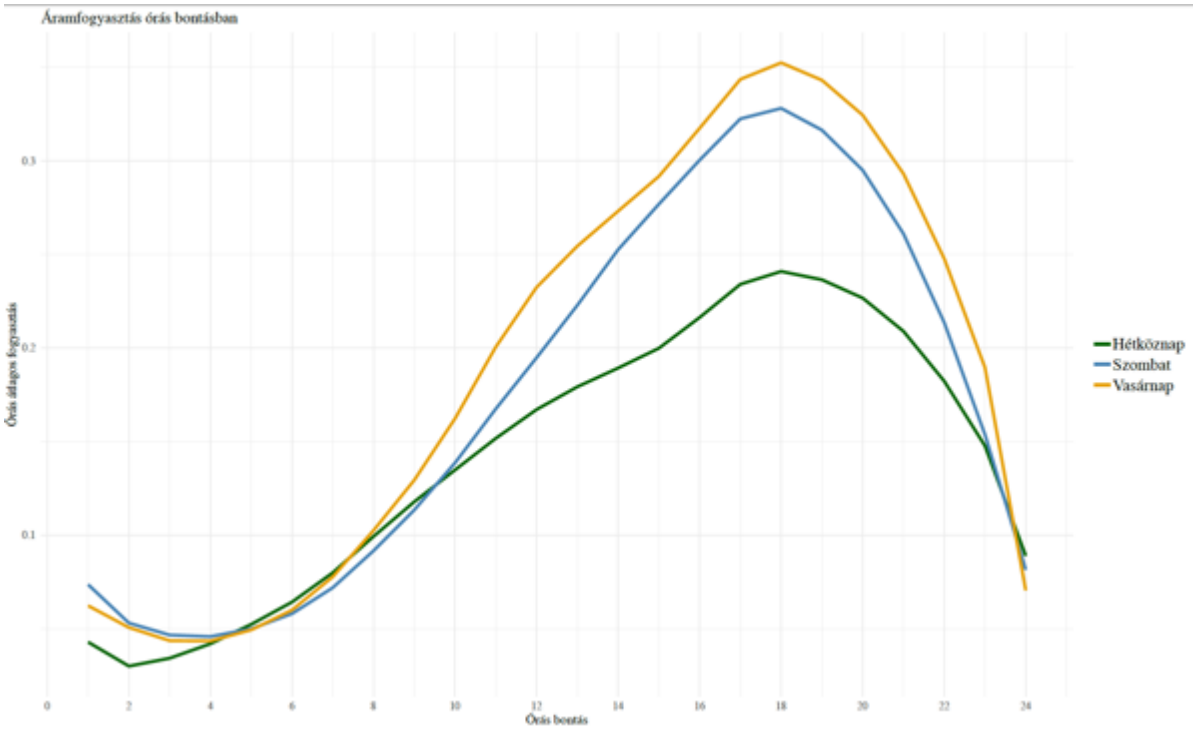
Az elektromos eszközök éves becsült fogyasztási költsége

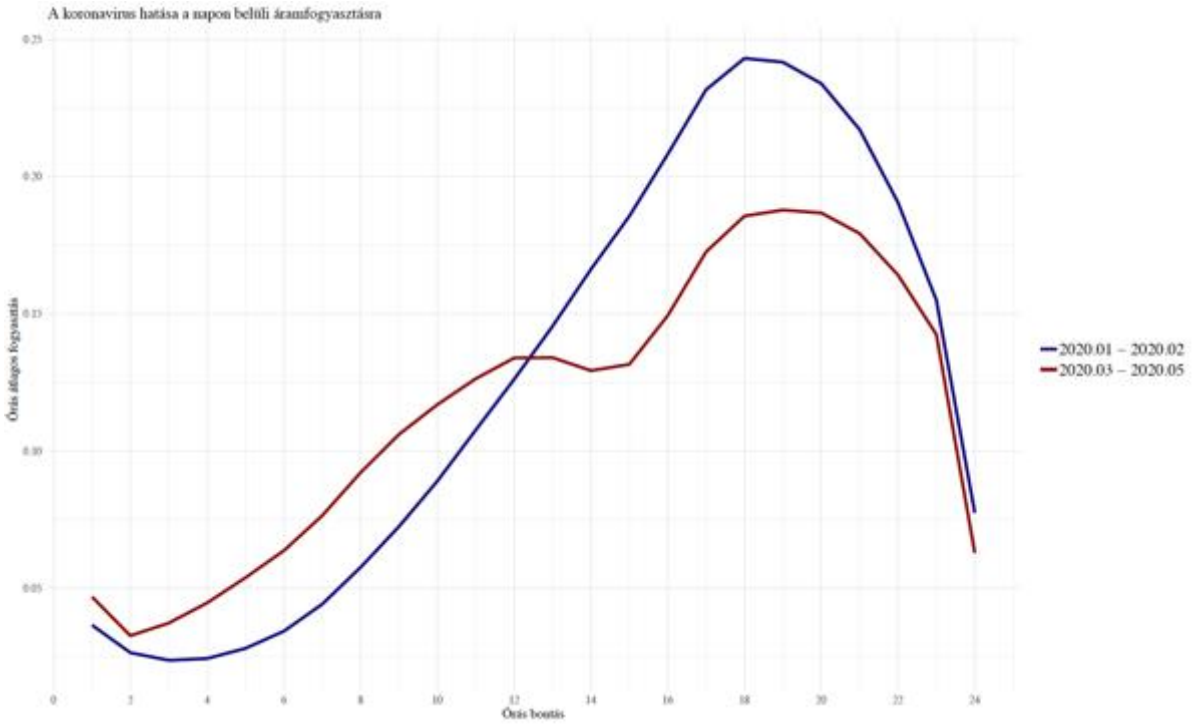


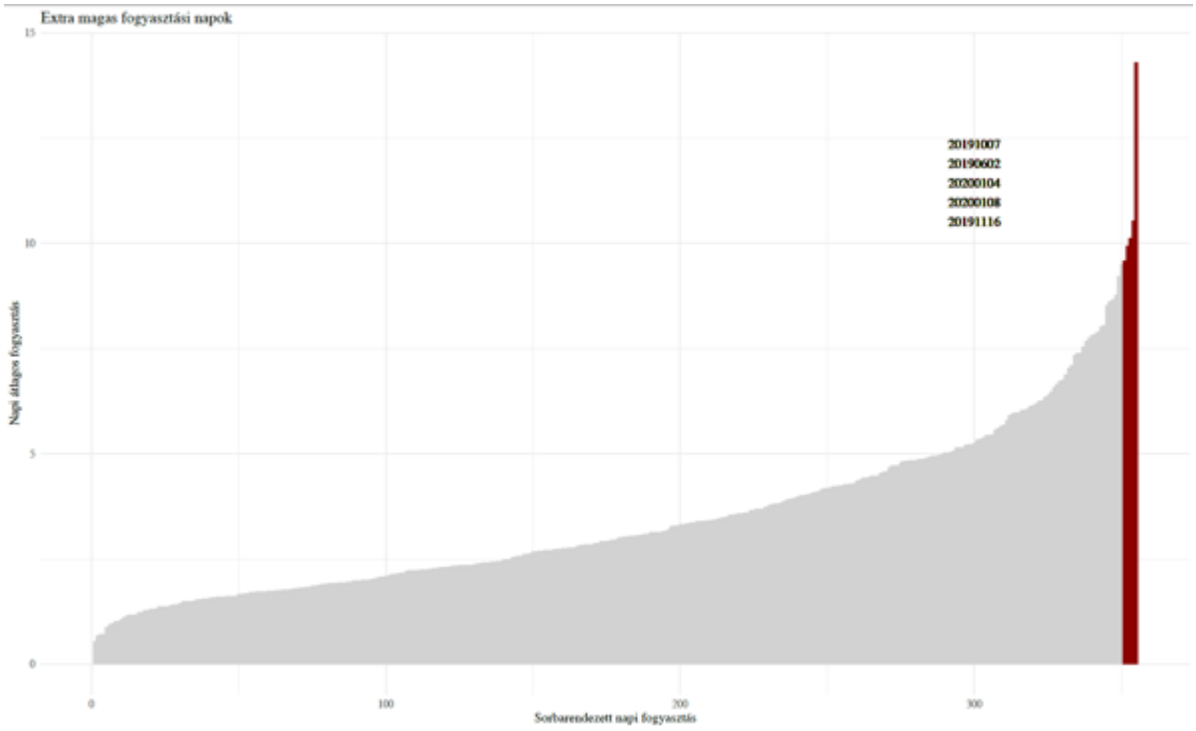
Annex 3: Smart Meter Report – sample document – Hungarian

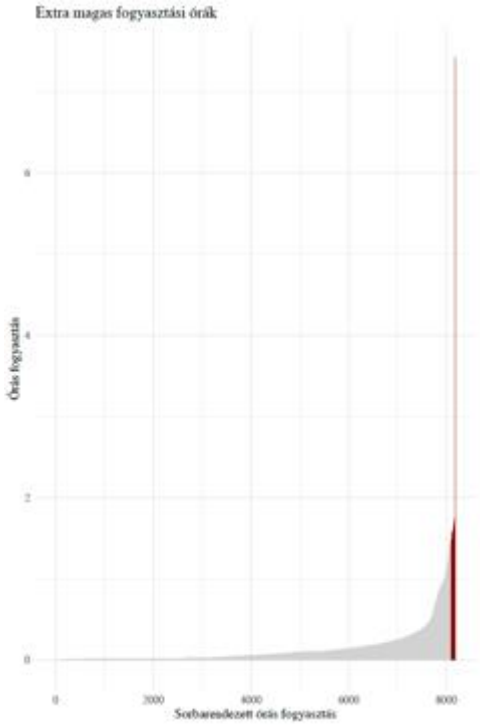





Áramfogyasztás órás bontásban
Órás átlagos fogyasztás
Órás bontás
Hétköznap
Szombat
Vasárnap


A koronavírus hatása a napon belüli áramfogyasztásra
Órás átlagos fogyasztás
Órás bontás
2020.01 – 2020.02
2020.03 – 2020.05





dátum	óra	nap
20191007	8	Hétköznap
20190612	10	Hétköznap
20190620	11	Hétköznap
20190612	11	Hétköznap
20190620	12	Hétköznap
20190627	13	Hétköznap
20191224	14	Hétköznap
20191224	15	Hétköznap
20190716	16	Hétköznap
20190925	17	Hétköznap
20191126	17	Hétköznap
20200108	18	Hétköznap
20191003	18	Hétköznap
20191210	19	Hétköznap
20191122	19	Hétköznap
20191119	19	Hétköznap
20190926	19	Hétköznap
20191206	20	Hétköznap
20191122	20	Hétköznap
20190918	20	Hétköznap

dátum	óra	nap
20191118	20	Hétköznap
20191119	20	Hétköznap
20191206	21	Hétköznap
20191129	21	Hétköznap
20191112	21	Hétköznap
20191007	24	Hétköznap
20190601	1	Szombat
20200104	16	Szombat
20200104	17	Szombat
20191109	17	Szombat
20191116	17	Szombat
20200104	18	Szombat
20191109	18	Szombat
20200307	19	Szombat
20191019	19	Szombat
20191214	20	Szombat
20191019	20	Szombat
20191214	21	Szombat
20190602	10	Vasárnap
20190707	10	Vasárnap

dátum	óra	nap
20190602	11	Vasárnap
20190602	12	Vasárnap
20190602	13	Vasárnap
20200112	13	Vasárnap
20200112	14	Vasárnap
20190616	14	Vasárnap
20200112	15	Vasárnap
20190616	15	Vasárnap
20191201	18	Vasárnap
20191208	19	Vasárnap
20191201	19	Vasárnap
20191013	19	Vasárnap
20191208	20	Vasárnap
20191110	20	Vasárnap
20191103	20	Vasárnap
20190922	20	Vasárnap
20190721	21	Vasárnap
20191222	21	Vasárnap
20191103	21	Vasárnap
20190929	21	Vasárnap

Annex 4: Information sheet about the project - Hungarian

ADATKEZELÉSI TÁJÉKOZTATÓ

Az Adatkezelő adatai

Az Adatkezelő neve: Ariosz Szolgáltató, Informatikai és Tanácsadó Kft.
Az Adatkezelő cégbírósági nyilvántartási száma: 01-09-171101
Az Adatkezelő székhelye: 1077 Budapest, Rózsa utca 29. II/3.
Az Adatkezelő telephelye és levelezési címe: 1134 Budapest, Kassák Lajos utca 69-71. 1. emelet
Az Adatkezelő elektronikus elérhetősége: ariosz@ariosz.hu

Az adatkezelés célja a StepIN megnevezésű önkéntes részvétel melletti társadalomkutatási projekt (a továbbiakban: Projekt) megvalósítása és a társadalomkutatási munka szakmai követelményei betartásának ellenőrzése.

Az adatkezelés jogalapja a Projektben részt vevő természetes személyek hozzájárulása.

Az adatkezelés terjedelme a Projekt eredményes megvalósításához és a társadalomkutatási munka szakmai követelményei betartásának ellenőrzéséhez elengedhetetlenül szükséges minimális és indokolt személyes adatokhoz igazodik.

Az adatok forrása a Projektben részt vevő természetes személyek önkéntes szolgáltatása.

Az adatkezelés időtartama a Projekt megvalósításáig és a társadalomkutatási munka szakmai követelményei betartásának ellenőrzéséig, illetve az adatkezelési hozzájárulás visszavonásáig tart. Az anonimizált (személyek felismerésére alkalmatlan) adatokat további kutatási célokra a project zárása után 10 évig lehet használni. 10 év után minden adatot töröl az adatkezelő.

Az adattárolás helye: az Adatkezelő telephelye, **az adattárolás módja:** papír alapú, zárt tárolás és védett elektronikus adatbázis létrehozása.

Hozzáférés az adatokhoz: az adatkezeléssel Érintett adatokhoz az Adatkezelő és annak alkalmazottai továbbá a Projekt megvalósításába az Adatkezelő által bevont szerződéses partnerek kaphatnak hozzáférést. Az anonimizált adatokhoz hozzáférést kaphatnak a StepIN kutatás konzorciumi partnerei. Audit céljából a megfelelő Európai Uniós szervek hozzáférhetnek az adatokhoz, de az auditáláson kívül az adatokat másra nem használhatják.

Az adatvédelem érdekében tett speciális intézkedések: *anonimizálás*

Adattovábbításra a StepIN konzorciumi partnereit kivéve az Adatkezelő nem jogosult.

Az Adatkezelő hatályos **Adatkezelési és Adatvédelmi Szabályzat**ának elektronikus elérhetősége: http://ariosz.hu/index.php?inc=html&p=adatvedelem.html

Az Adatkezelő adatvédelmi felelőse, akihez az érintetti jogok érvényesítése kapcsán fordulni lehet:

Név: Zeke Julianna
Beosztás: adatfelvételi vezető
Elérhetőségek: +36/30/422-0119; zeke.julianna@ariosz.hu
A személyes adatok érintettjét (a továbbiakban: Érintett) megillető jogok:

1. A hozzáférés joga: Az Érintett jogosult arra, hogy az Adatkezelőtől visszajelzést kapjon arra vonatkozóan, hogy személyes adatainak kezelése folyamatban van-e, és ha ilyen adatkezelés folyamatban van, jogosult arra, hogy a személyes adatokhoz és a rendeletben felsorolt információkhoz hozzáférést kapjon.

2. A helyesbítéshez való jog: Az Érintett jogosult arra, hogy kérésére az Adatkezelő indokolatlan késedelem nélkül helyesbítse a rá vonatkozó pontatlan személyes adatokat. Figyelembe véve az adatkezelés célját, az Érintett jogosult arra, hogy kérje a hiányos személyes adatok – egyebek mellett kiegészítő nyilatkozat útján történő – kiegészítését.

3. A törléshez való jog: Az Érintett jogosult arra, hogy kérésére az Adatkezelő indokolatlan késedelem nélkül törölje a rá vonatkozó személyes adatokat, az Adatkezelő pedig köteles arra, hogy az Érintettre vonatkozó személyes adatokat indokolatlan késedelem nélkül törölje meghatározott feltételek esetén.

4. Az elfeledtetéshez való jog: Ha az Adatkezelő nyilvánosságra hozta a személyes adatot, és azt törölni köteles, az elérhető technológia és a megvalósítás költségeinek figyelembevételével megteszi az észszerűen elvárható lépéseket – ideértve technikai intézkedéseket – annak érdekében, hogy tájékoztassa az adatokat kezelő adatkezelőket, hogy az Érintett kérelmezte tőlük a szóban forgó személyes adatokra mutató linkek vagy e személyes adatok másolatának, illetve másodpéldányának törlését.

5. Az adatkezelés korlátozásához való jog: Az Érintett jogosult arra, hogy kérésére az Adatkezelő korlátozza az adatkezelést, ha az alábbi feltételek valamelyike teljesül:

- az Érintett vitatja a személyes adatok pontosságát, ez esetben a korlátozás

arra az időtartamra vonatkozik, amely lehetővé teszi, hogy az adatkezelő ellenőrizze a személyes adatok pontosságát;
- az adatkezelés jogellenes, és az Érintett ellenzi az adatok törlését, és ehelyett kéri azok felhasználásának korlátozását;
- az adatkezelőnek már nincs szüksége a személyes adatokra adatkezelés céljából, de az Érintett igényli azokat jogi igények előterjesztéséhez, érvényesítéséhez vagy védelméhez;
- az Érintett tiltakozott az adatkezelés ellen; ez esetben a korlátozás arra az időtartamra vonatkozik, amíg megállapításra nem kerül, hogy az adatkezelő jogos indokai elsőbbséget élveznek-e az Érintett jogos indokaival szemben.

6. Az adathordozhatósághoz való jog: Az Érintett jogosult arra, hogy a rá vonatkozó, általa egy Adatkezelő rendelkezésére bocsátott személyes adatokat tagolt, széles körben használt, géppel olvasható formátumban megkapja, továbbá jogosult arra, hogy ezeket az adatokat egy másik adatkezelőnek továbbítsa anélkül, hogy ezt akadályozná az az adatkezelő, amelynek a személyes adatokat a rendelkezésére bocsátotta.

7. A tiltakozáshoz való jog: Az Érintett jogosult arra, hogy a saját helyzetével kapcsolatos okokból bármikor tiltakozzon személyes adatainak a kezelése ellen, ha a személyes adatok kezelésére az Adatkezelő jogos érdeke, vagy a közhatalmi jellege miatt kerül sor.

8. Tiltakozás közvetlen üzletszerzés estén: Ha a személyes adatok kezelése közvetlen üzletszerzés érdekében történik, az Érintett jogosult arra, hogy bármikor tiltakozzon a rá vonatkozó személyes adatok e célból történő kezelése ellen, ideértve a profilalkotást is, amennyiben az a közvetlen üzletszerzéshez kapcsolódik. Ha az Érintett tiltakozik a személyes adatok közvetlen üzletszerzés érdekében történő kezelése ellen, akkor a személyes adatok a továbbiakban e célból nem kezelhetők.

Annex 5: Consent form - Hungarian

Kérdőív sorszáma: Település első két betűje, kérdező monogramja (két betű) és egy három jegyű szám. Ugyanazt a sorszámot használja, mint a felmérő kérdőíven!							

Hozzájáruló nyilatkozat
személyes adatok kezeléséhez

Alulírott, jelen nyilatkozat aláírásával **hozzájárulok** ahhoz, hogy az Ariosz Kft. (a továbbiakban: Adatkezelő) a STEP-IN megnevezésű, önkéntes részvétel melletti társadalomkutatási projekt (a továbbiakban: Projekt) megvalósítása és ennek későbbi ellenőrzése során az alábbi személyes adataimat az információs önrendelkezési jogról és az információszabadságról szóló 2011. évi CXII. törvény (Infotv.) és az Európai Parlament és a Tanács (EU) 2016/679 számú rendelete (GDPR) irányadó rendelkezéseinek megfelelően kezelje. Tudomásul veszem és elfogadom, hogy az általam megadott személyes adatokat az Adatkezelő a Projekt megvalósítása érdekében és a társadalomkutatási munka szakmai követelményei betartásának **ellenőrzése** céljából szabályszerűen kezeli.

Személyes adatok	
Név:	
Lakcím:	
Telefonszám:	
Kérjük, a fenti adatokat nyomtatott nagybetűkkel megadni szíveskedjen!	

Aláírásommal igazolom, hogy jelen az Adatkezelő Projektre vonatkozó Adatkezelési Tájékoztatóját átvettem, az Adatkezelő Adatkezelési és Adatvédelmi Szabályzatáról és ennek elektronikus elérhetőségéről megfelelő tájékoztatást kaptam, erre figyelemmel jelen hozzájárulást önkéntesen és megfelelő előzetes tájékoztatás alapján adom meg. Tudomással bírok arról, hogy a jelen nyilatkozat felvételében közreműködő energiatanácsadó, a STEP-IN programba jogszerűen bevont adatfeldolgozó, akire az Adatkezelő fentiekben hivatkozott adatkezelési előírásai is megfelelően irányadók. Tudomásul veszem, hogy a hozzájárulásomat bármikor visszavonhatom, mely esetben az Adatkezelő a személyes adataim kezelésének megszüntetésére köteles. Tudomásul veszem továbbá, hogy az Adatkezelő nem jogosult a személyes adataim továbbítására olyan harmadik személyek felé, akik a Projekt megvalósításában – az Adatkezelő által bevontan – nem működnek közre.

Kelt: ……(helység) …… (év) ……. (hónap) …… (nap)

Aláírás

Annex 6: Consent form for smart data - Hungarian

ADATKEZELÉSI TÁJÉKOZTATÓ
(STEP IN PROJEKT)

1. **Adatkezelő**: az adatkezelő az a jogi személy, amely a személyes adatok kezelésének céljait és eszközeit önállóan, vagy másokkal együtt meghatározza. A jelen tájékoztató kapcsán az adatkezelő **E.ON Észak-dunántúli Áramhálózati Zrt.** (székhely: 9027 Győr, Kandó Kálmán u. 11-13., cégjegyzékszám: 08-10-001534) ("**Adatkezelő**").

   A jelen tájékoztató az Adatkezelő által végzett, önkéntes hozzájáruláson alapuló adatkezelésekre, vonatkozik. A jelen tájékoztató szempontjából személyes adat azonosított vagy azonosítható természetes személyre (az "**Érintett**") vonatkozó bármely információ. Azonosítható az a természetes személy, aki közvetlen vagy közvetett módon azonosítható. Az Adatkezelő által a jelen tájékoztatóban meghatározott célokkal kapcsolatban kezelt adatok egy része személyes adat. Az E.ON Hungária cégcsoport adatvédelmi kérdésekkel kapcsolatos központi e-mail címe adatvedelem@eon-hungaria.com, honlap címe: www.eon.hu. Az E.ON Hungária csoportba tartozó társaságok mindenkori listája elérhetőek a www.eon.hu/adatvedelem honlapon illetve kérésre erről Önnek tájékoztatást küldünk.

2. **Adatkezelés jogalapja**: elsősorban az Európa Parlament és Tanács (EU) 2016/679 rendelete ("**GDPR**") 6. cikk (1) bekezdés (a) és (b) pontjai. Az alábbiakban bemutatjuk az adatkezelés részleteit az egyes adatkezelési célok szerint.

   Amennyiben Ön a személyes adatai Adatkezelő általi kezeléséhez hozzájárul, akkor azokat az Adatkezelő a mindenkor irányadó magyar és Európai Uniós adatvédelmi jogszabályok szerint kezeli. Az adott személyes adat rendelkezésre bocsátásával Ön kijelenti, hogy a jelen tájékoztatónak az adat rendelkezésre bocsátásának időpontjában hatályos változatát megismerte és kifejezetten elfogadja. Az alábbiakban bemutatjuk az adatkezelés részleteit az egyes adatkezelési célok szerint. Ön jogosult arra, hogy az adatkezelésre adott hozzájárulását bármikor visszavonja. Felhívjuk figyelmét arra, hogy adatai kezeléséhez nem köteles hozzájárulni, ez a STEP IN Projektben való részvételének részleges vagy teljes kimaradását eredményezheti.

3. **Adatkezelési célok:** a jelen adatkezelés célja az EU által pályázat útján támogatott, Step in Projektben ("**Projekt**") részt vevő természetes személyek (Érintett) szakmai támogatása az (i) energia felhasználással kapcsolatos kiadások csökkentése; (ii) energia használat tudatosságának erősítése; illetve (iii) energia számlák megértésének segítése érdekében tanácsadás útján; (iv) fogyasztáselemzés készítése.

4. **A személyes adatok köre**: az Érintett (i) neve; (ii) felhasználási hely címe; (iii) az energiafelhasználással kapcsolatos adatok (felhasznált mennyiség; a háztartás energiaigényére vonatkozó adatok; számlaadatokra vonatkozó információk).

5. **Személyes adatok tárolásának időtartama**: a (i) Projekt lezárásáig vagy (ii) a Projekt lezárástá követő 5 évig, (iii) amennyiben az adatok a számviteli törvények szerinti bizonylatnak minősülnek vagy a számviteli bizonylatok alátámasztására szolgálnak úgy a Projekt lezárását követő 8 évig.

6. **Adatbiztonság**: az Érintett személyes adatainak védelmére az Adatkezelő megfelelő információbiztonsági szabályozást tart hatályban, amely leírja az adatbiztonsági alapelvek alkalmazásának módjait és feltételeit. Az adatokhoz való hozzáférést az Adatkezelő, illetve az Adatfeldolgozó jogosultsági szintek megadásával korlátozza. Az Adatkezelő és Adatfeldolgozó által meghatározott munkakörökhöz, meghatározott módon, jogosultsági szintek szerint férhetnek hozzá az Adatkezelő, illetve az Adatfeldolgozó munkavállalói. Az Adatkezelő az informatikai rendszerek biztonsága érdekében az informatikai rendszereket tűzfallal védi, valamint a külső- és belső adatvesztések megelőzése érdekében víruskereső és vírusírtó programot használ. Az Adatkezelő gondoskodott továbbá arról, hogy a visszaélések megelőzése érdekében az elektronikus úton folytatott bejövő és kimenő kommunikációt megfelelően ellenőrizze. Az esetleges adatkezelési incidensek

eljárásrendjéről az Adatkezelő a fentebb hivatkozott információbiztonsági szabályozást tart hatályban. Az Adatkezelő, illetve az Adatfeldolgozó a személyes adatokat bizalmas adatként minősíti és kezeli.

Irányított információbiztonsági intézkedéseink során többek között kiemelt figyelmet fordítunk (i) az üzemeltetés- és fejlesztésbiztonságra, (ii) az adatszivárgás megelőzésére, (iii) az üzletfolytonosság fenntartására, (iv) kártékony kódok elleni védelemre, (v) az adatok biztonságos tárolására, továbbítására, feldolgozására, (vi) behatolás védelmére és felderítésére, (vii) a jogosulatlan hozzáférés megelőzésére, (viii) a sérülékenység- és incidenskezelésre, valamint (ix) a munkavállalóink biztonsági képzésére. Kockázatarányos intézkedéssekkel védjük az Érintett adatokat. Magas szintű biztonsági intézkedéseket és védelmi megoldásokat használunk az Érintettek adatainak védelme érdekében, annak teljes életciklusa alatt.

7. **Az adatokhoz való hozzáférés:** az Adatkezelő Projektet támogató munkavállalói. Az Adatkezelőn kívül a Projekt magyarországi Partnerei, a Magyar Máltai Szeretetszolgálat és az Ariosz az alábbi módon fér hozzá az Érintett egyes személyes adataihoz:

   - **Magyar Máltai Szeretetszolgálat** (országos központ: 1125 Budapest, Szarvas Gábor út 58-60; nyilvántartási szám: 01-02-0000010; honlap cím: www.maltai.hu): aki a Step in Projekt első fázisában kizárólag az Érintett nevét és felhasználás helyét ismeri meg, annak érdekében, hogy a Step in Projektben részt vevő Érintettek önkéntes hozzájárulás alapján a Projekthez tartozó kérdőíveket kitölthessék. A kérdőívek kitöltése önkéntes.

   - **Ariosz Kft.** (székhely: 1077 Budapest, Rózsa u. 29. 2. em. 3.; cégjegyzékszám: 01-09-171101; honlap cím: www.ariosz.hu): aki az Érintett hozzájárulása és a kérdőívre adott válaszai alapján az Érintett kifejezett kérésére elkészíti az Érintetthez tartozó felhasználási hely energiafelhasználási kiértékelését. Ennek célja, hogy az Adatkezelő a Projektben vállalt kötelezettségét teljesíthesse, azaz a Projektben teljeskörűen részt vevő Érintettek szakmai támogatása tanácsadás útján.

8. **Az adatkezeléssel kapcsolatos jogok és jogorvoslati lehetőségek:** az Érintett személy kérelmezheti az Adatkezelőnél az alábbiakat: (i) tájékoztatását személyes adatai kezeléséről; (ii) személyes adatainak helyesbítését; (iii) személyes adatainak – a kötelező adatkezelés kivételével – törlését vagy korlátozását; (iv) egyes esetekben joga van az adathordozhatósághoz; illetve (v) tiltakozhat személyes adatai kezelése ellen.

   Az Adatkezelő a hatályos jogszabályoknak megfelelően és az abban meghatározott időtartamon belül tájékoztatja az Érintettet. Az Érintett a Nemzeti Adatvédelmi és Információszabadság Hatóságnál (http://naih.hu; 1530 Budapest, Pf.: 5.; telefon: +36-1-391-1400; fax: +36-1-391-1410; e-mail: ugyfelszolgalat@naih.hu) vizsgálatot kezdeményezhet arra hivatkozással, hogy a személyes adatok kezelésével kapcsolatban jogsérelem következett be, vagy annak közvetlen veszélye fennáll. Az Érintett személyiségi jogai megsértése esetén bírósághoz fordulhat. Bírósághoz fordulás esetén az Érintett a pert a lakóhelye vagy tartózkodási helye szerinti törvényszék előtt indítja meg.

   Valamely eljárás kezdeményezése előtt célszerű az Adatkezelőnek elküldeni a panaszt. Az Adatkezelő az Érintett tájékoztatással kapcsolatos kérése, illetve adatkezeléssel kapcsolatos tiltakozása és panasza esetén indokolatlan késedelem nélkül, a mindenkori jogszabályokban által előírt időn belül nyújt tájékoztatást az Érintett személy részére. Szükség esetén, figyelembe véve a kérelem összetettségét és a kérelmek számát, ez a határidő a jogszabályban írtak szerint meghosszabbítható. Ha az érintett elektronikus úton nyújtotta be a kérelmet, a tájékoztatást lehetőség szerint elektronikus úton kell megadni, kivéve, ha az érintett azt másként kéri. Ha az Adatkezelő nem tesz intézkedéseket az Érintett kérelme nyomán, késedelem nélkül, de legkésőbb a jogszabályban meghatározott határidőben tájékoztatja az Érintettet az intézkedés elmaradásának okairól, valamint arról, hogy az Érintett panaszt nyújthat be a fent megjelölt hatóságnál, és élhet bírósági jogorvoslati jogával. Az Adatkezelő adatvédelmi ügyekben illetékes kapcsolattartójának (adatvédelmi tisztviselő) neve és elérhetőségei a http://www.eon.hu/adatvedelem oldalon érhetőek el.

9. **Közzététel, módosítások**: Az Adatkezelő fenntartja a jogot, hogy a jelen tájékoztatót egyoldalúan, a jövőre nézve módosítsa. A módosításokról az Érintetteket az Adatkezelő a www.eon.hu/adatvedelem honlapján keresztül tájékoztatja.

ADATKEZELÉSI HOZZÁJÁRULÁS

Név: _____

Születési hely, idő: _____

Felhasználási hely címe: _____

A jelen nyilatkozat aláírásával hozzájárulok, hogy az E.ON Észak-dunántúli Áramhálózati Zrt. (székhely: 9027 Győr, Kandó Kálmán u. 11-13., cégjegyzékszám: 08-10-001534) megbízásából eljáró Ariosz Kft. (székhely: 1077 Budapest, Rózsa u. 29. 2. em. 3.; cégjegyzékszám: 01-09-171101) a Magyar Máltai Szeretetszolgálatnak kérdőívére adott válaszaim alapján, illetve a felhasználási helyemre vonatkozó adatok alapján elkészítse a felhasználási helyem energiafelhasználási kiértékelését.

A jelen nyilatkozat aláírásával kijelentem, hogy az E.ON Észak-dunántúli Áramhálózati Zrt. Step in Projekttel kapcsolatos adatkezelési tájékoztatóját megismertem és azt elfogadom, az adatkezelési hozzájárulást a tájékoztató ismeretében teszem meg. Tudomásom van arról, hogy a személyes adataim kezeléséhez adott hozzájárulásomat bármikor, korlátozás és indokolás nélkül visszavonhatom.

Kelt, _____

_____

aláírás

Annex 7: Evaluation survey (round 3) – Hungarian
A VÁLASZADÁS ÖNKÉNTES!
CSAK 18 ÉVEN FELÜLI SZEMÉLY KÉRDEZHETŐ!

STEP-IN FELMÉRŐ KÉRDŐÍV
2019-2020
LL3

Kérdőív sorszáma: | | | | | | | |

Kérdőív sorszáma: Település első két betűje, kérdező monogramja (két betű) és egy három jegyű szám (kérdező adja növekvő sorrendben)

Kérdezés napja Év: | | hónap | | nap: | |

Kutatásunk azt vizsgálja, hogyan lehet csökkenteni a családok energia számláit és hogyan lehet segíteni abban, hogy megfelelően fűtött lakásban éljenek télen. A kutatás magyar partnerei a Magyar Máltai Szeretetszolgálat, az E.ON valamint az Ariosz Kutatatóintézet. A kutatást az Európai Unió finanszírozza.

A felmérést azzal a személlyel szeretném elkészíteni, akinek az Önök háztartásában az áram- és gázfogyasztást érintő ügyekben döntő a szava.

Lakással kapcsolatos kérdések
Milyen típusú lakásban/házbank laknak?

1 − Családi ház
2 − Ikerház
3 − Társasház (több emeletes)
4 − Sorház
5 − Panel lakás
6 − egyéb, éspedig: .....
9 − NT/NV

Mikor épült a lakás/ház?

				évben

9999 − NT/NV

Mekkora a lakás nagysága, hány négyzetméter?

			négyzetméter

999 − NT/NV

A fürdőszobán, WC-n és tároló helységeken kívül hány szoba van a lakásban?

	szoba

9 − NT/NV

A lakás/ház kinek a tulajdona?

1 − Ön vagy családtagja a tulajdonosa
2 − Magánszemélytől bérli a lakást
3 − Önkormányzattól bérli a lakást
4 − Másnak a tulajdona, de ingyen használhatják
5 − Osztatlan közös tulajdon
6 − egyéb tulajdonban van, éspedig: .....
9 − NT/NV

ÁRAMFOGYASZTÁSSAL kapcsolatos kérdések

A tanácsadáshoz fontos, hogy pontos képünk legyen arról, hogy mennyit költenek Önök energiára, mekkora az energia fogyasztásuk. A következő kérdések ezt járják körbe.

Hagyományos vagy előre fizetős villany mérő van az Önök háztartásában?

1 − Hagyományos
2 − Előre fizetős
3 − Nem rendelkezik előfizetéssel – UGRÁS a B13 KÉRDÉSRE!
9 − NT/NV

B2-B3 kérdéseket akkor kérdezd, ha B1=1!
Ön havonta diktálja az áram fogyasztását, vagy általány díjat fizet?

1 − havonta diktálja
2 − általányt fizet

9 – NT/NV

B3 kérdést akkor kérdezd, ha B2=1. Ha nem tud pontos összeget mondani, csak tól-től értéket, akkor a középértéket kell kódolni!
Kérem, mondja meg, mekkora az átlagos havi áramszámlájuk télen, illetve nyáron!

TÉLEN

					Forint

88888 – NT
99999 – NV

NYÁRON

					Forint

88888 – NT
99999 – NV

B4. kérdést akkor kérdezd, ha átalányt fizetnek B2=2
Mekkora átalányt fizetnek havonta?

					Ft

88888 – NT
99999 – NV

B5-B7. kérdéseket akkor kérdezd, ha B1=2, vagyis előre fizetős mérő órájuk van.
Milyen gyakran szokta feltölteni az egyenlegét az előre fizetős mérőn?

1 – Hetente vagy gyakrabban
2 – Havonta többször
3 – Havonta
4 – Ritkábban mind havonta
9 – NT/NV

Összesen egy átlagos nyári hónapban hány forintot szokott feltölteni az egyenlegére?

					Ft

88888 – NT
99999 – NV

Összesen egy átlagos téli hónapban hány forintot szokott feltölteni az egyenlegére?

					Ft

88888 – NT
99999 – NV

MINDENKITŐL!
B8. kérdésnél, ha van rá lehetőség akkor az éves elszámoló számla alapján töltsék ki a kérdést, de mindenképp javasolt számlába betekinteni!

Hány kWh áramot használnak el 1 év alatt?

					kWh

88888 – NT
99999 – NV

Van-e az Önök háztartásában vízmelegítő bojler?

2 – van
1 – nincs
9 – NT/NV

B10 és B11 kérdést akkor kérdezd, ha B9=2
Hány literes a vízmelegítő bojler?

			liter

888 – NT
999 – NV

Az Ön tudomása szerint normál vagy éjszakai (vezérelt) árammal működik a bojler?

1 – normál
2 – éjszakai (vezérelt)
9 – NT/NV

MINDENKITŐL!
Mennyi most az óraállás a villanyórán (kérem olvassák le):

					kWh

88888 – NT
99999 – NV

A következő kérdésekben a különböző elektronikai készülékeivel kapcsolatban fogok kérdéseket feltenni. Erre azért van szükség, hogy minél pontosabb képet kapjunk arról, milyen eszközök mennyi energiát fogyasztanak az ön háztartásban. Ezek a kérdések segítenek abban, hogy személyre szabott energia riportot készíthessünk.

Milyen elektromos izzók vannak az Ön háztartásában?

			darabszám 99 - NT/NV	átlagos napi használat órában (csak ha darabszám nem egyenlő nullával) – 99 - NT/NV
1	–	Hagyományos izzó – 60W		
2	–	Hagyományos izzó – 40W		
3	–	Kompakt fénycsövek – 12W		
4	–	Kompakt fénycsövek – 8W		
5	–	Energiatakarékos izzó – 9W		
6	–	Energiatakarékos izzó – 5W		

Most különböző elektromos eszközöket fogok felsorolni. Kérem mondja meg, hogy van-e az önök háztartásban az adott eszköz, ha igen milyen gyakran használják azt?

			2 - van, 1 - nincs, 9 - NT/NV	Naponta átlagosan hány órát van bekapcsolva (csak ha van neki)) – 99 - NT/NV
1	–	Klíma (nyári használatra gondoljon)		
2	–	Elektromos tűzhely (csak főzőlap)		
3	–	Elektromos sütő		
4	–	Mikrohullámú sütő		
5	–	Számítógép, laptop		
6	–	Rádió, hifi		
7	–	Elektromos fűtés		
8	–	Átfolyós elektromos vízmelegítő		
9	–	Kerti szivattyú (nyári használatra gondoljon)		
10	–	Egyéb elektromos eszköz (porszívó, szagelszívó elektromos kávéfőző...)		

A következő kérdések a háztartásban használatban lévő televíziókészülékek vonatkoznak

			2 - van, 1 - nincs, 9 - NT/NV	Készülék típusa: 1 - hagyományos, 2 - síkképernyős LCD, 3 - Plazma, 9- NT/NV	Készülék nagysága 1 - 32-37 col (80-90 cm), 2 - 40-50 col (100-130 cm) 3 - 50 col felett, 9 - NT/NV	Naponta átlagosan hány órát van bekapcsolva (csak ha van neki)) – 99: NT/NV
1	–	Készülék 1.				
2	–	Készülék 2.				
3	–	Készülék 3.				

A következő kérdések a mosogatógéppel, mosógéppel kapcsolatosak

			2 - van, 1 - nincs, 9 - NT/NV	heti mosások/mosogatások száma (db) – 99 - NT/NV	Készülék energetikai besorolása 1 - B vagy rosszabb, 2 - A, 3 - A+, 4 - A++, 5 - A+++, 9 - NT/NV
1	–	mosogatógép			
2	–	mosógép			
3	–	mosó-szárítógép			

A következő kérdések a hűtőgéppel, fagyasztóval kapcsolatosak

			2 - van, 1 - nincs, 9 - NT/NV	Méret, literben megadva – 999 - NT/NV	Készülék energetikai besorolása 1 - B vagy rosszabb, 2 -A, 3 - A+, 4 - A++, 5 - A+++, 9- NT/NV	Hűtő esetén annak típusa: 1 - egyajtós fagyasztó nélkül, 2 - egyajtós fagyasztóval, 3 - külön ajtós fagyasztóval, 9 - NT/NV
1	–	hűtő				
2	–	fagyasztó				
3	–	fagyasztó láda				

Hány mobiltelefont használnak a háztartásban?

	db

9 – NT/NV

Többet használja az otthoni háztartási készülékeit a koronavírus járvány kitörése óta?

1 – igen
2 – nem
9 – NT/NV

B20 kérdést akkor kérdezd, ha B19=1.

Mely készülékeket használja többet? (Ha nincs az adott készüléke, akkor kérem a nem opciót válassza)

			Igen	Nem
1	–	Elektromos tűzhely (csak főzőlap)	2	1
2	–	Elektromos sütő	2	1
3	–	Elektromos fűtés	2	1
4	–	Vízmelegítő	2	1
5	–	Számítógép	2	1
6	–	Televízió	2	1
7	–	Mosogatógép	2	1
8	–	Mosó(szárító)gép	2	1
9	-	Mikrohullámú sütő	2	1
10		Klíma (nyári használatra gondoljon)	2	1
11		egyéb kisebb háztartási eszközök	2	1

„fűtéssel”, gázfogyasztással kapcsolatos kérdések

Önök hogyan fűtik a lakást/házat (megadhat egy elsődleges és egy másodlagos fűtési módot is)?

01 – Házközponti fűtés
02 – Központi fűtés olajjal
03 – Központi fűtés gázzal
04 – Központi fűtés fával
05 – Olajradiátor

	elsődleges
	másodlagos

06 − Egyedi gázfűtés (konvektor)
07 − Elektromos fűtőtest
08 − Fűtésre használt légkondicionáló berendezés
09 − Kandalló, (fával), cserépkályha (fával), kályha (fával)
10 − Elektromos kandalló
11 − Egyéb, éspedig: ……
99 − NT/NV

Megközelítőleg hány éves az a fűtési rendszer, amivel elsődlegesen fűtik a lakást/házat?

		éves

99 − NT/NV

Milyen rendszeresen tartják karban az elsődleges fűtési rendszert?

3 − Minden évben
2 − Kétévente vagy ritkábban
1 − Gyakorlatilag soha
9 − NT/NV

Használnak-e bármilyen megújuló energiaforrást a házban/lakásban (pl.: napkollektor, geotermikus energia stb.)?

2 − igen, éspedig: .....
1 − nem
9 − NT/NV

C5-C11 kérdések, ha fűtenek fával: C1=4 vagy C1=9!
Összesen az előző fűtési szezonban milyen mennyiségű fát használtak fel fűtésre?

					m^3

88888 − NT
99999 − NV

és/vagy

					kg (1 mázsa 100 kg)

88888 − NT
99999 − NV

Elsősorban milyen típusú fát használtak fűtésre?

1 − Bükk
2 − Tölgy, Csertölgy
3 − Gyertyán
4 − Akác
5 − Egyéb tűzifa (kőris, juhar, szil, gyümölcsfák)
6 − Fabrikett
7 − Pellet
9 − NT/NV

Mikor vették a tűzifát az előző fűtési időszakhoz? (ha többször is vettek arra gondoljon, amikor a legnagyobb mennyiséget vette)

1 − A fűtési időszakot megelőző tavasszal vagy még korábban
2 − A fűtési időszakot megelőző nyáron
3 − Közvetlen a fűtési időszak előtt
4 − Folyamatosan vették a fűtési időszak közben
5 − Nem vettek tűzifát
6 − Egyéb

9 − NT/NV

Előfordult-e az előző fűtési időszakban, hogy kaptak tűzifát önkormányzattól, vagy valamilyen munkáért cserébe fával fizették ki Önöket (pl: fakitermelés, tisztítás)

2 − igen
1 − nem

9 − NT/NV

C9 kérdés ha C8=2!
Megközelítőleg a felhasznált tűzifa mekkora aránya származott ilyen forrásból?

1 − nagyon kicsi része
2 − kevesebb mint a fele
3 − nagyjából a fele
4 − több mint a fele
5 − Közel a teljes része
6 − Teljes egésze

9 − NT/NV

Összesen Önök mennyit költöttek tűzifával való fűtésre az előző fűtési időszakban

						forint

888888 − NT
999999 − NV

Előfordult-e, hogy a fűtési időszakban a fűtésre felhasználtak háztartási hulladékot, műanyagot, szemetet?

2 − igen
1 − nem

9 − NT/NV

C12-C15 kérdések ha fűtenek gázzal: C1=1 vagy C1=3 vagy C1=6!
C13. kérdésnél, ha van rá lehetőség akkor az éves elszámoló számla alapján töltsék ki a kérdést, de mindenképp javasolt számlába betekinteni!

Ön havonta diktálja a gáz fogyasztását, vagy általány díjat fizet?

1 − havonta diktálja
2 − általányt fizet

9 − NT/NV

Összesen az előző évben milyen mennyiségű gázt használtak fel összesen?

					m^3

88888 − NT

99999 – NV

Mennyit költenek télen átlagban gázszámlára?

havonta					vagy	teljes téli időszakban					
99999 – NT/NV						999999 – NT/NV					

Kérem olvassák le az óraállást a gázórán:

					m3

88888 – NT
99999 – NV

MINDENKITŐL!
(A fűtésen kívül) használnak másra (is) gázt?

1 – nem
2 igen, vízmelegítésre
3 igen, sütésre-főzésre
4 – igen, vízmelegítésre és sütésre-főzésre
9 – NT/NV

C17 kérdés, ha C16=2 vagy C16=3 vagy C16=4
Milyen gázt használnak nem fűtési célra?

1 – vezetékes
2 palackos
3 mindkettő
9 – NT/NV

C18 kérdés, ha C17=1 vagy C17=3
Mennyit költenek nyáron átlagban gázszámlára (vezetékes gáz)?

						forint

88888 – NT
99999 – NV

C19 kérdés, ha C17=2 vagy C17=3
Mennyit költenek havonta palackos gázra általában?

						forint

88888 – NT
99999 – NV

MINDENKITŐL!
Van a lakásukban központi analóg, vagy digitális termosztát, amivel lehet a hőmérsékletet szabályozni?

1 – analóg termosztát
2 digitális termosztát
3 van termosztát, de nem tudom, hogy milyen
4 – nincsen
9 – NT/NV

áltaLÁNOS energia használat, nehézségek

A következő állítások inkább igazak vagy inkább hamisak a háztartássukkal, házukkal kapcsolatban?

			Inkább igaz	Inkább hamis	NT/NV
1	–	Télen az ablakon vagy a falakon párafoltok/vízfoltok jelennek meg	2	1	9
2	–	Nyirkos a lakás	2	1	9
3	–	Penész van a lakásban	2	1	9
4	–	Beázik a tető	2	1	9
5	–	A lakás kellemesen meleg télen	2	1	9
6	–	A lakás kellemesen hűvös nyáron	2	1	9
7	–	Az elmúlt két évben előfordult, hogy késztünk az energia számláink befizetésével, és így tartozásunk volt az energia szolgáltatók felé	2	1	9
8	–	Az elmúlt két évben előfordult, hogy az energia szolgáltató kikötötte az áramot/gázt/vizet a lakásból tartozás miatt	2	1	9

Az elmúlt két évben volt-e arra szükség, hogy alapvető fontosságú szükségletekben korlátozzák önmagukat azért, hogy ki tudják fizetni az energia számláikat?

			Igen	Nem	NT/NV
01	–	Kevesebbet költöttek élelmiszerre, ételre	2	1	9
02	–	Kevesebb meleg vizet használtak	2	1	9
03	–	Kevesebbet használták a lámpákat a lakásban	2	1	9
04	–	Kevesebbet használták az elektromos eszközeiket	2	1	9
05	–	Kevesebbet költöttek gyógyszerre	2	1	9
06	–	Kevesebbet költöttek ruhákra	2	1	9
07	–	Ritkábban szellőztettek télen	2	1	9
08	–	Kevesebbet fűtöttek	2	1	9
09	–	Egyéb korlátozás, éspedig:	2	1	9

D3. kérdést akkor kérdezd, ha d2. kérdés 08. sorában 2-es kód van!
Hogyan próbálta csökkenteni a fűtés számláját?

			Említi	Nem említi	NT/NV
01	–	Nem fűtöttek annak ellenére, hogy hideg volt a lakásban.	2	1	9
02	–	Kevesebb ideig fűtöttek.	2	1	9
03	–	Csak a lakás egyes részeit fűtötték be	2	1	9
04	–	Egyéb módon, éspedig:	2	1	9

Van-e Önnek vagy a háztartás más tagjának, olyan egészségügyi problémája, amit a lakás nem megfelelő fűtése okozhatott (pl.: gyakori megfázás, reuma)?

2 – van
1 – nincs
9 – NT/NV

Hány fok az átlagos hőmérséklet télen a lakásban?

1 – ≤ 15 ºC
2 – 15-18 ºC
3 – 18-21 ºC
4 – 21-23 ºC
5 – 23-25 ºC
6 – >25 ºC

8 – Nem tudja
9 – Nem válaszol

Az Ön véleménye szerint mi lenne az ideális hőmérséklet a lakásában télen?

1 – ≤ 15 ºC
2 – 15-18 ºC
3 – 18-21 ºC
4 – 21-23 ºC
5 – 23-25 ºC
6 – >25 ºC

8 – Nem tudja
9 – Nem válaszol

Ön mit gondol a lakása hőmérsékletéről télen?

1 – nagyon hideg van a lakásban
2 – hideg van a lakásban
3 – meleg van a lakásban
4 – nagyon meleg van a lakásban

8 – Nem tudja
9 – Nem válaszol

Kaptak-e az elmúlt időszakban bármilyen állami/önkormányzati támogatást ahhoz, hogy az energia számláikat ki tudják fizetni, a lakást tudják fűteni? (A rezsicsökkentést nem kell figyelembe vennie!)

2 – igen
1 – nem

9 – NT/NV

Ön szerint mennyire jellemző a településen, hogy fűtésre felhasználnak háztartási hulladékot, műanyagot, szemetet?

4 – nagyon jellemző
3 – inkább jellemző
2 – inkább nem jellemző
1 – egyáltalán nem jellemző

9 – NT/NV

tudatosság

A következő állítások inkább igazak vagy inkább hamisak a háztartásával, lakásával kapcsolatban?

			Inkább igaz	Inkább hamis	NT/NV
1	–	Rendszeresen leolvassuk az áramfogyasztást a mérőóráról	2	1	9
2	–	Összehasonlítjuk az áramfogyasztást a korábbi időszakkal	2	1	9

3	–	Az áram számlán mindig megnézzük, hogy mennyi energiát fogyasztottunk	2	1	9

Részt vett-e már korábban bármilyen energiatanácsadással kapcsolatos rendezvényen, a STEP-IN program keretében (pl: energia kávézó, városnapokon tanácsadó stand...)?

2 – igen
1 – nem
9 – NT/NV

COVID-19

Az idei évben kitört koronavírus járvány sok mindenben megváltoztatta az életünket. Több időt tölt Ön otthon a járvány kitörésének kezdete óta?

1 – igen
2 – nem
9 – NT/NV

A2 kérdést akkor kérdezd, ha A1=1.
Átlagosan hány órával tölt több időt otthon?

					Forint

88888 – NT
99999 – NV

MINDENKITŐL

Tapasztalt növekedés az energiaszámláiban a járvány kitörése óta?

1 – igen
2 – nem
9 – NT/NV

Az elmúlt időszakban tapasztalták-e a következő nehézségeket, problémákat? Ha valamelyik kérdés nem vonatkozik Önre, válaszoljon nem-et.

			Igen	Nem	NT/NV
01	–	Hátralékok a számlák (áram/gáz/víz) fizetésében?	2	1	9
02	–	A gyerekfelügyelet nehezebb megoldása?	2	1	9
03	–	A háztartás más tagjainak nehezebb ellátása?	2	1	9
04	–	Nehézségek az élelmiszerek megvásárlásában (anyagi és fizikai korlátok)	2	1	9
05	–	A lakás túlfűtése a hidegebb időszakokban (a fűtési rendszerek időnként nehézkes kezelése miatt, előfordulhat, hogy a lakást melegebre fűtik fel, mint amilyenre szerették volna).	2	1	9

Végezetül a statisztikai feldolgozhatóság érdekében szeretnék feltenni Önnek néhány személyes
kérdést.

Kérdezett neme

1 – Férfi
2 – Nő

Mi az ön családi állapota?

1 – nőtlen, hajadon, egyedülálló
2 – házas
3 – elvált
4 – özvegy
5 – nőtlen, hajadon, élettárssal él
9 – NT/NV

Melyik évben született?

Mi az ön legmagasabb iskolai végzettsége?

1 – kevesebb, mint 8 osztály
2 – 8 osztály
3 – szakmunkásképző, szakiskola
4 – középiskola (gimnázium, szakközépiskola, technikum)
5 – főiskola, felsőfokú technikum
6 – egyetem
9 – NT/NV

Ön dolgozik-e?

1 – aktív dolgozó
2 – munkanélküli
3 – öregségi nyugdíjas
4 – rokkant nyugdíjas
5 – háztartásbeli, GYES/GYED-en lévő
6 – tanuló
7 – egyéb inaktív
9 – NT/NV

G6. kérdés csak azoktól, akik nem nyugdíjasok (G5!=3 VAGY 4)

Változott-e a foglalkoztatottsági helyzete a koronavírus járvány következtében?

1 – igen
2 – nem
9 – NT/NV

G7. kérdés csak akkor, ha G6=1

Hogyan változott a foglalkoztatottsági helyzete? Kérem a legjellemzőbbet válassza ki.

1 – otthonról dolgozom
2 – kevesebbet dolgozom
3 – (kényszer) szabadságra küldtek
4 – elvesztettem a munkámat
5 – egyéb
9 – NT/NV

Van-e tartós betegsége?
1 – igen
2 – nem
9 – NT/NV

Összesen önnel együtt hány 18 évesnél idősebb személy lakik a háztartásban?

Összesen hány 18 évesnél fiatalabb személy lakik a háztartásban?

Mennyi az Önök (közös háztartásban élők) nettó jövedelme havonta összesen? Kérem, hogy az Ön jövedelmét is számolja hozzá! Tehát számítson bele minden bevételt: családi pótlékot, gyerektartást, háztájit, másodállást stb.)!
1 – kevesebb mint 30 ezer forint
2 – 31-50 ezer forint
3 – 51-100 ezer forint
4 – 101-150 ezer forint
5 – 151-200 ezer forint
6 – 201-250 ezer forint
7 – 251-300 ezer forint
8 – 301-350 ezer forint
9 – 351-400 ezer forint
10 – 401-450 ezer forint
11 – 451-500 ezer forint
12 – 500 ezer forint feletti
99 – NT/NV

Hogyan érzi, Önök anyagilag:
5 – gondok nélkül élnek,
4 – beosztással jól kijönnek,
3 – Éppen, hogy kijönnek a havi jövedelmükből,
2 – hónapról-hónapra anyagi gondjaik vannak, vagy
1 – nélkülözések között élnek?
9 – NT/NV

És a koronavírus járvány előtt Önök anyagilag

5 − gondok nélkül éltek,
4 − beosztással jól kijöttek,
3 − Éppen, hogy kijöttek a havi jövedelmükből,
2 − hónapról-hónapra anyagi gondjaik voltak, vagy
1 − nélkülözések között éltek?
9 − NT/NV

Van-e az Ön családjában kisebbségi származású személy?

2 − van
1 − nincs
9 − NT/NV

G15. kérdést akkor kérdezd, ha G14=2!
Milyen kisebbségből?

1 − cigány/roma
2 − német
3 − egyéb kisebbség
9 − NT/NV

KÖSZÖNJÜK, HOGY VÁLASZAIVAL SEGÍTETTE MUNKÁNKAT!

Annex 8: Impact assessment survey - Hungarian
A VÁLASZADÁS ÖNKÉNTES!
CSAK 18 ÉVEN FELÜLI SZEMÉLY KÉRDEZHETŐ!

STEP-IN VISSZAMÉRÉS 2019-2020

Felmérő kérdőív sorszáma: | | | | | | | |

Kérdezés napja Év: | | | hónap | | | nap: | |

A felmérést lehetőség szerint azzal a személlyel szeretném elkészíteni, aki válaszolt a kutatás korábbi kérdőívére.

COVID-19

Az idei évben kitört koronavírus járvány sok mindenben megváltoztatta az életünket. Több időt tölt Ön otthon a járvány kitörésének kezdete óta?

1 – igen
2 – nem
9 – NT/NV

A2 kérdést akkor kérdezd, ha A1=1.
Átlagosan hány órával tölt több időt otthon?

					Forint

88888 – NT
99999 – NV

MINDENKITŐL

Többet használja az otthoni háztartási készülékeit a koronavírus járvány kitörése óta?

1 – igen
2 – nem
9 – NT/NV

A4 kérdést akkor kérdezd, ha A3=1.

Mely készülékeket használja többet? (Ha nincs az adott készüléke, akkor kérem a nem opciót válassza)

			Igen	Nem
1	–	Elektromos tűzhely (csak főzőlap)	2	1
2	–	Elektromos sütő	2	1
3	–	Elektromos fűtés	2	1
4	–	Vízmelegítő	2	1
5	–	Számítógép	2	1
6	–	Televízió	2	1
7	–	Mosogatógép	2	1
8	–	Mosó(szárító)gép	2	1
9	-	Mikrohullámú sütő	2	1
10		Klíma (nyári használatra gondoljon)	2	1
11		egyéb kisebb háztartási eszközök	2	1

MINDENKITŐL

Tapasztalt növekedés az energiaszámláiban a járvány kitörése óta?

1 – igen
2 – nem
9 – NT/NV

Az elmúlt időszakban tapasztalták-e a következő nehézségeket, problémákat? Ha valamelyik kérdés nem vonatkozik Önre, válaszoljon nem-et.

			Igen	Nem	NT/NV
01	–	Hátralékok a számlák (áram/gáz/víz) fizetésében?	2	1	9
02	–	A gyerekfelügyelet nehezebb megoldása?	2	1	9
03	–	A háztartás más tagjainak nehezebb ellátása?	2	1	9
04	–	Nehézségek az élelmiszerek megvásárlásában (anyagi és fizikai korlátok)	2	1	9
05	–	A lakás túlfűtése a hidegebb időszakokban (a fűtési rendszerek időnként nehézkes kezelése miatt, előfordulhat, hogy a lakást melegebre fűtik fel, mint amilyenre szerették volna).	2	1	9

ÁRAMFOGYASZTÁSSAL kapcsolatos kérdések

Hagyományos vagy előre fizetős villany mérő van az Önök háztartásában?

1 – Hagyományos
2 – Előre fizetős
3 – Nem rendelkezik előfizetéssel – UGRÁS a C1 KÉRDÉSRE!
9 – NT/NV

B2-B3 kérdéseket akkor kérdezd, ha B1=1!
Ön havonta diktálja az áram fogyasztását, vagy általány díjat fizet?

1 – havonta diktálja
2 – általányt fizet
9 – NT/NV

B3 kérdést akkor kérdezd, ha B2=1. Ha nem tud pontos összeget mondani, csak tól-től értéket, akkor a középértéket kell kódolni!
Kérem, mondja meg, mekkora volt az átlagos havi áramszámlájuk az elmúlt időszakban?

					Forint

88888 – NT
99999 – NV

B4. kérdést akkor kérdezd, ha átalányt fizetnek B2=2
Mekkora átalányt fizetnek havonta?

					Ft

88888 – NT
99999 – NV

B5-B6. kérdéseket akkor kérdezd, ha B1=2, vagyis előre fizetős mérő órájuk van.
Milyen gyakran szokta feltölteni az egyenlegét az előre fizetős mérőn?

1 – Hetente vagy gyakrabban
2 – Havonta többször
3 – Havonta
4 – Ritkábban mind havonta
9 – NT/NV

Az elmúlt hónapokban átlagosan hány forintot töltött fel a mérőórára?

					Ft

88888 − NT
99999 − NV

MINDENKITŐL!
Mennyi most az óraállás a villanyórán (kérem olvassák le):

					kWh

88888 − NT
99999 − NV

„fűtéssel”, gázfogyasztással kapcsolatos kérdések

Önök hogyan fűtötték a lakást/házat idén télen (megadhat egy elsődleges és egy másodlagos fűtési módot is)?

01 − Házközponti fűtés
02 − Központi fűtés olajjal
03 − Központi fűtés gázzal
04 − Központi fűtés fával
05 − Olajradiátor
06 − Egyedi gázfűtés (konvektor)
07 − Elektromos fűtőtest
08 − Fűtésre használt légkondicionáló berendezés
09 − Kandalló, (fával), cserépkályha (fával), kályha (fával)
10 − Elektromos kandalló
11 − Egyéb, éspedig: ……
99 − NT/NV

	elsődleges
	másodlagos

C2-C7 kérdések, ha fűtenek fával: C1=4 vagy C1=9!
Összesen az előző fűtési szezonban milyen mennyiségű fát használtak fel fűtésre?

					m^3

88888 − NT
99999 − NV

és/vagy

					kg (1 mázsa 100 kg)

88888 − NT
99999 − NV

Elsősorban milyen típusú fát használtak fűtésre?

1 − Bükk
2 − Tölgy, Csertölgy
3 − Gyertyán
4 − Akác
5 − Egyéb tűzifa (kőris, juhar, szil, gyümölcsfák)
6 − Fabrikett
7 − Pellet
9 − NT/NV

Előfordult-e az előző fűtési időszakban, hogy kaptak tűzifát önkormányzattól, vagy valamilyen munkáért cserébe fával fizették ki Önöket (pl: fakitermelés, tisztítás)

2 – igen
1 – nem
9 – NT/NV

C5 kérdés ha C4=2!
Megközelítőleg a felhasznált tűzifa mekkora aránya származott ilyen forrásból?

1 – nagyon kicsi része
2 – kevesebb mint a fele
3 – nagyjából a fele
4 – több mint a fele
5 – Közel a teljes része
6 – Teljes egésze
9 – NT/NV

Összesen Önök mennyit költöttek tűzifával való fűtésre az előző fűtési időszakban

						forint

888888 – NT
999999 – NV

Előfordult-e, hogy a fűtési időszakban a fűtésre felhasználtak háztartási hulladékot, műanyagot, szemetet?

2 – igen
1 – nem
9 – NT/NV

C8-C9 kérdések ha fűtenek gázzal: C1=1 vagy C1=3 vagy C1=6!
C8. kérdésnél, ha van rá lehetőség akkor az éves elszámoló számla alapján töltsék ki a kérdést, de mindenképp javasolt számlába betekinteni!

Mennyit költöttek idén télen átlagban gázszámlára?

havonta		vagy	teljes téli időszakban	
99999 – NT/NV			999999 – NT/NV	

Kérem olvassák le az óraállást a gázórán:

					m3

88888 – NT
99999 – NV

MINDENKITŐL!
(A fűtésen kívül) használnak másra (is) gázt?

1 – nem
2 igen, vízmelegítésre
3 igen, sütésre-főzésre
4 – igen, vízmelegítésre és sütésre-főzésre
9 – NT/NV

C11 kérdés, ha C10=2 VAGY 3 VAGY 4
Mennyit költöttek az elmúlt hónapokban fűtésen kívül gázra?

						forint

88888 – NT
99999 – NV

általLÁNOS energia használat, nehézségek

A következőkben energiahatékonyságot támogató beruházásokról fogom kérdezni.
Végzett-e ilyen beruházásokat az elmúlt fél évben?

			Igen	Nem
1	–	Új legalább dupla üvegű fa külső ablakok beszerelése a régiek helyett	2	1
2	–	Új legalább dupla üvegű PVC külső ablakok beszerelése a régiek helyett	2	1
3	–	Új legalább dupla üvegű alumínium külső ablakok beszerelése a régiek helyett	2	1
4	–	Használt ablakok beszerelése	2	1
5	–	Kazán csere	2	1
6	–	Radiátor csere	2	1
7	–	Egyéb fűtés korszerűsítés	2	1
8	–	Padló, fal vagy tető szigetelés	2	1
9	–	Napkollektor, napelem beszerelése	2	1
10	–	Energia hatékonyabb berendezések vásárlása (pl. A+++ hűtő, mosógép stb.)	2	1
11	–	Energia hatékony izzók vásárlása	2	1
12	-	Bojler átállítása nappaliról éjszakai áramra	2	1
13		Kazán karbantartás	2	1
14		Digitális termosztát beszerelése	2	1

A következő állítások inkább igazak vagy inkább hamisak a háztartássukkal, házukkal kapcsolatban?

			Inkább igaz	Inkább hamis	NT/NV
1	–	Télen az ablakon vagy a falakon párafoltok/vízfoltok jelennek meg	2	1	9
2	–	Nyirkos a lakás	2	1	9
3	–	Penész van a lakásban	2	1	9
4	–	Beázik a tető	2	1	9
5	–	A lakás kellemesen meleg télen	2	1	9
6	–	A lakás kellemesen hűvös nyáron	2	1	9
7	–	Az elmúlt fél évben előfordult, hogy késtünk az energia számláink befizetésével, és így tartozásunk volt az energia szolgáltatók felé	2	1	9
8	–	Az elmúlt fél évben előfordult, hogy az energia szolgáltató kikötötte az áramot/gázt/vizet a lakásból tartozás miatt	2	1	9

Az elmúlt fél évben volt-e arra szükség, hogy alapvető fontosságú szükségletekben korlátozzák önmagukat azért, hogy ki tudják fizetni az energia számláikat?

			Igen	Nem	NT/NV
01	–	Kevesebbet költöttek élelmiszerre, ételre	2	1	9
02	–	Kevesebb meleg vizet használtak	2	1	9
03	–	Kevesebbet használták a lámpákat a lakásban	2	1	9
04	–	Kevesebbet használták az elektromos eszközeiket	2	1	9
05	–	Kevesebbet költöttek gyógyszerre	2	1	9
06	–	Kevesebbet költöttek ruhákra	2	1	9
07	–	Ritkábban szellőztettek télen	2	1	9
08	–	Kevesebbet fűtöttek	2	1	9
09	–	Egyéb korlátozás, éspedig:	2	1	9

Kaptak-e az elmúlt időszakban bármilyen állami/önkormányzati támogatást ahhoz, hogy az energia számláikat ki tudják fizetni, a lakást tudják fűteni? (A rezsicsökkentést nem kell figyelembe vennie!)

2 – igen
1 – nem
9 – NT/NV

A következőkben lehetséges támogatási formákat sorolunk fel. Kérem osztályozza ezeket a támogatási formákat a szerint, hogy mennyire segítené a háztartását?

			Nagyon segítené	Valamennyire segítené	Nem segítené	NT/NV
1	–	Energia árak csökkentése	3	2	1	9
2	–	Megvásárolt fa házhozszállítása téli időszakban	3	2	1	9
3	–	Energia számlák kifizetésének önkormányzati támogatása	3	2	1	9
4	–	Fűtés korszerűsítési pályázatok	3	2	1	9
5	–	Energiahatékony eszközök vásárlásával kapcsolatos pályázatok	3	2	1	9
6	–	Lakások korszerűsítésével kapcsolatos támogatások	3	2	1	9
7	–	Megújuló energia hasznosításával kapcsolatos pályázatok (Pl: napelemek a házra).	3	2	1	9

tudatosság, tanácsadás

A következő állítások inkább igazak vagy inkább hamisak a háztartásával, lakásával kapcsolatban?

			Inkább igaz	Inkább hamis	NT/NV
1	–	Rendszeresen leolvassuk az áramfogyasztást a mérőóráról	2	1	9
2	–	Összehasonlítjuk az áramfogyasztást a korábbi időszakkal	2	1	9
3	–	Az áram számlán mindig megnézzük, hogy mennyi energiát fogyasztottunk	2	1	9

Most különböző állításokat fogok felolvasni. Kérem mondja meg, hogy az elmúlt fél évben inkább jellemzőbb, vagy kevésbé jellemző önre a következő állítások a korábbi időszakkal összehasonlítva:

			Jellemzőbb	Nem változott	Kevésbé jellemző	NT/NV
1	–	Csak akkor kapcsolom be a TV-t, ha nézem	3	2	1	9
2	–	Lekapcsolom a lámpákat azokban a szobákban, ahol éppen nem tartózkodunk	3	2	1	9

3	–	Ha lehetőségem van rá figyelek arra, hogy olyan eszközöket vásároljak, amelyek energia takarékosak	3	2	1	9
4	–	Inkább több ruhát veszek fel télen, hogy kevesebbet kelljen fűteni	3	2	1	9
6	–	Fürdésnél/zuhanyozásnál figyelek rá, hogy minél kevesebb vizet fogyasszak	3	2	1	9
7	–	Ha hosszabb időre elmegyek otthonról minden elektronikai eszközt áramtalanítok (kivétel hűtő, fagyasztó)	3	2	1	9
8		Kevesebbet használom az elektronikai eszközeimet	3	2	1	9
9		Kevesebb órát fűtök télen	3	2	1	9
10		Nem fűtöm. fel a lakást télen olyan melegre, mint korábban	3	2	1	9

A következő állítások a programunk keretében nyújtott tanácsadással kapcsolatosak:

			Inkább igaz	Inkább hamis	NT/NV
1	–	Az energia tanácsadás segített abban, hogy jobban megértsem az energiával kapcsolatos költéseimet	2	1	9
2	–	A tanácsadás hatására változtattam egyes szokásaimon	2	1	9

demográfia
Végezetül a statisztikai feldolgozhatóság érdekében szeretnék feltenni Önnek néhány személyes
kérdést.

Ugyanaz a személy válaszolt, mint az első kérdőívre?
1 – Igen -> UGRÁS F6 kérdésre!
2 – Nem

Kérdezett neme
1 – Férfi
2 – Nő

Mi az ön családi állapota?
1 – nőtlen, hajadon, egyedülálló
2 – házas
3 – elvált
4 – özvegy
5 – nőtlen, hajadon, élettárssal él
9 – NT/NV

Melyik évben született?

Mi az ön legmagasabb iskolai végzettsége?

1 – kevesebb, mint 8 osztály
2 – 8 osztály
3 – szakmunkásképző, szakiskola
4 – középiskola (gimnázium, szakközépiskola, technikum)
5 – főiskola, felsőfokú technikum
6 – egyetem
9 – NT/NV

Ön dolgozik-e?

1 – aktív dolgozó
2 – munkanélküli
3 – öregségi nyugdíjas
4 – rokkant nyugdíjas
5 – háztartásbeli, GYES/GYED-en lévő
6 – tanuló
7 – egyéb inaktív
9 – NT/NV

F7. kérdés csak azoktól, akik nem nyugdíjasok (F6!=3 VAGY 4)

Változott-e a foglalkoztatottsági helyzete a koronavírus járvány következtében?

1 – igen
2 – nem
9 – NT/NV

F8. kérdés csak akkor, ha F7=1

Hogyan változott a foglalkoztatottsági helyzete? Kérem a legjellemzőbbet válassza ki.

1 – otthonról dolgozom
2 – kevesebbet dolgozom
3 – (kényszer) szabadságra küldtek
4 – elvesztettem a munkámat
5 – egyéb
9 – NT/NV

Összesen önnel együtt hány 18 évesnél idősebb személy lakik a háztartásban?

Összesen hány 18 évesnél fiatalabb személy lakik a háztartásban?

Mennyi az Önök (közös háztartásban élők) nettó jövedelme havonta összesen? Kérem, hogy az Ön jövedelmét is számolja hozzá! Tehát számítson bele minden bevételt: családi pótlékot, gyerektartást, háztájit, másodállást stb.)!

1 – kevesebb mint 30 ezer forint
2 – 31-50 ezer forint
3 – 51-100 ezer forint
4 – 101-150 ezer forint
5 – 151-200 ezer forint
6 – 201-250 ezer forint
7 – 251-300 ezer forint
8 – 301-350 ezer forint
9 – 351-400 ezer forint
10 – 401-450 ezer forint
11 – 451-500 ezer forint
12 – 500 ezer forint feletti

99 – NT/NV

Hogyan érzi, Önök anyagilag:

5 – gondok nélkül élnek,
4 – beosztással jól kijönnek,
3 – Éppen, hogy kijönnek a havi jövedelmükből,
2 – hónapról-hónapra anyagi gondjaik vannak, vagy
1 – nélkülözések között élnek?

9 – NT/NV

És a koronavírus járvány előtt Önök anyagilag

5 – gondok nélkül éltek,
4 – beosztással jól kijöttek,
3 – Éppen, hogy kijöttek a havi jövedelmükből,
2 – hónapról-hónapra anyagi gondjaik voltak, vagy
1 – nélkülözések között éltek?

9 – NT/NV

KÖSZÖNJÜK, HOGY VÁLASZAIVAL SEGÍTETTE MUNKÁNKAT!