



**FINAL REPORT ON THE
IMPACT OF ENERGY
ADVICE PROVISION ON
CONSUMERS THROUGH
INDIRECT CONTACT**

MAY 2022

ABOUT THE PROJECT

Solutions to Tackle Energy Poverty (STEP) is a project to develop a simple, innovative and replicable model of measures to address energy poverty.

The project covers some of the countries with the highest rates of energy poverty in Europe. These are Bulgaria, Cyprus, Czech Republic, Latvia, Lithuania, Poland, Portugal, Slovakia and the United Kingdom.



There are three specific objectives:

- To get consumer groups and frontline organisations, who advise people on a range of issues such as financial or health-related ones, to partner and deliver advice to energy poor consumers.
- To help energy poor consumers across the 9 countries save energy and improve their living standard. We will advise consumers on more efficient energy consumption and how this can help them save money and improve their health and well-being. We will carry out information campaigns, provide tips on how to save energy, demonstrate cost savings and help put in place low-cost energy efficiency measures.
- To disseminate best practices and policy choices that can alleviate energy poverty and promote their replication in other EU countries.

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EXECUTIVE SUMMARY

This report presents the impact evaluation of advice provided to consumers under the STEP project, focusing on activities involving indirect consumer contact, through frontline workers trained by STEP partners to provide energy advice to their clients. Frontline workers include e.g. health and social workers and other care professionals, providing health and social support to people in need of support. The STEP project also included activities involving advice provision directly by partners, the impacts of which are discussed separately in Report *D1.4 Final report on the impact of energy advice provision on consumers through direct contact*.

Project impact

In total, across both direct and indirect contact, 16,507 consumers received energy saving advice through the STEP project. It is estimated that potential savings per household could be between 2MWh and 2.3 MWh per year, corresponding to annual bill savings of between €100 and €124, and emission savings between 372 kCO₂e/yr and 543 kCO₂e/yr.

Estimates of total project impact suggest that the impacts of the STEP project significantly exceeded the project targets. Across both direct and indirect advice activities, it is estimated that advice provided by STEP partners and frontline workers likely achieved primary energy savings of between 32.9 and 38.4 GWh (target 17.78 GWh), and between 6,100 and 8,970 tCO₂e emission savings (target: 2,869 tCO₂e).

Looking just at indirect advice activities, a total of 8,455 consumers were engaged indirectly under the STEP project, by collaborating frontline workers. We estimate that advice provided by frontline workers, trained through the STEP project, likely resulted in between 16.9 GWh and 19.7 GWh primary energy savings, cost savings between €849,000 and €1,050,000, and emission savings between 3,150 and 4,595 tCO₂e.

Notably, COVID lockdowns will have had an impact on consumers' energy bills, aggravating the impacts for those already living in energy poverty, and pushing previously non energy poor households into energy poverty as a result. While the STEP project aimed to deliver overall energy savings, it is likely that energy savings achieved by participants as a result of advice provided by STEP partners and frontline workers were actually (partially) off-setting an overall increase in energy use during the pandemic, rather than resulting in net savings. Moreover, the recent Russian invasion of Ukraine in 2022 has led to global energy price rises, which ultimately will see more households struggling to pay their energy bills and pushed into energy poverty.

Key conclusions

While it is difficult to quantify, precisely, the impact of advice provided to consumers by frontline workers, given the lack of data (impact estimates provided in this report are based on data from direct engagements in one-to-one advice sessions, which may not be directly transferable to the indirect advice activities), it is nonetheless clear that this form of collaboration can contribute significantly to the reach and impacts of a project.



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Working together with frontline workers significantly increases the number of consumers that can be reached, and it is likely that frontline workers reach consumers, who may not otherwise seek or be targeted for energy advice. It is widely acknowledged that vulnerable citizens can be difficult to reach out to and engage with, so being able to collaborate with organisations interacting with vulnerable households can play an important role in providing energy saving advice to vulnerable consumers. In some cases, frontline workers may also be more trusted than an energy/consumer advice organisation, particularly where frontline workers have regular interaction with the same clients over time. In the context of the STEP project, while the impacts of the advice provided by frontline workers cannot be precisely measured and quantified, it is clear that the engagement with frontline workers substantially increased the numbers of consumers reached.

Report structure

The report first provides a brief introduction to the wider context of energy poverty in Europe ([Section 1](#)), followed by a short description of the STEP project ([Section 2](#)). [Section 3](#) then presents a high-level overview of the evaluation methodology underpinning this report, before presenting the results in sections 4 and 5. [Section 4](#) presents estimated total project impacts, across both direct and indirect advice activities, and [Section 5](#) presents findings specific to advice provided through indirect consumer contact. This is followed by a discussion of the wider context within which the STEP achievements must be understood ([Section 6](#)), and finally, [Section 7](#) sets out key conclusions.



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1. BACKGROUND

Energy poverty is gaining increasing attention across Europe, with the EU embedding energy poverty as a policy priority in the Clean Energy for all Europeans Package. In 2021, the new package, dubbed ‘Fit for 55’, was released and is currently being negotiated by EU co-legislators. The latter package (together with the latest REPowerEU initiative) is an update to the European energy policy framework to facilitate the transition away from fossil fuels towards cleaner energy and to deliver on the EU’s Paris Agreement commitments for reducing greenhouse gas emissions to provide considerable benefits for consumers¹. The STEP project has developed policy recommendations (see report D6.3 from 2020 and report D6.6 from 2021) for the improvement of national energy policies and advocated for effective policies and schemes for investment in energy efficiency (see report D6.5).

The nature of the issue, as well as the level of attention, varies from country to country, however, some countries do not currently recognise energy poverty as a distinct issue. And where energy poverty is recognised, barriers remain to addressing it. In particular, at the EU level, lack of common understandings of approaches and metrics to monitor energy poverty has been stressed as key barriers to monitoring and addressing energy poverty². To see how different partners in the STEP project define energy poverty see D5.3 “Final Report summarizing the energy advice provided to consumers through direct contact”.

The role of specialist advice in combatting energy poverty is well documented and follow-up surveys from advice sessions have been used to good effect in the past: in one case study, a specialist charity providing support to vulnerable households in inner London found that 65% reported being warmer at home and 46% reported reduced costs, after receiving advice, while another charity, focusing on providing advice to ethnic minority households, reported that 67% said their home was warmer and less damp, 84% had a better understanding of how to improve health through staying warm, and 80% had a better understanding of fuel bills and how to manage energy use³.

Even though a key incentive for delivering energy advice to alleviate energy poverty is to reduce bills (a crucial consideration in the current context of the energy price crisis and rising living costs), other important incentives and benefits include improved health, wellbeing and comfort. Moreover, to the extent that energy poverty action is associated with reduced energy consumption (e.g. through energy efficiency improvements), benefits include carbon emission savings. Notably, this may also be a motivator for those living in energy poverty, as found in a study in Hull (UK), where nearly 40% of participating households stated their motivation for participating was to reduce their carbon emissions⁴.

¹ European Commission, 2019. Clean energy for all Europeans package. [Online]

Available at: https://energy.ec.europa.eu/topics/energy-strategy/clean-energy-all-europeans-package_en

² Sareen, S.; Thomson, H.; Herrero, S. T.; Gouveia, J. P.; Lippert, I.; Lis, A., 2020. European energy poverty metrics: Scales, prospects and limits, *Global Transitions*, Vol 2. <https://doi.org/10.1016/j.glt.2020.01.003>

³ Reeves, A., 2016. Exploring Local and Community Capacity to Reduce Fuel Poverty: The Case of Home Energy Advice Visits in the UK. *Energies*, 9(4)

⁴ Ramsden, S., 2020. Tackling fuel poverty through household advice and support: Exploring the impacts of a charity-led project in a disadvantaged city in the United Kingdom. *Energy Research & Social Science*, p. Volume 70



2. THE STEP PROJECT

The STEP project was delivered by a consortium of partners across nine European countries over three years, from 2019 to 2022. The aim of the project was to develop a simple, innovative and replicable model of measures to address energy poverty. The project covers some of the countries with the highest rates of energy poverty in Europe, including Bulgaria, Cyprus, Czech Republic, Latvia, Lithuania, Poland, Portugal, Slovakia and the United Kingdom.

The project had three specific objectives:

- To get consumer groups and frontline organisations, who advise people on a range of issues such as financial or health-related ones, to partner and deliver advice to energy poor consumers.
- To help energy poor consumers across the 9 countries save energy and improve their living standards, by advising consumers on more efficient energy consumption and how this can help them save money and improve health and well-being, and by carrying out information campaigns.
- To disseminate best practices and advocate for policy choices that can alleviate energy poverty, and promote their replication in other EU countries.

Over the past 3 years, STEP has focused on delivering energy saving advice to energy poor and vulnerable consumers, to support these households to reduce their energy bills and energy consumption through energy saving actions and energy efficiency improvements. The approach of the STEP project was to cascade energy advice provision through both consumer organisations and through other frontline organisations that already support low income, vulnerable consumers. This model was based on the Energy Best Deal (EBD) project, which has been running in the UK for 10 years with very positive results⁵.

In addition to energy saving advice provision, STEP involved the development of training materials on energy poverty and energy savings advice for energy advisors and frontline workers, the establishment of national networks of organisations working, in various contexts, with vulnerable consumers, and substantial advocacy effort to raise awareness of energy poverty and encourage required policy development.

STEP included eight work packages, each focusing on different aspects of the project. This report is an output of WP1, which aimed to ensure compliance of the project implementation with the proposal, and to evaluate the energy savings that resulted from the project, specifically from the activities undertaken under WP5.

The primary objective of Work Package 5 was to reach out to consumers in or at risk of energy poverty to provide advice on energy saving, efficiency measures and other forms of help to alleviate their situation (further detail on completed activities and consumers reached can be found in Reports D.5.3 and D5.6).

Notably, the delivery phase of the STEP project coincided with the spread of the COVID-19 pandemic across Europe. Due to the ensuing national and local lockdowns, and general concerns around face-to-face contact during this time, partners were forced to delay key activities and adapt their plans and approaches (See report D5.3 for a more detailed explanation of the actions taken by consortium partners in response to the COVID-19 pandemic).

⁵ Centre for Sustainable Energy (CSE), 2015. Energy Best Deal - Evaluation Report, 2014/2015. CSEBDEvaluationReport2014-15.docx.pdf (citizensadvice.org.uk)



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3. EVALUATION METHODOLOGY

This section sets out the evaluation methodology specific to analysis of project impacts associated with indirect consumer contact. The full evaluation methodology is elaborated in more detail in Report *D1.4 Final report on the impact of energy advice provision on consumers through direct contact*.

The primary data collection exercise under the STEP project was conducted in the context of direct consumer contact activities (one-to-one advice sessions and consumer workshops conducted by consortium partners), as detailed in report D.1.4. Data collection by frontline workers was more limited, as detailed below.

3.1. DATA COLLECTION – FRONTLINE WORKERS

Consumer engagement and advice provision via frontline workers contributed significantly to the reach of the STEP project and numbers of households receiving energy efficiency and energy saving advice. However, in the project design phase, it was acknowledged that it would be crucial for frontline workers' willingness and ability to participate in the delivery of energy advice provision, that this introduced minimal time and administrative requirements in addition to their regular commitments. Therefore, frontline workers were not required to complete detailed surveys with the consumers, with whom they engaged.

Instead, consortium partners provided information on numbers of frontline workers trained and consumers reached by them. A subset of frontline workers completed surveys to assess the impact of training programmes, how they had used them, consumers reached and demographics of their commonly engaged target groups. In total, it is estimated that frontline workers reached 8,455 consumers with energy saving advice. See report D5.6 for further detail and breakdowns by consortium partner.

3.2 MODELLING OF IMPACTS FROM INDIRECT CONTACT

An Energy Savings Evaluation Model (ESEM) was developed to measure the impacts of STEP consumer engagement. As noted above, the full evaluation methodology is elaborated in more detail in Report D1.4.

The ESEM was designed based on a two-stage engagement process: 1) initial advice provision, and 2) follow-up with consumers to assess uptake of advice and resulting changes in energy consumption. Stage 1 of the ESEM uses surveys completed by consumers at the time of the first advice session to establish the profile of these consumers, assess aspects of their homes, comfort levels, energy consumption, incomes, and the advice given in the sessions. This provides the baseline against which stage 2 survey data can be compared.

Stage 2 of the ESEM was then designed to use follow-up surveys to assess whether advice had been taken up, and if so, what benefits had been achieved. However, as previously discussed, insufficient numbers of follow-



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up surveys were completed to enable the Stage 2 assessment, primarily due the impacts of the COVID-19 pandemic on the project delivery (see report D1.4 for further discussion). We therefore take an alternative approach to impact assessment, focusing on estimates of *potential* impacts⁶, based only on data from initial advice sessions. We explore potential cost, energy and emission savings based on two different approaches:

- 1) **Household savings estimates based on advice provided:** For the modelling of indirect impact, the average potential savings per household from measures, on which households had been advised and indicated, they planned to implement, was calculated based on data from one to one surveys. This average was used to provide an advice-based savings estimate of impacts across the indirect sample, assuming that the advice provided and planned for implementation by participants was broadly similar across the direct and indirect samples.
- 2) **Assuming average savings per household of 6% of household energy consumption:** Based on a review of previous energy advice projects and academic studies, the original STEP proposal estimated likely savings as a result of STEP advice activities of 6% on average per household. To put the measures-based impact estimates into perspective, potential impacts were also calculated based on this assumption (see Report D1.4 for further discussion). To estimate potential savings from indirect contact, we use the average savings based on a 6% energy saving rate, calculated from energy consumption data from one-to-one surveys.

Report D1.4 goes into further detail on the ESEM and presents the findings of ESEM analyses using survey data from direct consumer engagements. Based on these analyses, average figures for energy consumption and potential energy savings per household were estimated, which form the basis for analysis of potential impacts of indirect consumer contact. It is possible that this approach overestimates the impact of indirect advice activity, as frontline workers may have had less experience in delivering energy advice, and less time to devote to energy advice during engagement with clients, where client engagement may have had a different primary purpose. However, due to the lack of data, we are unable to quantify this, and draw on data from direct engagement as a best estimate.

To estimate the potential impact across consumers reached through indirect engagement, we multiply the total number of consumers reached through indirect contact (8,455) by the average cost, energy and emission savings per household, set out in Table 1. The average savings per household were calculated from the collected one-to-one survey data 1) assuming a 6% average saving per household, and 2) applying the measures-based average saving per household, as elaborated in Report D1.4⁷.

Table 1: Average savings estimates based on data from direct engagements (see report D1.4)

	Expenditure (€ pr year)	Primary energy (kWh pr year)	Carbon emissions (kg CO ₂ pr year)
Average measures-based savings	124	2333	544
Average savings (6% assumption)	100	1995	372

⁶ This is a common feature of many energy efficiency projects, including, for example, the impact assessment of the UK ECO 4 grant scheme ([BEIS 2022](#)), also relying on modelling of potential impacts, rather than direct measurement.

⁷ See report D1.4 Appendix 1 for detailed notes on methodology, and D1.4 section 5.2 for the results of data analysis based on data from direct engagements.



4. TOTAL PROJECT IMPACT

This section presents a summary of total project impact⁸, across direct and indirect engagements with consumers under the STEP project. Detailed analysis of impacts of advice provided through indirect contact is presented in section 5 below, and the impacts of advice provided through direct contact are discussed separately in report D1.5.

Based on estimates of likely project impacts, the STEP project substantially exceeded the original targets. Table 2 provides an overview of total project impacts against total project KPIs. Please note, these figures should be interpreted with care, and should be read together with the further discussion throughout this report.

Table 2: Total project impact estimates within project duration against project KPIs

	Estimated impacts		Target ⁹
	Based on advice provided	Based on assumed 6% savings	
Primary energy savings triggered by the project (GWh/year)	38.4	32.9	17.78
Cumulative investments in sustainable energy triggered by the project (million EUR) ¹⁰	0.41	0.33	0.245
Reduction of greenhouse gas emissions (tCO ₂ eq/year)	8,970	6,100	2,869 ¹¹

Additionally, we assess potential impacts five years after the end of the project against two scenarios defining a minimum and maximum impact, as defined in the Guidelines for the Calculation of Project Performance

⁸ As discussed throughout this report, these impact figures reflect estimates of potential impacts, rather than direct measurement of achieved energy savings. This is due to the impacts of the COVID-19 pandemic, causing delay in advice provision activity and associated data collection, resulting in a lack of post-advice follow-up assessments with consumers.

⁹ The large difference between estimated impact and the original target is partly due to the assumptions made when defining project targets; the bid included high level assumptions, including assumed average household energy consumption (3,500 kWh electricity and 11,000 kWh gas), whereas the average household energy consumption reported across the sample of STEP participants was significantly higher (5,000 kWh electricity and 21,000 kWh for heating). This may partly reflect a conservative original assumption, but it is also likely that COVID lockdowns had an impact on increasing these averages.

¹⁰ This KPI is based on an assumption that financial savings achieved through energy saving measures enable households to invest a portion of those savings into sustainable energy or energy efficiency measures, at an assumed rate of 20%.

¹¹ The relatively higher difference between estimated and target emission savings, compared to estimated and target primary energy savings, is due to the assumption underpinning the target that gas would be the primary heating fuel in all households, whereas the STEP sample included a wide range of different fuels for heating, many of which are associated with higher CO₂ emissions than natural gas. Consequently, emission savings achieved when reducing consumption of a high-emission fuel for heating will be higher than the same reduction of gas consumption.



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Indicators¹². The estimates are presented in Table 3, against the KPI targets set for the project. Details of the calculations are presented below.

Table 3: Potential impacts 5 years after the end of the project

	Estimated impacts		Target
	Based on advice provided	Based on assumed 6% savings	
Primary energy savings triggered by the project (GWh/year)	Min: 128 Max: 345	Min: 110 Max: 295	Min: 65 Max: 176
Cumulative investments in sustainable energy triggered by the project (million EUR)	Min: 1.37 Max: 3.69	Min: 1.1 Max: 2.96	Min: 0.9 Max: 2.4
Reduction of greenhouse gas emissions (tCO ₂ ,-eq/year)	Min: 29,940 Max: 80,570	Min 20,470 Max 55,090	Min 10,520 Max 28,400

The Minimum scenario is defined as follows: the STEP model is highly sustainable, due to the stability of the organizations involved. The funding needs for continuation are manageable and can be covered by existing/modest levels of support. The STEP consortium and partners involved are already well established and are based on permanent staff rather than volunteers, reducing turnover and need for retraining staff. With the project in full swing, the annual consumer outreach is estimated at a stable average of 11,000 per year.

The Maximum scenario assumes replication of the STEP model by other organisations. For this scenario to materialise, there is still a need for preparation, political and cultural shift, and need for funds, which means that we cannot expect the expansion to happen overnight. As these drivers raise significant uncertainties, the below is the best possible estimate:

- We estimate that there is a potential doubling in size at the end of the project in the target countries and then every three years thereafter, by repeating training and expanding the network.
- Similar support schemes can be established in other EU countries with some initial work to find the right partners, initial assessment of local circumstances and with minor adaptation of the training. A reasonable estimate, in view for example of the timelines of this project including finding the funding – is that this could happen in five EU countries, with impact on consumers starting to materialize 2 years after the end of the STEP project and a total outreach of 5,500 consumers per year.

A conservative assessment of consortium partners’ current plans for future activities suggests that the minimum scenario may be the most likely to materialise, depending on the success of funding applications and wider partnerships. Most STEP consortium partners plan to continue their advice activity in-house beyond May 2022, and several partners are exploring extended and new partnerships with other actors in their respective countries, to build on and further extend the activities of STEP (see Appendix 1 for an overview of partners’ future plans). Partnerships are currently being finalised, and future activities being scoped, as such, we cannot at this stage quantify the level of future activity. However, it is clear that the impact of the STEP project is

¹² EASME. Guidelines for the Calculation of Project Performance Indicators. <https://ec.europa.eu/easme/sites/easme-site/files/guidelines-for-the-calculation-of-performance-indicators.pdf>



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highly likely to continue, and the actual level of future activity may fall somewhere between the minimum and maximum scenarios described above.

Savings of each consumer are assumed to last for an average of one year, and energy costs in real terms, energy savings, and CO₂ intensity are assumed to remain constant over the 5-year period. Evidence from previous studies on the durability of household energy savings following interventions is mixed, with some studies having found that energy saving behaviours were not sustained for more than a few months, while others found sustained energy savings over a monitoring period of 24 to 29 months¹³. Notably, sustainability of the savings achieved will depend on the nature of the measures implemented, whether these are one-off permanent interventions (e.g. installing insulation, purchasing more efficient appliances), or behavioural measures, which may be more prone to gradual tailing off, depending on the extent to which new habits are successfully established, or households fall back into old habits. As such, it is possible that the following estimates are conservative, given the assumption that energy savings are sustained only for a year for all consumers receiving advice.

Table 4 shows estimated number of consumers reached per year under each scenario, until year five after the end of the STEP project.

Table 4: Estimated number of consumers reached per year (min and max scenarios)

Number of years after end of project		Year 1	Year 2	Year 3	Year 4	Year 5	Total
MIN	Business as usual	11,000	11,000	11,000	11,000	11,000	55,000
MAX	Business as usual	11,000	11,000	11,000	11,000	11,000	55,000
	Expansion within countries	11,000	11,000	11,000	22,000	22,000	77,000
	Expansion to other countries			5,500	5,500	5,500	16,500
	Total	22,000	22,000	27,500	38,500	38,500	148,500

Table 5 shows cumulative impact calculations based on 6% savings assumption and average consumption figures from STEP data.

Table 5: Estimated cumulative impact to year 5 after project end (assuming 6% saving per household)

Number of years after end of project		Year 1	Year 2	Year 3	Year 4	Year 5	Total
MIN	Number of consumers	11,000	11,000	11,000	11,000	11,000	55,000
	Primary energy savings (GWh/yr)	21.9	21.9	21.9	21.9	21.9	110
	Cost savings (M EUR)	1.1	1.1	1.1	1.1	1.1	5.5
	Investments (M EUR)	.22	.22	.22	.22	.22	1.1
	CO ₂ reductions (tCO ₂ e)	4,095	4,095	4,095	4,095	4,095	20,470
MAX	Number of consumers	22,000	22,000	27,500	38,500	38,500	148,500
	Primary energy savings (GWh/yr)	43.9	43.9	53.9	76.8	76.8	295
	Cost savings (M EUR)	2.2	2.2	2.7	3.9	3.9	14.9
	Investments (M EUR)	.44	.44	.54	.77	.77	2.96

¹³ Department for Energy and Climate Change (2012). What Works in Changing Energy Using Behaviours in the Home? A Rapid Evidence Assessment. [6921-what-works-in-changing-energy-using-behaviours-in-.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6921/what-works-in-changing-energy-using-behaviours-in-.pdf) (publishing.service.gov.uk).



CO ₂ reductions (tCO ₂ e)	8,190	8,190	10,050	14,330	14,330	55,090
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Table 6 shows cumulative impact calculations using measures-based average savings and average consumption figures from STEP data.

Table 6: Estimated cumulative impact to year 5 after project end (measures-based average household savings)

Number of years after end of project		Year 1	Year 2	Year 3	Year 4	Year 5	Total
MIN	Number of consumers	11,000	11,000	11,000	11,000	11,000	55,000
	Primary energy savings (GWh/yr)	25.6	25.6	25.6	25.6	25.6	128
	Cost savings (M EUR)	1.37	1.37	1.37	1.37	1.37	6.8
	Investments (M EUR)	.27	.27	.27	.27	.27	1.37
	CO ₂ reductions (tCO ₂ e)	5,990	5,990	5,990	5,990	5,990	29,940
MAX	Number of consumers	22,000	22,000	27,500	38,500	38,500	148,500
	Primary energy savings (GWh/yr)	51.3	51.3	63	89.8	89.8	345
	Cost savings (M EUR)	2.7	2.7	3.35	4.8	4.8	18
	Investments (M EUR)	.55	.55	.67	.96	.96	3.69
	CO ₂ reductions (tCO ₂ e)	11,975	11,975	14,700	20,960	20,960	80,570



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5. IMPACT EVALUATION: INDIRECT CONTACT

This section presents assessments of potential project impacts associated with advice provision through indirect consumer contact. Please note: due to the absence of detailed data from participants receiving advice ‘indirectly’, i.e. from frontline workers, calculations presented in this report are based on average figures from the analysis of impacts of advice provided through direct engagement, presented separately in Report D1.4.

5.1 SUMMARY OF CONSUMERS REACHED

Data received from frontline workers’ engagements with consumers is limited, but based on feedback from 143 frontline workers, we can get an overview of the types of consumers they commonly engage with, including age groups and occupation, as well as information on the types of advice provided.

As also set out in report D5.6, frontline workers participating in the STEP project engaged with a diverse range of consumers, as shown in Table 7 and Table 8. These figures, however, do not provide information about the number of consumers engaged with in each category, but rather the number of frontline workers, who responded that their clients belong to a respective demographic. While it is therefore not possible to examine the demographic composition of indirectly engaged consumers relative to that of directly engaged consumers, these figures suggest that the demographic spread of frontline workers’ target groups is similar to the demographic spread of consumers reached through direct engagement activities of the STEP project (see report D1.4 for further detail on the demographics of directly engaged consumers).

Table 7: Number of frontline workers working with clients in particular age groups

Client age group	No of FLWs
Under 19	9
20-39	53
40-64	83
65-74	54
75+	21
No specific age group	34

Table 8: Number of frontline workers targeting their support to clients of particular employment status

Client employment status	No of FLWs
Full time education	16
Part time education	15
Full time work	54
Part time work	37
Unemployed	63
Retired	65
Unpaid carer	22
Disabled or long-term sick	53
No particular work demographic	31



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In particular, the most commonly engaged age groups, by frontline workers, is the 40-64 year-olds, which is also the most commonly occurring age group of the oldest household member in surveyed households from one-to-one advice sessions, followed by 20-39 year-olds and 65-74 year-olds.

The figures around employment status are more mixed. Frontline workers' target groups appear to commonly include persons of all occupations, with students being the least common target group. It is not possible on this basis to make assumptions around the occupational status of individuals actually engaged by frontline workers.

We cannot make firm conclusions about the similarity or difference of the samples from indirect and direct engagements. As such, it is not possible to assess the robustness of using averages obtained from surveys of directly engaged consumers, to estimate potential energy consumption and savings by indirectly engaged consumers. However, there is no reason to believe that these samples would have been significantly different, as frontline workers reported similar demographic diversity of their target groups as found in the sample of directly engaged consumers. Nonetheless, estimates presented in the following section should be interpreted with care.

5.2 IMPACT ANALYSIS

Based on data from initial one-to-one advice sessions, we estimate average household energy expenditure amongst participants in the STEP project at €734 per year for electricity (non-heating) (5,000 kWh), and €982 per year for heating, with the consumption of fuel for heating varying by type of fuel used (overall average 21,000 kWh).

Based on data from direct advice provision (see Report D1.4), the measures-based approach to impact assessment (see 3.2) suggests potential savings per household could be around 2.3 MWh per year, corresponding to €124 annual bill savings, and emission savings of 543 kCO₂e/yr.

Assuming instead a 6% average energy saving per household as a result of advice, estimated savings per household are slightly lower, amounting to primary energy savings of 2 MWh per year, corresponding to approximately €100 annual bill savings and emission savings of 372 kCO₂e/yr.

Based on these average figures, the total potential impacts across all indirect engagements are estimated by multiplying the respective average figures by the total number of indirect engagements (8,455 households), as presented in Table 9 below.

Table 9: Total potential impact of 8,455 indirect engagements

	Cost savings	Primary energy savings	Emission savings
Based on the per-household average savings from planned efficiency measures	€1,050,000	19.7 GWh	4,595 tCO ₂ e
Assuming 6% savings	€849,000	16.9 GWh	3,150 tCO ₂ e



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6. CONTEXTUALISING PROJECT IMPACTS

As previously discussed, and elaborated in other STEP project reports, the COVID-19 pandemic impacted the delivery of the STEP project, and significantly changed the social context within which STEP partners operated. At a time of increased energy consumption in homes due to national lockdowns, advice on how to manage energy consumption and costs and measures to reduce energy consumption has become all the more important to support vulnerable households. This is only further exacerbated by the ongoing energy price crisis and the impacts of Russia's invasion of Ukraine on global oil and gas prices, which ultimately will push more households into energy poverty.

Insights from the UK clearly illustrate the added strain caused by COVID-induced lockdowns leading to increased domestic energy consumption, due to people spending more time at home. While no equivalent data was identified from other partner countries, the impacts of the COVID-19 pandemic were felt across Europe (and the world), and will have impacted households, and household energy consumption, in particular, in all countries, and based on STEP partners' experiences on the ground, this is understood to be reflective of the situation across all partner countries. In 2020, the UK saw a 2.3% increase in domestic energy consumption overall, which included a 4% increase in the consumption of electricity and a 2% increase in the consumption of gas¹⁴. This occurred despite warmer weather, which is usually associated with lower energy demand. Thus, when corrected for annual average temperature, domestic energy demand is estimated to have increased by 6%¹⁵. This was caused by increased cooking at home, with the number of meals eaten at home increasing by 38%; working from home and the need for people to charge their laptops and monitors; children being out of school; and the direct impact of people watching more live programming, and the indirect effects of this – such as having the lights on and making tea¹⁶. Collectively, this pushed the share of electricity demand accounted for by domestic users from 30% in 2019 to 32.7% in 2020¹⁷.

It is possible that the substantially higher average energy consumption per household found in the STEP data, than the averages used in the initial target setting exercises for the project, is partially a reflection of this increase in energy demand as a consequence of COVID lockdowns.

Increased energy demand induced by lockdowns has had implications for those already living in energy poverty, in addition to pushing more households into energy poverty. In the UK, the Energy and Climate

¹⁴ BEIS, 2021. Energy Consumption in the UK (ECUK) 1970 to 2020. Energy Consumption in the UK 2021 (publishing.service.gov.uk)

¹⁵ DUKES 2020. Digest of UK Energy Statistics Annual data for the UK, 2020, DUKES 2021 Chapters 1 to 7 (publishing.service.gov.uk)

¹⁶ E.On, 2021. E.on's review of consumer demand increasing. How lockdown affects electricity usage at home | E.ON (eonenergy.com)

¹⁷ DUKES 2020. Digest of UK Energy Statistics Annual data for the UK, 2020, DUKES 2021 Chapters 1 to 7 (publishing.service.gov.uk)



Intelligence Unit estimated that lockdowns in the spring (March and April) resulted in households spending an average of £34 more on energy per month than usual, and that this would rise in the winter, with poorly insulated households paying £50 more in the winter months than those living in better-insulated buildings¹⁸. While the proportion of UK households in energy poverty remained similar between 2019 to 2020, seeing a slight decrease from 13.4% to 13.2%¹⁹, this may be affected by households receiving fuel assistance: the Fuel Bank Foundation reported in 2021 that, since the outbreak of the pandemic, like-for-like Fuel Bank need increased nationally by 23%, and that deprived areas saw a huge increase in demand, with some local areas seeing a 300% increase in fuel bank need. Of the people who reached out for support, the Fuel Bank Foundation found that 89% of them were struggling to top up their prepayment gas/electricity meters and, when surveyed, 82% said that national lockdowns made them concerned about running out of money to pay for energy²⁰.

¹⁸ Energy and Climate Intelligence Unit, 2020. Lockdown in Leaky Homes. [ECIU_Leaky_Homes_Lockdown.pdf \(edcdn.com\)](#)

¹⁹ BEIS, 2022. Annual Fuel Poverty Statistics in England, 2022 (2020 data). Annual Fuel Poverty Statistics LILEE Report 2022 (2020 data) ([publishing.service.gov.uk](#))

²⁰ Fuel Bank Foundation, 2022. Fuel crisis report. [Fuel-Bank-Whitepaper-FINAL.pdf \(fuelbankfoundation.org\)](#)



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7. CONCLUSIONS

Through the STEP project, a total of 8,455 consumers were engaged through indirect contact as part of the STEP collaboration with frontline workers.

It is estimated that these advice activities could lead to energy savings of between 16.9 and 19.7 GWh per year, corresponding to annual cost savings of between €849,000 and €1,050,000, and saving between 3,150 and 4,595 tCO₂e per year.

It is possible that this overestimates actual impact achieved through indirect advice. This is because the estimate is based on average potential savings estimated based on direct advice activities delivered by consortium partners. Meanwhile, frontline workers may have had less experience in delivering energy advice, and less time to devote to energy advice during engagement with clients, compared to advice-centred activities led by consortium partners. Nonetheless, the impact of frontline worker collaboration cannot be overstated, as this approach to engagement of consumers significantly increased the reach of the STEP project. Moreover, it is likely that frontline workers reach consumers who may not otherwise seek out or be targeted for energy advice. It is widely acknowledged that vulnerable citizens are difficult to reach out to and engage, so being able to collaborate with organisations interacting with vulnerable households can play an important role in providing energy saving advice to vulnerable consumers. In some cases, frontline workers may also be more trusted than an energy/consumer advice organisation, particularly where frontline workers have regular interaction with the same clients over time²¹. While the impacts of the advice provided by frontline workers cannot be precisely measured and quantified, it is clear that the engagement, under STEP, with frontline workers, successfully increased the numbers of consumers reached.

Notably, the COVID-19 pandemic affected the ability of frontline workers to engage with their clients face to face, and organisations had to devote substantial resources to implement changes to their working practices. This, together with a higher-than-normal proportion of frontline workers not able to work due to either suffering COVID or having to self-isolate, had an impact on numbers of clients reached. It may therefore be expected that outside pandemic conditions, collaboration with frontline workers would result in considerably higher numbers of clients receiving advice.

In total, across both indirect and direct engagements, advice provided through the STEP project is estimated to have achieved primary energy savings of between 32.9 and 38.4 GWh (target 17.78 GWh), and between 6,100 and 8,970 tCO₂eq emission savings (target: 2,869 tCO₂eq), significantly exceeded the project targets.

Crucially, COVID lockdowns will have had an impact on consumers' energy bills, and increased energy poverty (aggravating the impacts for those already living in energy poverty, and pushing previously non energy poor households into energy poverty as a result). While the STEP project aimed to deliver overall energy savings, it is likely that energy savings achieved by participants as a result of advice provided by STEP partners (see 5.2) were actually (partially) off-setting an overall increase in energy use during the pandemic, rather than resulting

²¹ A recurring challenge for energy poverty action and research is the need for trusted agents when reaching out to an engaging with vulnerable and hard to reach groups (Mould, R.; Baker, K., 2017. Documenting fuel poverty from the householders' perspective. Energy Research & Social Science, Vol. 31).



in net savings. Importantly, this does not diminish the benefits, that energy savings, achieved as a result of advice sessions, may have had for participating households, in terms of comfort and cost savings, even if these were mainly offsetting an increased demand, rather than delivering absolute savings compared to pre-pandemic and pre-crisis levels. With the lack of follow up surveys, the team have been unable to quantify this, however.

With many people still spending more time in their homes, compared to before the COVID pandemic, and with the ongoing energy price crisis, energy efficiency and energy saving advice remains as important as ever, to support households in managing energy consumption, both from cost, energy supply, and environmental perspectives. However, advice provision cannot stand alone, and must go hand in hand with financial support programmes and policies to enable and encourage energy efficiency improvements, and to support those most vulnerable and in energy poverty.



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APPENDIX 1 – CONTINUING ADVICE ACTIVITY

One aim of the STEP project was to develop a sustainable and replicable model for energy saving advice provision. While the STEP project itself is concluding in May 2022, consortium partners plan to continue, and in some cases extend, activities to continue the provision of advice and support for consumers, and vulnerable consumers in particular, beyond June 2022. Levels of activities planned vary from partner to partner, partly depending on existing resources, availability of funding, and national partnership opportunities.

Below is a brief summary of just some of the activities being developed by consortium partners beyond the conclusion of the STEP project:

- In Portugal, DECO is commencing a new partnership with a public company for housing in Lisbon, to provide advice to consumers living in social housing. The partnership is currently planned for 2 years, with further plans to develop this across other municipalities.
- In Slovakia, SOS plan to continue to run consumer workshops to provide energy saving advice, and to disseminate advice and information in various formats and through various channels ahead of winter 2022.
- In Bulgaria, BNAAC expect to continue providing one-to-one advice directly through their existing offices.
- In Poland, FK expect advice activities to continue, with frontline workers trained through the STEP project continuing to provide energy saving advice to their clients.
- In Cyprus, CCA will continue providing advice through their phonenumber and in-person activities through their existing office.
- In Lithuania, ALCO/LVOA are holding an event in May 2022, in the Ministry of Energy, to discuss support for next steps. The event, titled "Energetikos patarėjų tinklas Lietuvoje: vizija ir realybė" (Energy advisory network in Lithuania: vision and reality), will include a roundtable with high-ranking decision makers, to discuss best practice recommendations from the STEP project, next steps, possibilities for long-term institutionalisation of the energy advisors network, as well as broader policy development. Separately, ALCO/LVOA will maintain their telephone advice service, to provide energy advice to consumers.
- In the UK, CAR and CAM both plan to provide advice through their office for the next 12 months, CAM hope to secure further funding for another 5 year contract to deliver energy advice. They are also exploring collaboration with a regional gas supplier. UK STEP partners also highlighted their efforts and plans to coordinate long term national funding for energy poverty action.
- In Latvia, LPIAA will continue to provide energy saving advice through 7 of their 10 regional organisations, who have all been trained through STEP.



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