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Sustainable Houses in Inclusive Neighbourhoods (SHINE) brings together 14 partner organisations from 4 member states. The project's overall objective is to reduce carbon emissions in residential dwellings. The project is co-financed by Interreg 2 Seas and the European Regional Development Fund.

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Introduction

This report is an evaluation of the SHINE project's Work Package One on Community Engagement in support of the aim to reduce carbon emissions in residential dwellings. At the start of the project partners mapped their initial situation in respect of communications audiences, messages and content, materials and channels. They also set out their ideas of potential methods which would add value to current practice for both digital and face-to-face engagement with residents in the SHINE project areas. The initial situation report can be found at <http://2seas-shine.eu/en/publicaties>.

Using many short case examples from the SHINE partners, there are candid reflections as to what worked and what did not and the innovations tested out in the programme with potential to last over the longer term.

Project aims

The project takes the approach that engaging a whole community can have a much bigger impact on reducing carbon emissions.

Partners would explore:

- Methods for accelerating the process by which households take up energy efficient and renewable energy technologies in renewing residential dwellings.
- Working with residents in a bottom up approach the energy consumption in (deprived) districts will be reduced as inhabitants are more involved in the renovation process
- Involving stakeholders and observer partners to enhance opportunities to embed successful methodologies and disseminate the project outcomes over a wider area.

Local conditions

The SHINE partners share similar maritime climates and housing stock profiles. The local communities had high indices of deprivation and many households faced additional challenges through low income, language barriers, disability and health

conditions. This has meant that testing approaches and sharing solutions has been particularly effective.

Work Package 1 Objectives

Setting up participation process in districts as instrument to lower the threshold for district renovations.

- Programme Output Indicator/s: Number of solutions (methods/tools/services) established to increase the adoption of low-carbon technologies

Output No.	Project Outputs	Expected Project Specific Result/s
1	Method to set up participation process to create support base in districts that will be renovated	The participation process will reach 2210 families living in the districts that will be renovated during SHINE. These residents know their energy use. They are willing to reduce their energy consumption. They want to implement or want to use energy saving measures and so reduce their CO2 emissions. They share their experiences/practices within the district and with relatives. The renovations are supported by the stakeholders (e.g. local authorities, social housing companies, ...)
2	Method to guide families of the district by energy experts	The 1986 families that get advice of the professional/voluntary energy experts know their energy consumption. They understand the possible ways (high cost and low cost measures and behavioural change) to reduce their energy consumption and are willing to implement these

		advices. By doing so 3337 tonnes of carbon a year will be reduced.

Digital platforms for residents

Ways to reach people who need practical advice on home energy efficiency span many communication and engagement channels. Creation of a digital platform through websites, online forums and social media was established by partners in ways which best reflected local circumstances. Provision of accurate up-to-date information on the website of credible organisations was a vital tool for all partners. Social media was found to be a method of variable value across the engagement work undertaken by partners. Some examples of how these platforms performed are set out below:

Case example 1: Sint-Niklaas, Belgium

Sint-Niklaas town's housing team serve the Elisabethwijk district of the town. They decided that a digital platform could be a useful tool in helping them engage with their local community on energy efficiency issues and people who are in fuel poverty. The situation needed some 'outside the box' thinking to ensure as many people were reached as possible by the initiative. The team identified that a digital channel could significantly boost interest in the housing programme.

The first step was to talk to the local neighbourhood committee and liaise with a local neighbourhood officer. After discussions with community representatives, the team devised two web platforms – one using 'HOPLR', <https://www.hoplr.com/city/sint-niklaas> managed by a resident and which communicated key project activities and an online community forum 'POSTBUZZ' where neighbours could chat and share ideas.

While websites cannot reach everyone, most obviously those who lack access to digital services, the team believe that these two sites have been influential in helping the success of the programme – especially to help discussions between residents and the team and to contribute to the wider conversation to help residents understand and work with the programme.

Other channels such as leaflets and face-to-face meetings are still needed in the communications mix so no resident is left out because they are unable to engage digitally.

However the team recommends every partner organisation uses a web platform to enhance engagement with their communities.

Case example 2: Citizens Advice 1066, UK

The Citizens Advice 1066 team were late to join the SHINE project. This provided the advantage of being able to learn lessons from the other partners on potential best approaches. Workshops and questionnaires emphasised that difficulties arise when there are too many websites, often with conflicting content, which confuses residents about which to believe and use. The academic research across the project showed that trust in the information process, the contractors and the advisers was a key element in residents changing behaviour and taking up energy efficiency measures.

A mapping exercise was undertaken to look at where residents in the SHINE project might find trusted energy advice, taking the websites of the UK SHINE partners as their starting point. This showed that the energy efficient information generally could be improved through better content and accessibility. It was difficult to find all the content needed in one place.

The team decided to set up two separate web pages both hosted by the largest local government body in the area, East Sussex County Council, in their public health section of their main website. This meant that tips on staying warm were easy to access alongside energy efficiency advice. The UK partners would then point their website content on energy efficiency to these pages. This would increase the credibility of the information to residents, also allowing people outside the SHINE catchments to benefit and enhance project outcome longevity.

The team created two web pages:

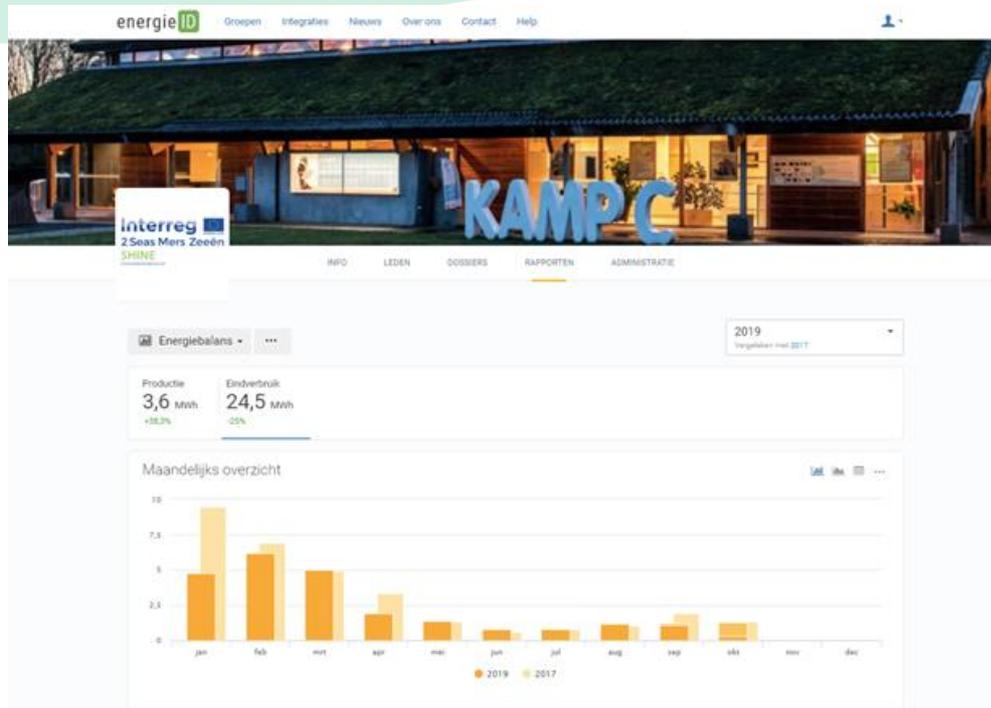
- <https://warmeastsussex.org.uk/keep-warm/keep-warm-energy-efficiency-and-conservation/>
- <https://warmeastsussex.org.uk/keep-warm/keep-warm-home-projects/>

The first of these explains the main issues around energy efficiency and fuel poverty and aims to help instil behaviour change by residents.

The second aims to guide interested residents on how to become involved and adopt energy efficiency measures through the use of trusted contractors. This helped reassure residents and avoid the problem of 'cow boy' contractors about which some residents were understandably wary.

Both websites were highly effective vehicles which motivated the team to create more engagement content which would then resonate with local communities; this content could then be further amplified across social media channels. The pages also acted as support material for energy advisers who were already talking with residents and who could point residents to the sites for further information.

Example at a glance - Kamp C, Belgium



Kamp C is a centre for sustainability and innovation in construction in the urban environment. The team of energy volunteers advisers an online platform to keep track of meter readings <https://www.energieid.be/> The platform aims to be a unique and safe haven for household and business consumption data. The threshold to keep track of measurement data via an online platform remains high. Only 30 of the approximately 400 households that requested the visit of an energy volunteer started on the platform. For now the data is therefore too limited to draw conclusions from it.

Smart meters and monitoring equipment

Smart meters measure kWh use and cost and use a secure national communication network called a DCC to automatically and wirelessly send the household's actual energy use to the supplier. This eliminates the reliance on estimated energy bills or the householder having to take their own readings from a standard meter and submitting them to the supplier to ensure accurate energy bills.

With the advent of technologies such as smart meters, households can monitor in a precise way their energy consumption. However, these technologies need to be user-friendly and households need to become familiar with the operation.

Case example 1: Clavis, the Netherlands

Clavis are a housing association with approximately 2,500 homes serving residents in Terneuzen and Sluiskil. The project focused on the Bellamystraat area of Terneuzen with 95 homes needed for energy efficiency improvements with eight homes designated for a more in-depth renovation. The tenants worked to agree a plan. For these properties, the Clavis team placed a monitoring system to help households become more aware of their precise energy consumption. This helped to familiarise the Bellamystraat tenants and private owners with using the technology and ensured their successful engagement in the project; it worked very well for the eight tenants participating in the renovation project and the tenants have already signed an agreement to cooperate with the renovation project. The eight teams have had already been provided with smart meters. Clavis contracted Sprangers a renovation contractor for the Bellamystraat project, and the firm's work programme has started. At time of writing, the asbestos investigation stage had been completed and the next stages were proceeding to plan.

Case example 2: Brighton and Hove City Council, UK

Brighton & Hove City Council runs its own public housing service directly. The housing team undertook a home energy efficiency programme under the SHINE umbrella focusing on behaviour change for tenants in the city council's public housing stock.

The objective was to empower residents to take control of their own energy consumption and provide them with the tools to enable them to do this on a permanent basis. The programme focused on three main areas: surveying residents as to their environmental awareness, assessing feasibility of weather compensators, installation and support in using real time energy monitors and familiarization of the use and installation of Smart Meters.

Environmental awareness surveys: these were the first phase to be completed. The feasibility of installing weather compensators and smart controls was based on stock information and needed the agreement of the householder.

Use of smart meters: the strategic goal was giving control of energy use back to residents with a focus on the cost savings that they could make by participating. Installation of real time smart meters empowered the residents in the programme. There was also a correlation between help on getting debt relief and residents ability to adapt to more control over their energy bills. This may be because they felt newly empowered and well briefed to undertake that role.

Where possible the team undertook boiler enhancements with the target of increasing the energy efficiency by three percent.

The council housing team identified an opportunity for rapid behaviour change through educating residents on operating home appliances such as fridges, TVs and dishwashers, dubbed 'energy vampires' because of their high energy-consuming use and so the high financial cost in energy bills. For example, the team offered advice on not leaving these appliances on, turning them off at the socket and unplugging phone chargers. Many residents had little

knowledge of how some of their appliances worked - such as making fridges operate efficiently. Visits also included offering tenants 'minor measures' such as LED light bulbs.

There are some important synergies from our work across other work packages. For example, the team also helped in the assessment of heating controls (in SHINE Work Package Four) influenced by the visits in Work Package One.

Weather compensators are heating systems that have outside sensors to monitor temperature changes through time. They feed this information back to the boiler or other heat source which communicates how much heat to generate for how long. This helps to maintain the chosen temperature indoors without having spikes of over and under heating. Where the team added weather compensators alongside the boiler replacement programme the household was assessed on its ability to accommodate the additional equipment. For example, smart controls are based on the ability to link to an up-to-date boiler and the householder's enthusiasm for engaging with the app that gives control.

There were also some 'added value' outcomes: the project flagged up issues with heating systems, and they were able to replace old electrical appliances for qualifying tenants. The impact of behaviour change for example, reducing the bite of the 'energy vampire appliance' through education around an appliance stand-by function. This meant the project succeeded in engendering behaviour change in communities that might have proved more difficult to engage with.

Case example 3 – OPTIVO, East Sussex, UK

Optivo is a large housing association based in London and the South East of England. 'Switchees' are a brand of smart thermostats; the team used them to identify fuel poverty. There were some barriers – these included permission for data sharing. In the winter, installed Switchees helped in the process of installing boiler measures as they detected those boilers with defects. This was a good way to 'beta test' any problems early on.

The advent of the Internet of Things across devices offers opportunities in managing housing stock and energy efficiency. Optivo has a wider objective to encourage technology devices to play a greater role in housing delivery to improve operations and energy-consumption behaviour change among tenants.

Optivo's team took a staged approach – first they undertook a feasibility assessment and identified the homes that would be eligible. Optivo also engaged with the device manufacturer to ascertain the key logistical issues. Then the team set about identifying the extent of fuel poverty and how to address it in its housing stock. The team wrote to all qualifying residents and were visited by the Retrofit Co-ordinator. The team also undertook due diligence and reviewed other device options as well as the most suitable supplier. A home energy advisor visited those residents who expressed an interest. A spin off benefit of this was that the adviser would come across other issues on the inspection and could refer the tenant to other departments such as those dealing with damp and mould.

Overall there was a significant expansion of Switchee installation in Optivo tenants' homes. Constant monitoring at all stages of the process was crucial to the success of the project, for example, ensuring the boilers were working efficiently to save CO2.

Challenges and Lessons

It was difficult to find suitable households willing to accept the monitoring equipment. One approach was the use of voids (empty properties) to increase take up. Going forward the corporate asset managed approach will include using these devices in replacement programmes. The contractor was not knowledgeable about the device when the information about the smart meter installation was also rolled out. This was countered by improved communications with the contractors' teams.

Case example 4: Hastings Borough Council, UK

Hastings Borough Council, the district level of local government for the Sussex town, provides a range of housing and environmental health services. The housing team moved away

from installing significant numbers of smart meters very early in the project because there was already a national roll out in the UK. The team opted to test the approach with a small number of 'Switchees'. Due to a lack of knowledge of the devices by the contractors 'Switchees' need to be installed by technical professionals which also slows down their deployment. Work started on installations in the properties of two large portfolio landlords in Hastings but there were problems with agreements concerning the use of data and sadly one landlord went out of business.

Case example 5: Sint-Niklaas, Belgium

Sint-Niklaas' experience with smart-meters was mixed. The Sint-Niklaas team purchased a batch of smart meters. However they were found to be not that user-friendly and the residents had to install them themselves. A clearer manual was developed. The team tried a new approach of enabling the energy advisers to take the manuals with them when they visited the resident.

Challenges and Lessons

The main lesson in their experience is that installation should be undertaken by experts or dedicated volunteers. Another lesson is that the device needs to be very user-friendly for non-technically minded residents to use. This work needs to be resourced at a level sufficient for the staff to have the time to support and install the systems. These lessons are being taken on board in the roll-out in implementing the meters in the Renosec area.

Case example 5: Zonnige Kempen, Belgium



Example of a Woonmeter www.woonmeter.be

Zonnige Kempen has been active as a social housing association since 1963. They are at an early stage of their technology installation programme. The construction works at the demo-site started in January. They have tried to change the behaviour of residents by raising awareness of their energy consumption. They introduced a consumer friendly, device called a 'Woonmeter' for residents in the Seringenhof area. The Woonmeter (see picture above) is a thermometer and hygrometer. The device is programmed to give a 'smile' if the living conditions are good or a 'sad face' if not. The Woonmeter fits into a frame to position it neatly in the home with tips on what to do if the results are not good. The volunteers of Kamp C also use the woonmeter in their visits.

Case example 6: Habitat du Littoral, France

Smart meter installation was set up just before SHINE in two different districts. One has only a platform and has a rather classical design (Ocea Smart Building system). The other is home displayed and is also accessible with a mobile app - with games (Intent Technology). Both systems are accessible by tenants and staff. A meeting was organised to demonstrate their use.

Challenges and Lessons

Tenants liked the idea of not having over-estimated bills. When in home displayed, it helps residents to keep track of their energy use. Staff can track any technological failure.

The traffic light indicator is very helpful but not to be used with everyone as it may cause anxiety. The use in home display drops over time. Some tenants believe it is a way to spy on them. Some tenants think the smart meter is enough to reduce energy use and that they do not need to change any habits.

Consumption data need to be accessible by both tenants and staff.

Installing the smart meter needs to be coordinated with other tools and engagement - and their use need to be demonstrated. It also seemed to be better used by younger tenants than by retired tenants. Regular explanations should be provided on the web to use the platform / app. It was only done with the tenants in the housing when it was set up but based on a recent update when tenants moved out and a new one entered, he was not given the instructions for use and so did not use the platform to follow up its energy use. Therefore, housing providers should plan something to be sure all future tenants are appropriately informed.

Great care should be given to the design and functionality of the platform. Residents should have a clear reason to use it: perhaps as part of a package of online services or part of a community network. Regular incentive to use it should be given, as well as regular updates on news and tips.

Case example 7: ARMINES, IMT Lille Douai, France

In the context of Shine project, Armines investigated further a data-driven approach to efficiently estimate digital twins of buildings and to use these numerical models to predict (or simulate) future temperatures or energy consumption. The results made possible thanks to the Shine support are the implementation and the evaluation of an innovative method to establish reliable and suitable thermal and energy models for

residential buildings. The effectiveness of this new methodology has been shown through experiments on different buildings located in the North of France, Douai.

The methodology is based on a use of a smart-metering kit specially designed at the beginning of the Shine project, and specific skills of Armines/IMT Lille Douai on DataScience and Artificial Intelligence.

The smart supervisory, control and data acquisition (2SCADA) system is illustrated on figure 2.7.1. The smart-metering system is based on wireless sensors (developed by CLEODE™ company) that allow measuring the indoor and outdoor temperature (T_i , T_o), relative humidity (H_i , H_o), solar radiation and diffuse solar radiation in the building (R_a , R_{ai}), and some other external factors that influence the energy and thermal behaviors.

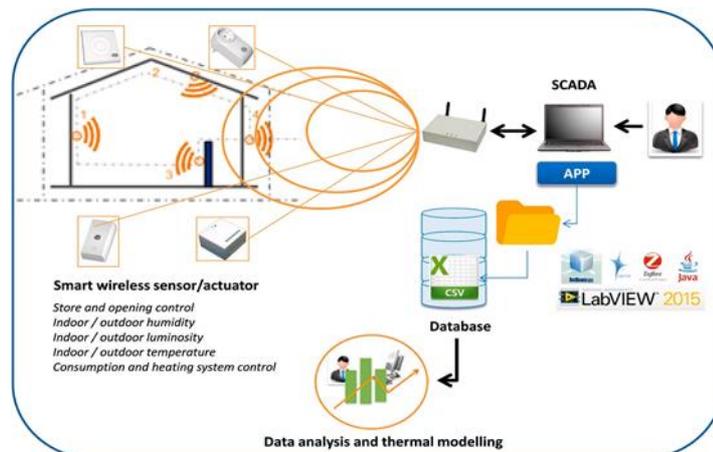


Figure 2.7.1. Global architecture of data collection system.

In the project, several experiment campaigns on real buildings have been conducted. As it was not possible to use the Damrémont Tower (owner Habitat du Littoral) as expected at the beginning of the project because of its unavailability, 2 private houses on the territory of PMCO and two students' residences (IMT Schools – see figure 2.7.2.) have been considered. Different scenarios have been defined during the measurement campaigns, such as the location (building/room orientations with different cardinal points), different heating sequences, variety of periods (e.g. external temperature and weather), building envelope (before or after renovation)... in the objective to provide sufficient data for evaluating our new methodology.



Fig. 27.2. (a) Lavoisier student Residence in Douai (b) Lavoisier 3D model.

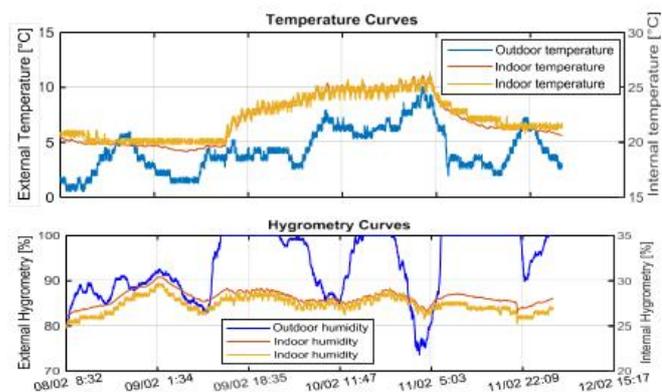


Fig. 2.7.3.. Example of collected data for one week: Temperature and hygrometry curves.

Building models are the results of a black-box identification approach applied on the collected data. More precisely, hybrid models are used, highlighting the necessity of using different sub-models to represent different types of energy dynamics in a building that correspond to a variety of equipment set-ups, use configurations or occupant activities that occur in real life.

In the context of the Shine project, important effort has been devoted to the assessment of the performance of ARMINES methodology through a comparative study between our approach and other state-of-the-art techniques. This evaluation also focussed on a sensitivity analysis which determines what inputs/outputs of the smart-metering kit and which scenarios will be required in order to guarantee the accuracy of the model and to use it in order to analyse the consumption and to recommend the renovation.

From the works achieved in Shine, Armines could extend this approach in order to provide a new efficient and automated

solution (hardware & software) for estimating energy performance certificates and for improving energy efficiency of the building with better control strategies on Heating, Ventilation and Air-Conditioning system (HVAC) equipment.

Face-to-face platforms with residents

In Spring 2020 face-to-face meetings were suddenly suspended unless under strict guidelines because of the COVID-19 pandemic; however, before these recent and difficult months, SHINE partners were exploring innovative real time meetings and with benefits for sharing across partners. Face-to-face meetings are usually an essential component in engaging people in the local community; it is part of what characterises a 'down to top' programme, such as the SHINE face-to-face platforms. Below we set out some interesting case examples and updates where different methods were tested and shared learning was at the fore - hoping for better times when they can return. Effective face-to face-meetings are an important component of recruiting volunteers or meeting with stakeholders. The types of support material or activity that can enhance a face-to-face meeting are stakeholder meetings, publications, 'Open House' days, training for volunteer energy advisers and support events for residents who can then hold their own meetings.

Clavis

Clavis had significant experience with this area of work, and inspired everyone from the beginning of the SHINE project with their integrated programme. These are some of the practical tips they shared with partners on getting the best outcomes from energy ambassadors:

- It is difficult to recruit volunteers from among residents to become energy ambassadors. It is advisable to find people from local organisations who already have trusted relationships with the tenants to engage people with energy advice, e.g. care groups.
- Using paid advisers makes the engagement work easier as the employees work set hours and can be trained to quality assured standards. Clavis worked with an integrated

programme creating jobs in this field for people who are long-term unemployed.

- Integrating different organisations across housing, employment, welfare and advice, the public, private and community sectors was seen as a key factor to creating a sustainable system for providing the context for ongoing uptake of energy efficiency measures and behaviour change in local areas. This was a theme the UK partners were to pick up and run with using the SHINE project as their foundation.
- Many residents are not interested in decreasing their energy consumption. Financial incentives are key to persuading households to engage. Energy prices may be seen by some as too low relative to their household income to prioritise reducing their energy consumption. In households facing fuel poverty people may ration their consumption because they cannot afford the costs. There is a strong case for regulation to make tariffs reflect household income so that a decrease in consumption can be incentivised in wealthier households and low income households have a special rate. This could be funded by the energy companies. These latter households would need additional support in the form of energy efficiency measures to lower consumption. Housing Associations might consider buying or leasing AAA+ energy efficiency appliances for their tenants. (Optivo has introduced just such a scheme for white goods).

GUIDED WALKS FOR RESIDENTS USING A THERMAL CAMERA: “HEAT WALKS”

Case example 1: Parc-Opale, Caps et Marais d’Opale Regional Natural Park, France

SHINE partner Parc-Opale is a park authority operating the Caps et Marais d’Opale Regional Natural Park in northeast France. An important responsibility is to upgrade housing stock within the boundaries of the park and this involves driving forward energy efficiency in homes. Before the pandemic, Parc-Opale organised a series of free thermal imaging walks known as “Heat Walks”.

Volunteers, accompanied by an energy adviser from the energy information space who would operate a thermal imaging camera, could accurately assess energy efficiency in buildings across the park. The camera enables 'use-when-needed' animation for replay and a great way to make the evidence case for energy improvements.

The aim is to create an accurate picture of where the energy problems lie in the structure of a building. Thermal bridges, insulation settlements and sealing and other problems are identifiable by the thermal camera. The residents are usually grateful for the opportunity to find out more about the energy efficiency of their home, encouraging them to consider what action they will take to improve their home and their own well-being. The thermal walks enable people to share their different experiences on a one-to-one level on what works and what doesn't with tips on how to renovate homes. The walks have been very popular, and the 'secret of their success' is that they mix education with fun and with something new and the walk is free so no one is out of pocket.

Caption: Having fun and learning about energy efficiency all in one.

Case example 2: IOK

As with Parc-Opale, the IOK team organised thermal heat walks around the SHINE neighbourhoods. The aim was to start a conversation with residents and ultimately to engage them about the benefits and financing of district renovations. Face-to-face conversations with residents was a key part of the success in engaging households in the SHINE programme. It was really helpful to reach more people in the district and discuss ways of reducing energy consumption of their house.

The IOK team used and explored relatively new communication strategies, such as the "nudge approach", otherwise known as Behavioural Insight Techniques. This is where incremental incentives and non-judgemental techniques are deployed to help

people to make better choices through how the choice is presented to them. The team also applied a 'pass on the good news' approach in conversations with residents, making use of crowd power to "nudge" behaviour change. This involved encouraging households participating in renovations to talk to their neighbours about the benefits of participating in the project. This method worked well in generating more community involvement and households willing to participate in the scheme.

THE IMPORTANCE OF A TARGETED APPROACH

Case example 3: Kamp C

The Kamp C team were methodical in analysing their target audiences for engagement in the project. They took a cross-section of their local communities demographic and in their face-to-face engagement and other activities they sliced households into five distinctive groups.

Those who are already active in reducing carbon emissions

These are the most active residents who are looking for confirmation and possibly additional tips to do even better.

Those unaware or poorly informed

They are often senior aged residents who are looking for information and technical support.

Those financially driven

These residents are interested in the idea as a property investment.

Those in energy poverty

Many residents in energy poverty do not own their home and therefore can only make minor behavioural adjustments.

However, this does not outweigh the investments that should be made.

Those who can't be reached - perhaps the largest group

Possibly the largest group: residents that cannot be engaged. This is either because they are not interested or do not need help.

TRIED AND TESTED NETWORKS

Case example 4: Brighton & Hove City Council, UK

Brighton and Hove City Council (BHCC) manages tenanted "council" properties, which comprise a mix of purpose-built high-rises, low-rise, housing estates, converted properties and sheltered accommodation. Tenants tend to be lower-income households with many in receipt of welfare benefits, but this is not an exclusive rule. Many tenants are in employment and do not receive welfare benefits. There is a high level of disability among the demographic.

BHCC's strategy in face-to-face engagement was to promote the benefits of home energy efficiency, especially financial savings, through existing tried and tested networks including regular tenants' meetings, working with the residents' committees where appropriate and with the wide range of other community and voluntary sector groups. The BHCC team held ten energy efficiency focused internal meetings since the start of the SHINE project in order to share learning across departments.

Action example:

A disabled couple living in council-owned bungalow had high energy costs. The couple received support from the team on how to access funds to pay down their debts. The team also provided some energy saving measures. The tenants showed interest in learning more about energy saving, so agreed to undertake volunteer training in order to spread the word so helping to cascade through their own social network.

Key learnings

Engagement initiatives were most successful when the team harnessed existing networks. This included residents groups and voluntary sector organisations. For financially vulnerable households the cost savings are the priority driver for engagement.

Case example 5: Sint Niklaas, Belgium

The Sint Niklaas team noted how it is important to shape the meeting according to the audience so for example meetings with city council, school or housing officials would take place in office hours and meetings with residents would take place in the evening. For residents, they offered training / education sessions alongside more fun activities.

Number of meetings	Kind of meeting	Target group
1	Meeting (learn about)	Neighbourhood
5	Meeting (learn about)	Social services
9	Activity (fun)	Neighbourhood
4	Meeting (learn about)	Co-workers city council
2	Meeting (learn about)	City board
1	Meeting (learn about)	Primary school
5	Information evening (Learn + fun)	Neighbourhood

It is vital for there to be core of interest in the initiative among residents and the Sint Niklaas team used face to face communications to great success with a lunchtime meeting for “interested colleagues and those who live in the district”. The team provided a lot of information to residents with a light lunch. The team knew that people would spread the word around the neighbourhood thereby amplifying the messaging. Another observation they offer is that it is better to spread activities around different parts of the neighbourhood to avoid people being overwhelmed or become indifferent to the activities and residents sometime acquire ‘event fatigue’ so it is better to spread the activities around.

The biggest problem was generalised poverty acting as a barrier to engagement and behaviour change. People needing energy advice

had other pressing problems that needed to be dealt with. Advice needed to be flexible depending on the needs of the client. This needed additional resources. The true cost of the work was higher than expected.

THE VALUE OF A KITCHEN TABLE APPROACH

Case example 6: Zonnige Kempen, Belgium

Belgium Housing Association Zonnige Kempen used what they called a “kitchen table approach” technique to engage in face-to-face discussion. Similar to the ‘Open House’ idea, the team say the ‘Kitchen Table’ was highly effective to engage with tenants and could be used in some of the other partners’ projects. As its name suggests a neighbour host would invite around ten people literally to a kitchen table and offer coffee or other refreshments. This helps to reassure residents that they are in a relevant setting similar to their own accommodation.

The secret of success is that the resident host’s home should be a short walk from the participating residents to make it as easy as possible to visit; the home should be a similar type to the ones the other residents live in so there a sense of familiarity. Such a venue helps as a conversation opener, encouraging discussion in a practical direction as the setting may prompt questions about the energy measures already installed in that home. The team also recommended keeping a group to no more than ten as larger groups can become unwieldy. If a resident had forgotten to come it was easy to just knock on their door and check whether they wanted to join. The most persuasive feature of the Kitchen Table approach is the reassurance offered by the host neighbour who, having already been in the same situation, could explain the benefits of the energy saving measures. Residents are convinced by residents. The team, also observed that there was an enhanced feel of participation and a ‘bottom up’ approach with residents showing more tolerance for the short term inconvenience involved. The down side is that events of this type are time-consuming. However, in the long run this might be levelled out because of more efficiency in later steps of the process.

A MULTI-FACETED APPROACH FOR MAXIMUM IMPACT

Case example 7: Citizens Advice 1066, UK

The Citizens Advice 1066 team undertook a barrier / needs analysis through a review of the literature, discussions with stakeholders and workshops with volunteer energy advisers. As with the profiles set out by Kamp C the CA 1066 team found that barriers varied with the demographic and type of household.

Range of activities CA 1066 deployed in face-to-face meetings

- Preparation and delivery of training for volunteer energy advisers. New materials developed. Training and other events held.
- Open House Days where the team would on hand for drop in visitors to see the types of work. These were delivered in a variety of ways to find out what would work best.
- Development and support for events and regular meetings of local residents.

Putting face-to-face engagement into practice: St Richards House, Hastings, UK



St Richards House is a 1950s five storey block of 40 single bedroom flats in St Leonards-on-Sea, Hastings, East Sussex. It

houses residents who are eligible for a tenancy through being older people on low incomes. They all rent from a one private landlord. Many residents have disabilities or long-term health issues.

Materials

The team created a range of publications including flyers and posters to support the advice work, particularly team home visits. These included updated leaflets - re-written and redesigned - so that the information was easier to understand; a new postcard addressed to Citizens Advice so that residents had something handy they could use whether on the front porch, lift or stairwell to show other residents and make it easy for new people to contact the team. The strategy was to encourage residents to recommend the energy advice and efficiency measures to their neighbours through word of mouth; peer recommendation was found to work best for encouraging participation. The team also produced a 'leave behind' sheet for residents with all the next steps for the adaptations following a home visit. Finally, the most important ingredient was to recruit a motivated cohort of volunteers who are able to work at a professional level offering energy advice to residents.

The adviser helped residents understand how they could engage with the scheme to best effect. A particularly effective approach was the use of a vacant flat as a space to host talks and meetings. The flat acted as an Open House as it was the first to have the measures installed, so residents could learn about the benefits of the scheme in a real life setting and see what the measures would look like in their own flat. It was also possible to talk people through the new heating system such as the heating controls, the main room thermostat, the boiler and thermostatic radiator valves.

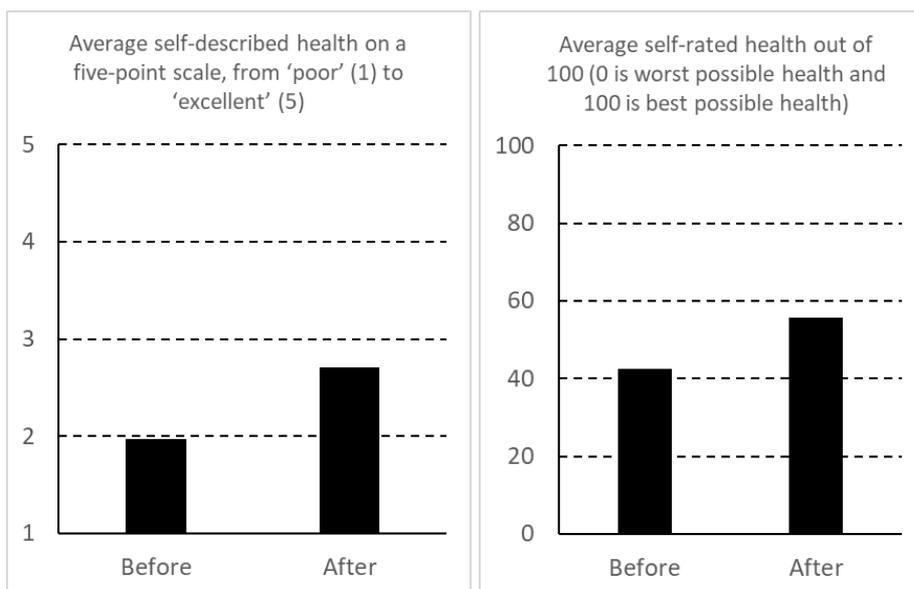
Every resident was offered an initial assessment and underwent an eligibility check. The advice team collected evidence for the funding requirements. The team followed up with three or four home visits to ensure the resident was fully informed and able to raise any concerns at every stage. The team would then act as a bridge between the client and the contractor ensuring a simple and effective channel to address on-going concerns. During these

visits, clients would receive energy advice. This included advice on how to maximise their income whereby an adviser would discuss with the client whether they were claiming all the financial benefits to which they were entitled and advise the client on how to go about claiming. The whole of St Richards House has benefitted from cavity wall insulation and loft installation. Within the 40 flats, 39 residents had new heating systems installed. This is a significantly high take up of measures and engaging with behaviour change in a client group with this demographic profile.

Canterbury Christ Church University supported the team in conducting wellbeing and thermal comfort questionnaires before and after energy advice and/or the installation of energy efficiency measures in households in the SHINE area. 54 households completed both questionnaires.

As can be seen in the bar chart below, over the course of the intervention, participants' description of their health improved from an average rating of 2.0 ('fair') to an average rating of 2.7 (approaching 'good'). This improvement was statistically significant ($Z=4.16$, $p<.001$, $N=53$).

Similarly, participants' self-rated health statistically significantly improved from an average of 42.5 out of 100 beforehand to 55.6 out of 100 afterwards ($Z=3.00$, $p<.01$, $N=51$); see the chart below.



In summary, after the intervention, participants' self-rated levels of warmth, health, and wellbeing statistically significantly improved compared to beforehand. In addition, their self-reported attendance at their family doctor (GP) reduced, though the latter did not reach statistical significance. Finally, the vast majority of participants expressed satisfaction with the intervention. The full report of this study is available at <http://2seas-shine.eu/>. The figures for on carbon savings and cost savings to residents for the households in St Richards House were as follows:

Measure	Install numbers	Carbon savings Tonnes	Bill Savings
Loft Insulation	4	3.08	£1,440.00
Cavity wall insulation	40	10.4	£7,400.00
Gas Heating system Install	39	46.41	£13,845.00
Savings per annum		59.89	£22,685.00

Case example 8: Habitat du Littoral, FR

A fair on waste, recycling and energy efficiency was initiated by a group of residents. There was a demonstration throughout the district, short conferences with local experts, games (quiz, "land art"), a sustainable village with stands.

Challenges and Lessons

It was the people's choice to join an event and take part in the activities. The residents were curious and happy to find out about good practices, tips to save energy... and money. These sort of events are usually fun and dynamic, on a particular theme and with the involvement of various partners.

However, the engagement can be for just a short period of time. Not all organisations can organise such events during weekends or evenings. A lot of groundwork is required which demands a great deal of staff time.

People Power: Energy volunteers, champions, ambassadors and experts

Earlier points in this report make clear, the success of Work Package One depends on the ability to recruit residents to spread the word and act local, becoming credible ambassadors or champions in the locality. All the partners have said how important this is. In this chapter we look at nurturing energy volunteers, energy champions, ambassadors and experts including clients who have shown the success of this method.

Client case example 1: Kamp C - Impact of Energy Volunteers and Energy Experts

Encouraging residents to change their behaviour or take up offers of renovating their properties and then disseminate their positive experience by word of mouth to others was a central Kamp C's strategy. Their first move was a call for potential volunteers to join up and assess how they could play a role as local champions and ambassadors in the wider community.

Energy Volunteers are, as their name suggests, not paid and are usually recruited from the local community. They advise residents on behavioural change by showcasing how the modernisation of their home has been a positive and healthy experience. The volunteers had a backup of Energy Experts that could provide professional advice to residents; take up offers of renovating the (in house) experts have a high level of training and relevant professional background and advise on the technical side of renovations.

If there were no volunteers from the local community, the Kamp C team experimented with “energy talks” on a regional basis. Volunteers from neighbouring municipalities were invited for some drinks and chat. Some of the original volunteers started to run these energy talks themselves in their local community.

- Various methods for recruiting and retaining volunteers were tried. The best ones included, inviting all the volunteers to different events: info-evenings, excursions. The volunteers were always made welcome. They responded positively to being included in these community centred events.
- IOK and Parc Opale also organised excursions which numerous volunteers attended.
- Volunteers were thanked and celebrated during the week of the volunteer.
- They all got information first hand which was well appreciated. This came via regular digital newsletters and ad-hoc briefings.

Factors critical to success

The Kamp C team identified several critical success factors or questions to answer before a team can be sure they have the capacity to support a network of energy champions.

- How much professional time available? This is crucial
- Is there a critical mass of volunteers?
- How well linked in are energy experts to the team and the local volunteers?
- Is there continuity of availability of front of house team– so not too many staff or volunteer changes?
- Is it possible to take administrative issues away from volunteers?
- Do you have the co-operation of the local authority?
- Do you have continuity of support e.g (0.5 FTE paid worker)?
- Can you verify that you are reaching households in energy poverty?
- Can you devote the time to keep the volunteers on board?
- Is there a motivational mix of households to visit? Not just energy poverty

- Have you tailored the engagement work towards demographic diversity in the region?
- Is there practical support for installs within the team?

Outcome: Kamp C succeeded in recruiting enough volunteers to ensure the number of conversions met the project targets. This was largely achieved by making an open call and reviving existing networks. The volunteers were hugely motivated and this helped them to win over residents. Motivated volunteers can really change the game. Thanks to cooperation with the network operator, Kamp C succeeded in achieving 25% energy poverty households.

Sint Niklaas - mobilisation of volunteers

The approach was to ask volunteers when the best time would be for them to give the training sessions (during working hours, how late to start in the evening, preferring the weekend ...). This paid off as the flexibility enabled more volunteers to engage.

- The team hired external trainers to fine tune skills for the volunteers as well as the team itself briefing on local issues to offer a local touch.

Outcome: Now the team has already one campaign under its belt, the training sessions and can be adapted to other projects, communities and other settings to support the volunteer energy experts.

Factors critical to success

Success factors for the Sint Niklaas team included:

- Consulting potential volunteers about what would work for them on when they had training sessions and met residents.

Challenges

One challenge was that the team initially did not have a clear view on what the role of the volunteers would be. Many volunteers were reluctant to do door-to-door visits. The lesson is that it is

important to be realistic as to what new volunteers can be expected to do in the early stages. It takes time to build people's confidence up.

Another challenge for Sint Niklaas team was staff shortages. This had an impact on the project's momentum. This sort of engagement needs to factor in staff absences so that the project can continue without interruption.

When recruiting, make a clear plan for the energy expert remit so there is no misunderstanding. The Sint Niklaas team drew a lot of insight from their colleagues at IOK and other partners especially about the tasks energy volunteers can do and about the training sessions. It is useful to meet other people before embarking on a project to fully understand and mitigate against the challenges.

Brighton and Hove City Council

The team added the following lesson:

The challenge is recruitment and retention – the interest is there but not on energy consumption as a stand-alone issue – so significant time spent on social justice issues. In many instances this opened up to productive discussion about sustainability issues.

Ieper - Project Zillebeke Dorp

Four bungalows for senior citizens were built in the 1970s, with an electric accumulator heating system, single glazing, all rooms on the ground floor, no attic and a flat roof.

Problem: unacceptably high EPC rating and very high heating costs for the tenants.

Objective: lower the electricity bills of tenants

Process followed:

- Interview with tenants on their energy use pattern and what their wishes were
- Technical services formulate a proposal which includes the replacement of the electrical heating system by a modern gas-fired boiler and replacing the joinery.

- Proposal tested with tenants and agreed on installation dates
- Work carried out
- Round of tenants made and enquiring on the new system
- Result: tenants happy to have a more flexible system at a lower price

The tenants' energy consumption is still being monitored.

The IEPER team's key lessons

- Active search for households in energy poverty. They do this by working in partnership with OCMW Ieper.
- Used measurements as persuasion for behaviour change. This was link to the Energy Experts face-to-face engagement work.
- It was useful to have a list of people with key meters.

Citizens Advice 1066

Impact of Energy Volunteers

The Citizens Advice 1066 team explored three different roles for energy volunteers:

- Sustainability-minded local residents were initially recruited and trained. This initial cohort of volunteers did not transfer well to working with the target audience of fuel poor households and most stopped volunteering.
- Citizens Advice 1066 General Advice volunteers were trained to give energy advice. These existing volunteers working in a trusted local organisation were able to offer advice to local residents during contact due to other presenting issues such as poor housing conditions or difficulties getting landlords to make repairs. These volunteers were provided with formal training sessions, formal ongoing 1-2-1 support sessions, quality assured advice assessed independently, set as part of a wider system of advice for general poverty issues.
- Engaged residents within St Richards House (see case study). These residents received training in operating the new heating system, support for encouraging engagement

with resistant residents. Work with these residents was light-touch, e.g. no form filling or being described as energy volunteers. They were just supported to be neighbourly.

For each group the team developed new training scripts and training materials. They worked in different, flexible ways to support them in their work.

Paid energy experts (advisers) worked alongside the volunteers. These advisers undertook the detailed advice work and made referrals into a scheme which provided households with free energy efficiency measures.

Habitat du Littoral

Professional energy ambassadors: Young people have been trained and recruited to be energy ambassadors. They analyse energy bills and provide tips to reduce energy use. This initiative has produced positive feedback from tenants. It is also a good way to detect other issues (for example, social isolation). There was a real impact on bills after the visits.

Challenges and Lessons

This employed programme relies on subsidies. If resources are limited then volunteer ambassadors may be a better way forward. Volunteer energy ambassadors: These were recruited from already involved tenants (member of associations, boards) as well as some housekeepers. They are part of the life in the district; they know their neighbours. This sort of programme can also address social isolation. However it is over-reliant on the time volunteers have available.

Training was organised by a local partner for the housekeepers and some voluntary energy experts. The trainer has a real expertise. Several sessions can be organised according to the needs. The best sessions are when trainees get to leave with an energy kit to apply / test on his/her own.

A lesson on local integration: The local partner should have been better identified. It has to be an expert to train on the theme of eco-behaviours and energy savings but they must also have a

good connection within districts to be able to bring people together. Local social centres who already work on these issues seem to be the best option (and not an organisation that just focuses on energy savings).

Communications and engagement methods

This chapter takes an overview of the various channels used in the SHINE project communications and engagement work package. It brings together those activities already covered with their own chapters such as digital platforms (Chapter 1) and other channels that were crucial in successful engagement and ones which did not have the anticipated impact.

We cite the experience of the various partners as they chose their communications approaches within their resources to engage with stakeholders, particularly the residents living in the SHINE neighbourhoods. A key goal was to encourage behaviour change and we look at how 'nudge techniques' to stimulate incremental but long lasting changes in behaviour were deployed.

Besides digital platforms and face to face initiatives such as 'Open Houses', communications channels included street signage, leaflets, posters, media relations, show home style flats, pod and vod casts / videos, door knocking, telephone interviews, direct mail, email marketing and word of mouth through peer recommendation. See the full list below.

Every SHINE partner used a different combination of these communications tactics tailoring to the specific needs, resources and environment in which they were operating. Partners' communications experiences were collected through workshops and submissions.

It is important to note that communications in home energy improvement requires planned and consistent messaging so that the same clear messages and engagement points are conveyed simultaneously or in a build-up across the relevant channels. Each communication channel or tactic mutually supports the others in different ways, helping to reach the key audiences and encourage behaviour change. This highlights the importance of planning a communications strategy as part of the core project plan.

Messaging and tone

Feedback from most partners was that one cannot make the information too simple or clear. The relationship between carbon emissions and energy efficiency is not immediate to many people. It is vital to convey that quite easy and simple changes can reduce consumption, for example, how to make appliances more efficient and how to use them to best effect. New technologies are not universally easy to operate without simple clear instructions and readings. It is important to keep the information as simple as possible and to use the correct incentives. The insights provided by the Clavis team at an early stage of project development relating to existing trusted relationships and financial incentives (see chapter 3 for details) were seen as useful by partners when enacted in their locality.

Return on investment (ROI)

ROI is crucial in measuring the success of the various communications channels open to each partner. The ROI will differ for every project and from organisation to organisation. We have listed a variety of communications channels below with some of the experience of partners who used them. It is vital to determine the ROI and adjust if the return is not sufficient for the investment required. For example, the Campine region, partners Sint Niklaas and Zonnige Kempen came to the view that door-to-door approaches from professional or team members are probably the most effective (in their experience); the drawback is that they are extremely time consuming and expensive. Instead, working with volunteers, who could be residents, gives more results in the time period and word of mouth through peers is a very powerful endorsement. Virtual communication did not work so well for most partners. This may be partly because of digital exclusion some residents not having easy access to the internet.

Key tactics / channels used in the SHINE 'marketing communications' mix

We have segmented partners' experiences in communications into the channels used to communicate the messages:

- Digital platforms such as websites and social media (covered in more detail in Chapter 1)

- Videos and pod / vodcasts
- Face-to-face meetings, social activities / public meetings / Open House - (covered in more detail in Chapter 3)
- Observer partners and stakeholders
- Mobile Information Stands
- Study visits
- Public relations / media relations e.g. photo opportunities for local radio and papers
- Third party endorsement / word of mouth / advocacy / working with embedded community groups
- Advertising
- Strapline / slogan / branding
- Volunteers (covered in more details in Chapter 4)
- Direct mail and letters
- Leaflets and door step leave behind materials e.g. pens with energy efficiency message on them
- Window posters and signage
- Cartoons / infographics and other creative visual content such as photos
- Home 'show room-style' venue (covered in more detail in the St Richards Home case study in chapter 3)
- Street signage
- Branding / accessories
- E-marketing

Digital platforms such as websites and social media

As noted in the first chapter, most partners used digital platforms such as websites as a foundation of their communications and many also were active to a greater or lesser extent in social media. However digital platforms alone are usually not sufficient for this client base. CA 1066's experience: "There was a huge reservoir of potentially useful information, so it was important to decide early on the key messages and how to engage appropriately with prioritised audiences. However, it proved in the Citizens Advice 1066 experience difficult to encourage some residents to interact in social and website settings – leaving a volunteer energy champion to write some blogs to help create the necessary content. Many people in the target communities – often those who are living in fuel poverty - lacked access to digital

channels and so websites should only form part of a wider package of engagement activities rather than as a main channel.”

The Parc Opale team measured their channel responses through asking participants and found that they generated most interest through their website and Facebook posts and their own newsletter.

Sint Niklaas’ experience

As noted in the first chapter, the Sint Niklaas team created digital forums: “Through the platforms Hoplr and Postbuzz, residents in the neighbourhood can exchange experiences with each other.” The interactivity brought a valuable dimension which allowed a community of like-minded people to answer questions and share experiences. However the Sint Niklaas team also noted that “The target group are all inhabitants of the neighbourhood. Some of them don’t have access or knowledge to use the internet. Some of them are not aware of the existence of these platforms so intense communication through other media is necessary.”

Digital exclusion is a significant barrier with many residents, especially those of a more senior age or low income level unable to access digital channels; however social media was used by several partners to amplify the core messages that would sit on other platforms, notably project websites. While patchy in reach, social media has a valuable role in building on core content, with the project website acting as a hub or base resource to which users should be directed. This enables capture of metrics to better understand the success of engagement and target audience interest.

- **Use of videos and pod / vodcasts e.g. on You Tube**

This is a rapidly growing area of communications in community group settings and CA1066 created a series of phone based videos discussing the outcomes of the SHINE programme as it affected the Hastings area in the UK. It is interesting to note that this area was not mentioned in partners’ submissions as much as could be expected and is a huge potential growth area if the right training and equipment is provided. However, IOK produced this short video on You Tube showing an energy master visit to a household. <https://www.youtube.com/watch?v=lK5z->

[6G2NGU&feature=youtu.be](https://www.youtube.com/watch?v=6G2NGU&feature=youtu.be) IOK noted “The growing use of video by energy suppliers who are also making more video promos and podcasts lately,” which is good news for nudging behaviour change among key resident audiences.

- **Face-to-face meetings / social meetings**

Partners showed a wide range of innovative approaches to face-to-face meetings ranging from ‘Open house’ to ‘Kitchen table’ conversations.

An innovative type of social event, pioneered by Parc Opale and IOK are the ‘heat walks’ where a guide takes a thermal imaging device and shows residents around their neighbourhood revealing where the heat is ‘leaking’ from buildings. This has been taken in other partner regions since.

CA 1066 decided to explore working with and through young people to engage the decision-makers in a household. Hastings Borough Council and CA 1066 took young people around the SHINE area giving them opportunity to see heat leaking from different types of properties using a thermal imaging camera. This was followed by workshops on energy consumption and making savings with leaflets to take home to parents and carers. Once this type of engagement became impossible due to the pandemic a local organisation, Culture Shift, was commissioned to make boxes of items which families could use at home to explore energy saving. These included: a card game based on top energy tips, art materials, posters, leaflets, lightbulbs and shower timers.

This work though relatively expensive, had a high success rate of engaging families. They reported that they felt there was real value in the content of the box with parents specifying the lightbulbs were welcome.

“I am looking forward to playing the bingo with the children, they will love all the colouring bits and I have been meaning to get a timer for a long time, but keep forgetting so this will be perfect!”

“We are using shower times and have turned down thermostat 1 degree, wear more clothes”

Partners across the SHINE project report good engagement responses when a shower timer is part of the free pack for residents.

The card game designed by Culture Shift was a late addition to the project. However, there is interest in the UK for making it more widely available.

CA 1066 said used Open House days and said they [were] a strong factor in their engagement programme in St Richards House. Especially impactful was the free use of an empty flat to host talks and meetings with residents. This flat was the first to have the measures installed so it was possible to use it to show residents what the measures would look like in their own flat, as if it were a show home to sell a property. It was also possible to talk people through the heating controls such as the main room thermostat, the boiler and the thermostatic radiator valves (TRV)...”.

Partners in the Campine Region, Sint Niklaas and Zonnige Kempen experimented with various types of meeting or face-to-face interaction from traditional door by door visits, ‘kitchen table’ conversations (Zonnige Kempen) where some neighbours and a project worker met in a local home for a coffee to discuss the issues, reassure each other and find out more. This last method was particularly effective.

Habitat du Littoral found they had most success with group meetings when linked to another social event. Food should be provided and they should be fun and interactive.

While these meetings are time consuming and in the new public health environment of COVID-19 may be more complicated to run safely, they are an essential part of the communications mix. Partners recommended they should be factored into any programme to complement digital and print communications.

- **Observer partners and stakeholders**

Partners held many more meetings with stakeholders and observer partners than anticipated at the start of the project. This was because these organisations proved so helpful. For example, The Ieper and Sint Niklaas teams reported being able to work with people who could be hard to reach due to their relationships with

local welfare and civic organisations. The UK partners found these relationships invaluable when they were looking for additional knowledge and content for their materials or developing new projects beyond SHINE, with national energy organisations such as national Citizens Advice and National Energy Action being generous with their time and advice. IOK had a relationship with Beweging.net in order to reach the inhabitants of the district. They were helpful in using their local contact persons and communications channels.

- **Mobile Information Stands**

Many partners developed mobile information stands to use at events and open days. A large range of materials and leaflets were used on the stalls to support conversations between energy champions and experts and members of the public. This was seen by most partners as a necessary tool. One of the most successful and interesting engagement tools used by partners was an 'Energy Box' created by the Parc Opale team. This contained a thermometer, a water flow reducer, shower stop, power strip, economical bulb, flushing reducer and practical guides. The Parc Opale team cite this as one of their success factors. This energy kit was imitated by the CA 1066 team in its cold weather energy packs and picked up again for a 'Fun Energy Saving Box' for young people and their families. Many partners reported success for engaging people in conversation when a shower timer was included in the materials, particularly where there was a teenager in the household.

- **Study visits**

IOK organised study visits and invited residents. In contrast to the energy masters work there was only limited interest in the trips. On the other hand, Parc Opale found that the visits motivated their project participants. Visits included: a new straw house in Marquise, built with low carbon materials; a renovated house in Ambleteuse: a house that consumes a lot of energy in the 1960s has been transformed into a renovation combining aesthetics and achieving energy performance with the obtaining of the passive EnerPhit label; a wood boiler in Crémarest and Le Wast: use of local wood, carbon neutral; and to an installation of photovoltaic and thermal solar panels.

- **PR / media relations e.g. photo opportunities for local media**

Local media support is often under used and it can be surprisingly easy to achieve coverage interesting good news coverage into local community newspapers, radio and newsfeeds. Sint Niklaas reported that using articles in the neighbourhood and town magazine had the strongest impact in attracting initial interest from local residents.

Kamp C created a strong media relations programme and worked with local authorities to offer a forum for the volunteers: some media published interviews with volunteers (with a household) in their local newsfeed. Kamp C noted that “Some volunteers like their five seconds of fame!”

Kamp C said, “Because of time restrictions, most of the direct communication with the volunteers goes by email. Every time a personal contact is possible: we see it has more effect!”

This suggests a good mix of personal contact, telephone, practical emails, is by far the best approach “In an ideal world we would spend more time in personal contact. Every time we have a personal contact, we see that the volunteer performs a bit more for a brief moment,” explained the Kamp C team.

Example of Interviews:

- <https://www.kampc.be/artikel/2019/08/19/Josephine-uit-Westerlo-verbruikt-extreem-weinig-energie>
- <https://www.kampc.be/artikel/2019/01/25/Peter-energiemeester-in-opleiding-uit-Balen-aan-het-woord>

- **Third party endorsement / word of mouth / advocacy / working with embedded community groups**

Harnessing the influence of third party organisations and individuals is a crucial way to build trust with target audiences and local communities. For example Kamp C collaborated with an energy network operator and succeeded in making contact with households that would not have been possible to reach otherwise. Kamp C said, “Use other partners to reach [wider] types of households. Thanks to the collaboration with Fluvius (the energy network operator) we are able to engage with households in energy poverty.” The leper team worked closely with welfare

organisations to extend its reach to the most vulnerable in the town who needed most input such as recent migrants to the area. This also meant working with translation services.

Another example is CA 1066 who brokered an agreement with a key local government partner, East Sussex County Council, so that all agencies across the county are able to signpost clients and frontline workers to further information pages on health and cost saving behaviour changes on the project website www.warmeastsussex.org.uk; the web pages produced by CA 1066 were sited on East Sussex County Council's public health website. This meant that tips on staying warm and well were linked to the energy efficiency measures from the beginning with the backing of the County Council. It is a strong aid to building trust to harness local authority communications platforms that enhance reach and credibility.

Brighton and Hove City Council noted said they worked closely with other support agencies in the city to endorse and amplify the messages. Agencies included the local Advice Network, the Food Partnership, the Brighton and Hove Energy Services Co-operative and the Hangleton & Knoll Project.

However probably most powerful is peer recommendation through word of mouth. For example when a resident expresses satisfaction in new energy measures to a neighbour this has the ring of authenticity which is powerful for influencing other residents to change their behaviour. Many of the other communications channels if applied carefully have the objective of ensuring word of mouth endorsement. This was a crucial factor in delivering the SHINE programme in each partner area.

- **Advertising**

Given limited budgets for marketing and communications, it is not surprising that advertising did not feature significantly in the mix. However, Brighton and Hove City Council placed an advert in its in-house published magazine for council housing tenants 'Homing In' to encourage tenants to apply for the Warm Home Discount Assistance from their energy company, which is worth £140 off a household's energy bill. This is another useful financial incentive for encouraging engagement. Partners should explore opportunities for free or low costs advertising or editorial with the

communications channels of friendly stakeholders whether in print or online.

- **Window posters and street signage**

Window posters and street signage are important ways to show visibility in a neighbourhood and are a mainstay of community activism from politics to sport to faith. Interestingly, IOK found that the subject matter of energy efficiency was not compelling enough to motivate residents to display posters in the way of politics, sport or show business, for example: “One sign read ‘An energy adviser came by’. We found that our subject matter could not match for interest other kinds of home posters, for example, sport, show biz or politics. So our posters did not work as well as we had hoped on that occasion. It also meant that people were reluctant to put signs in their front garden, so the poster campaign had limited effect.”

The IOK team added, “We will refine the messaging going forwards. Unfortunately, we noticed that there is still some reluctance to display the posters. Doing something to save energy is not ‘hot’ or ‘sexy’. We need to amplify the messages around energy saving to make it more relevant and ‘cool’”

- **Straplines / slogans**

A simple strapline / slogan and logo can help embed project messages. The Sint Niklaas team experimented with the strapline ‘The Warmest Neighbourhood’.

“We choose a very clear communication campaign ‘The Warmest Neighbourhood’ and project logo, so people living in the neighbourhood identified themselves with it.” Through articles in the city magazine, the wider community became aware of the achievements happening in this part of the town.

- **Personal contact by energy champions and experts (covered in more detail in Chapter 4)**

Volunteers are the grass roots of many of the partner initiatives and in their own right they are a crucial communication channel as they meet residents and seek to reassure, build confidence and win people over to new approaches for energy efficiency.

The IOK team explained that supporting volunteers and showing them the value of their contribution is vital to the project: “We ask local authorities to establish a forum for the volunteers: some of them published an interview with the volunteer (and a household) in their local newsfeed.” This is often appreciated by the volunteer who is on the frontline of persuading residents of the benefits of the improvement programme. The IOK team added, “Because of time restrictions, most of the direct communication with the volunteers goes by email. However, whenever a personal contact is possible: we see it has more effect! Our conclusion is that a good mix of personal contact, telephone, practical mails, is needed. In an ideal world we would spend more time in personal contact. Every time we have personal contact, we see that the volunteer responds positively and contributes even more.”

- **Letters and direct mail**

Most partners use letters as a basic introductory way to inform key audiences, especially residents, of what is needed. Letters, emails and direct marketing (addressed mailed marketing literature) are all important basic tools however they are not likely on their own to create the behaviour change and buy-in to a programme on their own. CA 1066 issued regular letters to keep residents informed of developments at each stage; for example, invitations to meetings; briefings on specific aspects of the process such as on cavity wall insulation; leaflets to support the advice work with further information on Keeping Warm and Well in winter and signposting to further information pages on health and cost saving behaviour changes on the project website. www.warmeastsussex.org.uk.

- **Leaflets and door-step leave behind materials**

Habitat du Littoral had leaflets created by a social worker for "Conseiller en Economie Sociale et Familiale" to be given to households facing difficulties. This was able to reinforce key messages but this tool was not enough to encourage behaviour change. Lesson: the more pictorial a leaflet is the better. It should be used as an active part of face to face engagement rather than be sent by mail, or given at an event. It should be developed as a stronger tool to be given every time a new tenant moves in.

CA 1066 also produced posters to notify residents of meetings, events or the commencement of a specific measure as well as

postcards which residents could give to friends and neighbours so they could refer themselves into the project. Crucially, this was not just about issuing more printed paper; the messaging involved behavioural insight (nudge) techniques, for example, use of deadlines to break inertia or ensuring more hesitant residents were kept informed of take-up by other residents, such as when fifty per cent of residents had signed up.

- **Cartoons, infographics and other creative content**

Advice from the Clavis team is that simple graphics such as cartoons are very effective. The cartoons build a bridge with the readers and help them talk with home owners. When designing leaflets and other printed materials consider the humour and cartoons as a tool to translate technical content into something meaningful for residents. Infographics with simple scale and volume diagrams also help convey complex messages in an easy-to-understand way.

- **Home 'show room-style' venue**

CA 1066 made use of an empty apartment in St Richards House, Hastings, UK to allow residents to preview the proposed works, raise questions and familiarise themselves with the benefits being offered. It is a good example of how a building's infrastructure can be harnessed to communicate an energy improvement initiative.

- **Branded clothing and accessories**

Sint Niklaas reported that they had a few give-away merchandise featuring the project logo (e.g. Tote bag, t shirts). Resources permitting, this can be an effective way to position the project amongst target audiences, especially if there's a budget for useful free materials.

- **Scientific diffusion (journal and conference papers)**

Armines contributed to the dissemination of the Shine project results and to enhance its impact, through the scientific communities devoted to building engineering, computer science and automatic control. Two articles have been published in an international journal [1] and an international conference [2]. One poster [3] has been presented at two regional events (campus BSEI and IMT Lille Douai Open Days).

- [1] [A data-driven methodology to predict thermal behavior of residential buildings using piecewise linear models](#) MH Benzaama, LH Rajaoarisoa, B Ajib, S Lecoeuche, Journal of Building Engineering 32, 101523 ;
- [2] [Data-driven Approach for Modeling the Thermal Dynamics of Residential Buildings Using a PieceWise ARX Model](#), Mohammed Hichem BENZAAMA, Lala RAJAOARISOA, Stéphane LECOEUICHE, Balsam AJIB, Building Simulation 2019, Rome, Italy, September 2-4, 2019 ;
- [3] Analyse des performances énergétiques des bâtiments pour accompagner la rénovation, Lala Rajaoarisoa, Mohammed-Hichem Benzaama, Stéphane Lecoeuche, Hauts-de-France, 2019 ;

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SHINE

Analyse des performances énergétiques des bâtiments pour accompagner la rénovation

Contexte:
SHINE: Sustainable houses in an inclusive Neighborhood

► **Objectif global**

- Réduire les émissions de carbone dans les habitations résidentielles,
- Accélérer le processus hésitant des régions participantes pour l'adoption de technologies d'efficacité énergétique et d'énergies renouvelables dans la modernisation des logements résidentiels,
- Développer et mettre en œuvre des techniques de rénovation standard validées dans chaque territoire représenté par chaque partenaire.
- Renforcer le processus de participation à la modernisation et à la réduction efficace des émissions de CO2 des bâtiments.

Mise au point méthodologique :
Approche guidée par les données

- Mise en œuvre d'un système d'acquisition de données intelligent (Smart monitoring) – Création d'une base de données riche en information sur le comportement thermique du bâtiment étudié.
- Analyse des données (Data analysis) – Diagnostic et estimation de la performance thermique du bâtiment.
- Définition des recommandations pour la rénovation (Energy consumption indicators) – Mise en œuvre d'indicateurs pertinents cibant les principaux éléments énergivores du bâtiment.

Guide pour la rénovation énergétique des bâtiments.

Sortie prévu en 2020

- SHINE fournira une méthode d'évaluation du DPE d'un bâtiment et proposera des conseils guidés par les mesures pour optimiser la rénovation des différents éléments du logement.
- SHINE montrera l'efficacité de la rénovation par l'approche du district pour une intégration sociale durable.
- Des résultats sur plusieurs essais, actions de démonstration et études de faisabilité seront fournis pour montrer l'intérêt des technologies nouvelles.
- Plusieurs solutions (méthodes / outils / services) seront données pour montrer l'apport des nouvelles technologies pour la réhabilitation et permettant ainsi une réduction efficace des émissions de CO2.

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Evaluation

Below we set out our main achievements using info graphics (will be added to the end of the project duration).

The Parc Opale team estimates that there was a 30% improvement in energy efficiency for the households they worked with. The Hastings Borough Council and CA 1066 teams estimated that for the 40 residents of one block of flats they worked with the annual savings were 59.89 tonnes of carbon and £22,685 on the energy bills.

Conclusion

Partners explored and tested many ways of reaching and engaging residents in the SHINE areas. The nature of the housing stock and socio-demographic profiles of these areas were similar. However, partners targeted specific different groups within these areas who faced different challenges in their lives and so provided a variety of barriers to engagement in behavior change. This process of testing and sharing our learning as a formative process has provided a rich array of methods which can be used in different combinations in the marketing mix. We have provided details of these challenges and the engagement tools explored in a particular context so that readers may follow our journey in their own locality.

There are some broad conclusions in developing the methodologies. We concluded that crucial elements need to be present to enhance the chances of success:

- a bottom-up approach working with local residents as champions and local organisations who have trusted relationships with the target groups;
- reliable information that the public and energy champions can access easily. Used for raising-awareness, as a script for training energy volunteers, as a source of information for local organisations' knowledge base about available energy efficiency measures and referral pathways;
- creation of a digital platform to provide a centralized, trusted source of information. A website which includes a web form or other referral route into energy advice services

is necessary. Use of social media channels as a platform for residents and stakeholders to share information and build enthusiasm for change is dependent on local factors and the specific groups targeted – for some it works well and for others it is a barrier; use of smart meters and other energy consumption works well where it is accepted;

- creation of a face-to-face platform with residents able to talk to other residents, energy champions and energy experts in groups or one-to-one through advice sessions. The power of word-of-mouth approaches between residents and the confidence built through meeting in groups or with energy champions cannot be under-estimated. The challenges to success are considerable with sufficient local resources to incentivize residents and provide local staffing and leadership being the most dominant of these.

Lessons and recommendations

In this chapter we consolidate the key lessons from the SHINE project from the perspective of partners' experiences. Some of the lessons have been touched on in the relevant preceding chapters so we have tried to draw out the broader lessons rather than repeat too much finer detail which can be found in the more specialist chapters. We have also proposed some recommendations which can support on-going project work that continues beyond the SHINE programme for the benefit of local communities.

Impact of new technology on target groups is vital to address

Dedicated use of 'energy masters' or energy experts by some SHINE partners who visit homes to help offer tips on reducing energy consumption and warm homes has been instrumental in helping to 'nudge' changes in behaviour, especially among harder to reach residents or those who are excluded from other means of accessing advice. For example, in the Campine region, an energy master tuition scheme helped to teach people tips and tricks and helped them save significant amounts on their energy bill. More than 400 households had asked for an energy volunteer visit in the Campine Region. The energy volunteer check for energy poverty among more at risk groups and explain the measures a household can take to become more energy efficient. A related problem is the challenge of digital exclusion. As the Sint Niklaas team reported, "There were problems in reaching people in energy poverty. They don't ask for help themselves. It's harder for the volunteers to get in touch with them. Most families reached are middle class families." Strategies need to work around this problem and that means considering more volunteer home visits and telephone support.

'Cost is king' to many financially precarious households

Interactions with residents need to respect and reflect that cost is king to many financially precarious households.. Sometimes the suppliers of equipment and technology may be both cheapest and most environmentally beneficial but that is not always the case. A potential conflict can arise which needs sensitive management. As the team at Brighton and Hove City Council said, it was a “happy coincidence” that regularly the lowest cost provider in the area was also 100% renewable in terms of electricity. However, where this was not the case, “many people could not be induced to take the low CO2 option”.

Assume zero knowledge on the part of the resident

Again Brighton and Hove City Council noted that, aside from cost pressures, many local residents had limited understanding of the connection between energy use, CO2 emissions and climate change. Understanding the impact of personal actions when confronted with a global issue is challenging for everyone. The council asked residents to complete an Environmental Attitude survey undertaken at the conclusion of each home visit and results highlighted this issue.

Use of Smart Meters

Giving residents the ability to see how they could make cost savings using smart meters and similar technology had a positive impact on residents’ behaviour. Where it was combined with information on using appliances efficiently there was that an even stronger effect. Keeping the messages and content simple was also important. However, there were barriers to installing this technology for some households. Social housing landlords are able to overcome this by installing smart meters into empty properties between tenancies.

Recruitment of volunteers can be frustrated by high levels of disability and health problems among residents

Recruitment of volunteers, usually during or after home visits is for many partner organisations more challenging than might be expected. Many people were facing too many other challenges to

undertake such a demanding role. This would prove especially difficult in housing complexes dedicated to older people or those who have other health problems. This issue isn't solely about recruiting volunteers it also goes to the heart of the challenge in engaging with people whose situation means their priorities and daily needs mean it is harder for them to find room for new initiatives and change.

As CA 1066 reported, "Many residents in St Richards House, Hastings, have disabilities and long term health conditions. These included cancer, anxiety, deafness, dementia and cardiac and respiratory conditions. Some of these issues made engagement and advice particularly challenging. These challenges could be overcome using the team work, good planning, communication and several home visits described elsewhere. Fundamentally, this additional effort could not be achieved without the extra resources being funded through the SHINE project."

A lesson is that a wider community support network is essential; these could be residents' associations, social groups, or informal networks. Some people will however not be a member of these and may be more isolated as a result. Meetings to work on the bottom up approach are important. Some inhabitants can be more easily reached through 'fun' events, others by 'learning' events.

Combination of engagement methods is essential

This came out heavily in feedback in the Communications and Engagement (Chapter 5) but it is worth repeating again. The careful prioritisation of resources of different methods is the key to success. It is worth careful investment in project planning to balance the activities with the ROI and the overall level and type of resources at a partners' disposal

Peer group word of mouth endorsement is critical to residents' buy-in

All partners found 'word of mouth' endorsement to be a crucial lever in translating interest into full engagement in an improvement programme. When the CA 1066 team analysed their resident's self-referral data, more than 50% of residents knew someone who knew about the project in detail, rather than found

out about it through other channels showing how vital peer group endorsements is to motivate new joiners. CA 1066 consequently developed a postcard to help people spread the word further to motivate conversations between residents.

Choose the target area with great care

The Sint Niklaas team reported that they made a wrong turn on the project planning initially by selecting a neighbourhood where there were already many schemes and events happening around urban regeneration. “When we started, we thought it would be easier to launch the SHINE project in a neighbourhood where already much is going on. This turned against us... Inhabitants don't see the difference between all the projects, are tired of going to activities, won't take another engagement in a new project ...” So the team reverted to a neighbourhood which had less of a track record of initiatives in these areas and the reception was more positive.

Key lesson: choose your target audience. Take care with planning workshops, information evenings and other events and pay special attention towards people in energy poverty, but also for inhabitants willing to do sustainable renovations or increasing awareness about energy consumption.

Cost benefits analysis on energy efficiency measures – it's not always clear cut

The IOK team noted that when people showed interest in the district renovation, they could complete a 'self-scan' form. With the information from this self-scan and other information, the resident received a report with possible energy saving measures, an estimation of the cost of these measures and an estimation of the energy saving that these measures would achieve. In this way it became tangible for people to see what the energy saving measures could mean for their pocket. However, in many cases the financial calculation was problematic as the investment needed was quite high and the savings were quite low. So in some cases, the impact was negative as people were not convinced the energy saving measures were useful for them. This is a significant lesson that the technology and the involvement of the resident

does not guarantee a positive conclusion about the installation of energy efficiency measures.

Staff resources and hours

Where there are difficulties in staff resources there will be difficulties in achieving engagement. For example, the Sint Niklaas team explained that they could have achieved a lot more if their project coordinator had not been away for a significant amount of time. The availability of core team members is crucial and by the nature of the type of organisation which form the typical SHINE partner, the loss of even one member of staff can have significant impact. "We could have done a lot more if we didn't have the absence of the project coordinator for quite a long time during the SHINE project", the Sint Niklaas team said. Other partners, for example, Habitat du Littoral and Kamp C also expressed that additional resources for staffing would have made a significant difference to how much engagement could have been done in an area. Parc Opale cite as a success factor their ability to work with small groups of residents which is a heavy use of staff resources.

Integration and Dissemination

Clavis had highlighted the need to integrate different organisations across housing, employment, welfare and advice, the public, private and community sectors as a key factor to creating a sustainable system for providing the societal context for ongoing uptake of energy efficiency measures and behaviour change in local areas. During the course of the SHINE project the UK partners took up this theme, as far as they were able, creating larger partnerships enabling the potential for impact on behaviour change and carbon emissions reduction across a wider area. A partnership, Warmer Sussex, was formed working with a not-for-profit company, RetrofitWorks, which is a membership organisation for contractors working to highly quality assured processes. Warmer Sussex won a government research contract to design and test an innovative model to motivate householders and landlords to increase their take-up of energy efficiency measures. This project works across the whole of East Sussex, West Sussex and Brighton and Hove and involves local authorities, educational establishments and private and community sector organisations. It has been influential with national government in their development of a Green Homes Grant and Landlord Delivery

Scheme for energy efficiency measures which commenced nationally in October 2020. SHINE project lessons have been incorporated into the processes for supporting householders to increase the uptake of energy efficient and renewable energy technologies. For details see <https://www.warmersussex.co.uk/how-it-works> Citizens Advice 1066 were awarded a contract with the other local Citizens Advice bureaux in East Sussex together with RetrofitWorks to provide a fuel poverty programme for East Sussex – the Warm Home Check Service. This partnership has supported roll out of similar schemes in West Sussex and Essex. Citizens Advice 1066 working with Citizens Advice Arun and Chichester has developed a programme for distributing fuel vouchers to pay for heating to low income households facing financial crisis. This scheme is now operating across East and West Sussex and Brighton and Hove with plans to roll it out to Hampshire, Kent and Essex.

Kamp C will use the approach with energy volunteers in the H2020 project “[Energy Measures](#)” – started in September 2020. During the Shine project Kamp C also started an Interreg project “[Rhedcoop](#)” with energy volunteers in two additional municipalities (Kontich and Mortsel)

Zonnige Kempen report that the Woonmeter will continue to be rolled out to households in the region. The rest of the dwellings in Seringenhof is included in the long-term renovation planning and will be renovated when there is budget available. A collective heating system will be the final piece in the process. The team have a lot of experience in new build projects but this will be the first time it is installed using a neighbourhood renovation approach.

Deprivation

The biggest problem many partners had to work with was generalised poverty acting as a barrier to engagement and behaviour change. People needing energy advice had other pressing problems that needed to be dealt with. Advice needed to be flexible depending on the needs of the client. This needed additional resources, particularly to work with debts and other financial problems. The true cost of the work was often higher than had been anticipated. Poverty also played a factor in the

willingness of local people to take part as energy champions. Often their homes were not places where it would be easy to welcome visitors.

Partners discussed over many hours the challenges faced by people on low incomes, and possible solutions. Elsewhere in the report there are methods which partners have found to be more successful, or in some cases not, in reaching and engaging people living with very low income in very poor standards of housing. All partners agreed that it was very important that all levels of government acknowledge and act to make the necessary improvements to the housing stock to ensure that people can afford to be warm in their homes. All partners agreed that reducing carbon emissions needs to be addressed by allocating the required funding at all levels of government rather than relying on both schemes that are too small and patchwork in scale, and the willingness and ability of householders to make these changes themselves.

Appendix- Individual clients helped by the Shine project

Case example 1: IOK – Josephine’s success in reducing her energy consumption

Josephine from Westerlo, 82, has very low energy consumption. Every day she records her meter readings of the water and monthly her meter readings of gas and electricity. Energy master Karel visited because Josephine wanted to know if she could still save. "Because Josephine uses energy so consciously, she has such a low consumption," says Karel.

How did you come into contact with the energy masters?

Josephine: "A message appeared on my computer that I could contact the energy masters. I found it interesting to know if I was doing well and if I could still save on energy. I like to be busy and I like to keep things in order."

What did you want to know by visiting the energy masters?

Josephine: "I wanted to know if I could improve my meter readings. Whether I had high or low energy consumption."

How often do you record your meter readings?

Josephine: "For several years now, I have been recording my meter readings in a notebook every fifth of the month. In this way I see whether my energy consumption decreases or not. If it was a hard winter or I had baked a lot, the consumption was higher. For example, there is a clear difference between 2017 and 2018. I am a bit precise by nature and I like to have control over how much I use. By noting my water levels every day, I discovered a leak in the toilet. I am consciously saving energy. If I use my electric stove

and I have switched it off, I put a cooking pot with water on it to heat it up for the dishes.”

Do you sometimes switch energy suppliers?

Josephine: “I used to participate in the group energy purchase for the province. But this has been abolished. One day, a lady called at the door who examined the energy suppliers. The survey found that Lampiris was the cheapest. In the summer, energy prices are lowest, so that is the best time to switch energy suppliers.”

Why did you invest in wall insulation?

Josephine: “My neighbour had someone over who placed wall insulation and she recommended him. Together with my neighbour, we had polystyrene beads injected into the cavity walls. I got a premium for it so it was very beneficial. My energy consumption decreased from 14000 kWh to 8071 kWh. I am very happy that I had the walls insulated. In extreme heat it stays pretty cool inside, if it was 40 degrees outside, it was maximum 28 degrees inside.”

Karel: “If you insulate and heat indoors, the heat stays better inside and it doesn't cool down so quickly. Wall insulation insulates well, but with Josephine more than in other homes.”

Have you had other things insulated?

Josephine: “In 2013 the roof was insulated and later the flat roof. I also have double glazing. That also makes a big difference.”

Why do you think Josephine uses so little energy, Karel?

Karel: “Josephine uses so little because she is so conscious about it every day. She consumes 14m³ of water, which is very little. She only heats the rooms that are needed and ventilates correctly. The

energy consumption is so low, yet she does not sacrifice comfort. The figures prove that it is possible. Josephine is the ideal example.”

Why did you become an energy master?

Karel: “To help people further and because it is voluntary work. It gives me satisfaction when I can give people advice. I have now been an energy master for six months and I supervise 8 families.”

Are you also busy with energy in your spare time?

Karel: “At home I try to pay attention to it. I use the car as little as possible and the bicycle as much as possible. And have everything isolated at home.”

Is there still room for improvement in Josephine's energy consumption?

Karel: “She could still replace the lamps in the luster with LED lighting, but since they only burn for 3 hours a year, this is not worth the effort. The central heating is also somewhat outdated.”

Do other families also record their meter readings such as Josephine?

Karel: “You would be surprised how many people do this. Half of the families I supervise record their meter readings monthly or annually. This is useful when I go on a home visit. If there are abnormal numbers, we can find out where the higher consumption comes from. For example, I have already discovered that a clock on the thermostat of a heater was set incorrectly, so that the heater ran all day long.”

"You must first have awareness, then you can only invest," says Karel.

Case example 2: CA 1066

Carole's homemade warmer and cheaper to run



Carole (right) talks with the Citizens Advice 1066 warmer homes team

Carole is a resident of St Richards House, St Leonards-on-Sea; a five-storey block built in the 1950s. Carole is approaching retirement age. She had recently been homeless, moving into the block of 40 single flats last year. She has on-going health problems including arthritis and is on universal credit. Carole decided to sign up with the SHINE project and helped plan changes to her flat.

The residents of St Richards are eligible for a tenancy through being older people on low incomes. The majority also have disabilities or long-term health issues. In 2018 the landlords of St Richards, the Christ Church Building Improvement Society, approached Citizens Advice 1066 to see whether the European Union-funded SHINE project might be able to invest in the building to help residents enjoy warmer, healthier homes.

"The heating is easier to use and set than on the [old] electric [heating system]. It seems cheaper and the flat is warmer. The kitchen is certainly warmer. I don't need to use an electric fire."

"I was homeless last Christmas and had two pots of instant mash potato for lunch. This year I'll see what I can afford as I'm on universal credit [welfare benefits] but I'm in my own kitchen and will be able to do something. The CAB [CA 1066] helped me get a cooker for my home. Being warm makes a difference. It's the reassurance of being warm. It's good to be in the warmth and have my own space. Shelter is the most important thing, then food, then heat."

Project partners

