

About HACKS

The objective of the Heating and Cooling Knowhow and Solutions (HACKS) project is to achieve market transformation for heating and cooling (HAC) appliances and improve comfort and health of European citizens.

Across the EU almost half of all buildings have individual boilers that were installed before 1992 with efficiency of 60% or less. The expected energy savings from a speedy replacement are immense.

To achieve this goal, 17 HACKS partners in 15 countries worked together, thanks to the financial support of the European Horizon 2020 programme.

After scanning market actors, current policies and most commonly used products in each country, starting from April 2020 the HACKS partners have implemented involvement campaigns to raise awareness of the economic and environmental benefits brought by good HAC products and solutions:

1. HACKS has motivated households equipped with old and inefficient devices – boilers, water heaters, air conditioners, certain types of boilers and stoves, etc. – to replace them with new super-efficient equipment.
2. In each country, partners have set-up dedicated on-line platforms to assist consumers in their purchasing process. The platforms propose: tools to assess households' needs and provide customised information; best product lists with technical specifications; direct links to suppliers of most efficient products; and advice on how to use and maintain equipment.
3. For those households who need to improve their situation because they feel too hot, too cold, or too humid but who cannot invest in new equipment or can avoid getting equipped, HACKS proposed simple and low costs solutions. It is possible to reduce energy consumption and energy bills while improving winter and summer comfort, air quality and health conditions through the installation of shading devices, thermostats, water saving taps and showerheads, etc.

Beyond households, HACKS has targeted all relevant stakeholders (“multipliers”) that participate in the decision-making process of consumers by setting up strategic partnerships to facilitate the purchase of energy efficient appliances. HACKS placed a strong emphasis on installers but also retailers and consumer organisations because of their proximity to consumers, their capacity to involve them and bring them guidance on energy efficient equipment.

More information on the HACKS project can be found at www.topten.eu/hacks. Most national HACKS website will remain active after the end of the project.

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Executive summary

This document provides an overview of HACKS's campaigns targeting multipliers across Europe over the last year and a half, and over the whole project (three years and a half). It reports the main constraints and barriers and the main strengths and opportunities partners faced during that period. Examples of successful activities carried out with different types of multipliers are briefly described and illustrated. In the last chapter there is a short discussion about the multipliers' engagement process, focusing on the strategies partners found to overcome expected and unexpected drawbacks.

The first period's exceptional pandemic situation created some obstacles to the development of most of activities that partners had carefully planned ahead on their multiplier involvement campaigns, whereas efforts and strategies adopted to overcome the limitations in communication and dissemination, paid off for most partners and 142 partnerships were created. During the second period, additional 103 collaborations were established: The Russian invasion of Ukraine and the consequent economic and energy crisis directed partners to answer the needs relating to the major shifts in the heating market, supporting stakeholders with materials and information on most energy efficient equipment. Over the whole project duration, 245 partnerships were reached.

During the first period some multipliers such as installers were difficult to reach, due to their time and resources limitations, and intermediaries had to be found to make the link between them and the HACKS national teams. The second period was marked by supporting these stakeholders with materials and information, mainly through their associations, in the form of workshops and seminars to help them communicate towards and work with their own targets.

The first period pandemic situation has created a momentum for advocacy work regarding climate change, air pollution, energy efficiency, which had to be seized in collaboration with some stakeholders. Participation in EU campaigns was successful, and the same occurred with the exchanges with other H2020 projects. The second period context – with a war in Europe and a sharp rise in energy prices, led the HACKS partners to produce more policy recommendations for different policy instruments, like regulations and strategies for the EU and national levels – such as EU Energy Labelling and Ecodesign regulations or national climate strategies, financial incentives such as rebate programmes, tax schemes or energy saving certificates and finally public procurement. Multipliers were also able to use the very concrete HACKS input in their own strategies.

The way HACKS message is conveyed to consumers and multipliers had to change, in the face of the circumstances, and had to become more digital. This narrowed the variety of communication channels and left out some target groups. However, it also showed online potentialities which partners explored.

The activities never stopped and the projects outputs of the second period, such as the HACKS calculator were launched. The experience and capacities raised during the project and the new communication channels, boosted dissemination and gave the project the visibility it needed.

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Acronyms

HAC: Heating and Cooling

1 Introduction

The success of HACKS in achieving market transformation for heating and cooling appliances lies deeply on the participation of several key stakeholders - called multipliers because they relay the HACKS' messages to their own target groups. Their wide variety of expertise, network, communication channels and connection with consumers contributes to the development of different and important activities together with the partners.

Multipliers herein described include¹ retailers, installers, national authorities, environmental organisations, utilities and housing associations, universities, professional and trade associations, professional buyers, among others. Each one has its own specific characteristics that will be brought to the partnership, such as contacts network, inputs, language, communication channels, audience and that will improve the project's capacity building. Also their expectations differ between them and require different approaches and collaboration methods and tools which partners have to take into consideration.

Retailers and installers are key actors for this project as they make the direct link between HAC products manufacturers and consumers. Their influence on both is very relevant and crucial for the project, but the technical way to engage and cooperate with each one is very distinct and challenging for installers.

National authorities and decision makers as responsible for policy design and definition of financial mechanisms, their involvement is important to boost market transformation towards more efficient HAC products on the basis of real market data.

Environmental and civil organisations support consumers decision making and have direct contact with specific special needed target groups. Their contact's network is usually very broad and organised and additionally they usually have well established projects, campaigns and communication channels where these issues can easily be integrated.

Utilities and housing associations are focused on their brand reinforcement and on their clients' satisfaction. Participation in projects like HACKS is appreciated because it is good for their image in the market. Moreover, utilities have legal obligations regarding energy efficiency.

Universities and investigation centres can provide the technical knowledge essential for the development of project specific content and activities and for the collaboration with some stakeholders. They benefit from updated market data.

Professional and trade associations, though generally not energy efficiency-oriented, may profit from the project simple language and overall reach, to promote their associated technological investments and expertise. They represent a good starting point to contact and engage retailers and installers.

Professional buyers (private and public) can profit from detailed specifications and tailored information to be used in their calls for tenders in order to reduce their operating costs. Green procurement is globally progressing at a low pace and price is still the prevalent factor in the decision making. That is why, when they exist, shining examples are important for market transformation.

At the beginning of the project, each partner has prepared a multiplier involvement campaign where they have designed a target activity plan with the identified relevant stakeholders necessary for the successful implementation of the project. This plan was in constant adaptation and reporting until the end of the project.

The following chapters describe and illustrate the main activities, successes and barriers reported by partners during the project, i.e. between September 2019 and February 2023.

¹ Consumer organisations are included in the consumer involvement campaign.

2 General overview

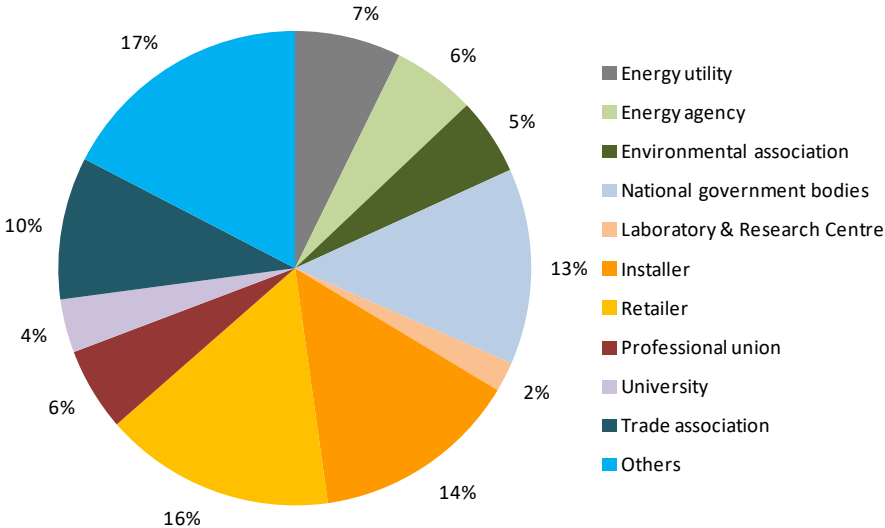
All partners have developed activities with multipliers and most of them engaged with new ones. After the Corona virus pandemic that affected the HACKS activities during the first part of the project, the second period saw the development of public meetings, participation in events and face-to-face contact campaigns. Although distance was a new way to carry out certain important activities, online activities encouraged new contacts, new types of dissemination and provided visibility to the project.

Aside from this unexpected drawback, reaching and involving relevant stakeholders is generally complex and time consuming. To support this task, partners relied on previous partnerships to boost the project development and outcomes, which represent around 20% of the 245 partnerships reported, or on ongoing partnerships started for other projects, national or European, corresponding to 31% of the total partnerships.

Synergies with energy-related H2020 projects, such as Label2020, HARP or BELT or BEACON were common in several countries whether the HACKS partners participated in the consortium of those projects or not. These joint efforts favoured information exchange and increased the outreach of the projects.

Moreover, some partners collaborated with European organisations, such as Coolproducts and ECOS, regarding energy labelling and Ecodesign measures with the intention of making advocacy work. These campaigns were relevant because the products, the concerns and the audience were shared with HACKS messages, which could be amplified and enhanced, both to consumers and decision makers.

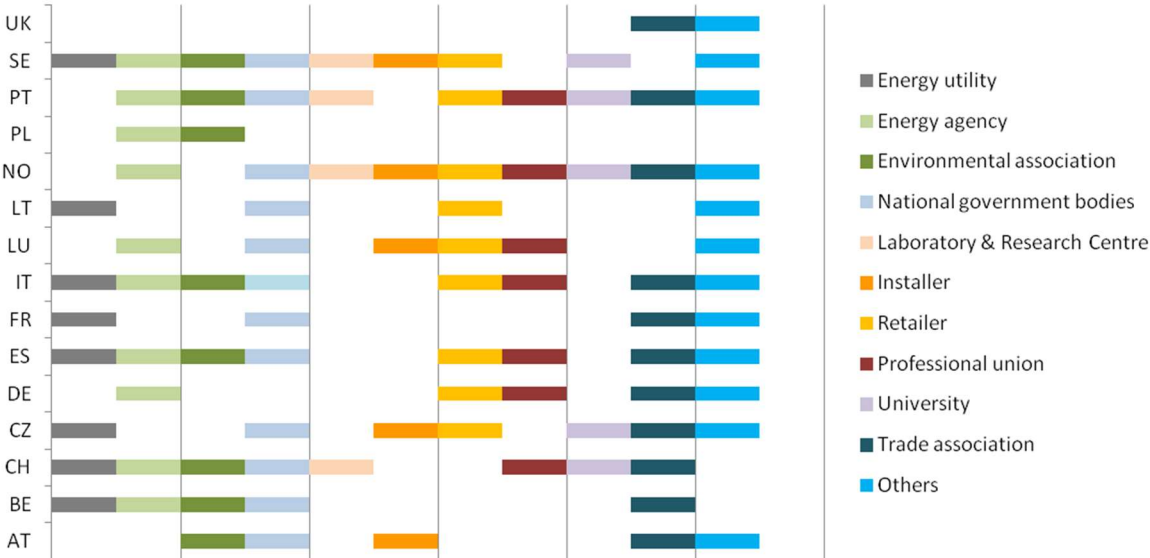
Graph 1: Distribution of HACKS partnerships established with multipliers between September 2019 and February 2023



Installers have been qualified by partners as not very accessible and as the hardest multiplier to involve. In fact, only five partners have established partnerships with them, even though in Graph 1 this category represents the third main category of the partnerships. This high figure corresponds to a large installer network that one of the partners reached, which is an exception. Regarding the most accessible type of multiplier, there is not a prevalent opinion, as it depends on the HACKS partner's network and ongoing projects, but in general they are those in direct contact with end-users.

However, even under difficult circumstances, partners have achieved a diversified stakeholder's portfolio, covering the most relevant multipliers for the project, as shown in Graph 2. It is worth mentioning that these figures correspond only to the established partnerships and exclude first contacts which have not produced any development.

Graph 2: HACKS Partnerships ongoing by country



Though some planned project activities were slowed down, partnerships did evolve and became more numerous on this second part of the project. Partners developed new strategies and ideas to overcome the difficulties and limitations found on the first period. The project outcomes were released and the project visibility increased. Activities implemented by national partners were monitored and, whenever possible, documented.

3 Main constrains and barriers

The main constrain during the second half of the project was the economic crisis situation, due to Coronarivus pandemic and the Russian War in Ukraine. Over the past year, a lot of organisations either closed down or reduced their working capacity which changed and delayed communications and activities. Sustainability and energy efficiency, already difficult issues to deal with some stakeholders in a normal situation, were definitely not a priority for them under an economic crisis.

Stakeholders that were already difficult to address during the coronavirus pandemic remained as difficult to involve due to the economic crisis (see Graph 3). Installers are nominated, by HACKS national teams, as the hardest multiplier in terms of engagement. The main reasons stated were the fact that, in general, they are not organised in big associations and work as independent technicians with products and manufacturers/brands already known to them. A lot of installers are not present on internet which makes it more complicated to find the contact details. This professional group is generally overloaded with work and too busy complying with different sanitary and safety regulations to dedicate time to areas from which they do not recognise any benefits. The lack of economic, time and human resources and their inexperience in these themes might be another reason for being so closed when approached by HACKS partners. In most cases, the information provided did not seem attractive enough for them and there was no guarantee that it would be conveyed to consumers.

Graph 3: Main barriers associated to installers



Although the HACKS project has developed lists of best products in categories that were new for most partners, their development and updating was not greatly impacted by any setbacks. However, the planned project activities that should have followed the launch of these product lists were substantially affected, not because engaging multipliers was compromised, but because the ones already programmed, within partnerships, didn't have the expected impact due to the economic crisis, that lead the consumers to opt for cheaper equipment. Partnerships

including dissemination activities were whenever possible carried out through online channels. Other actions like trainings and seminars were difficult to organise and were therefore carried out by e-learning.

4 Main strengths and opportunities

Despite the many barriers encountered, some opportunities have occurred (see Graph 4). A new momentum for policy work was created helping HACKS being more active in subjects like energy poverty and air pollution: some partners seized this new perspective to advocate for efficient heating system as part of the solution. These actions were maximised through the collaboration in campaigns coordinated with other European organisations and adapted at the national level.

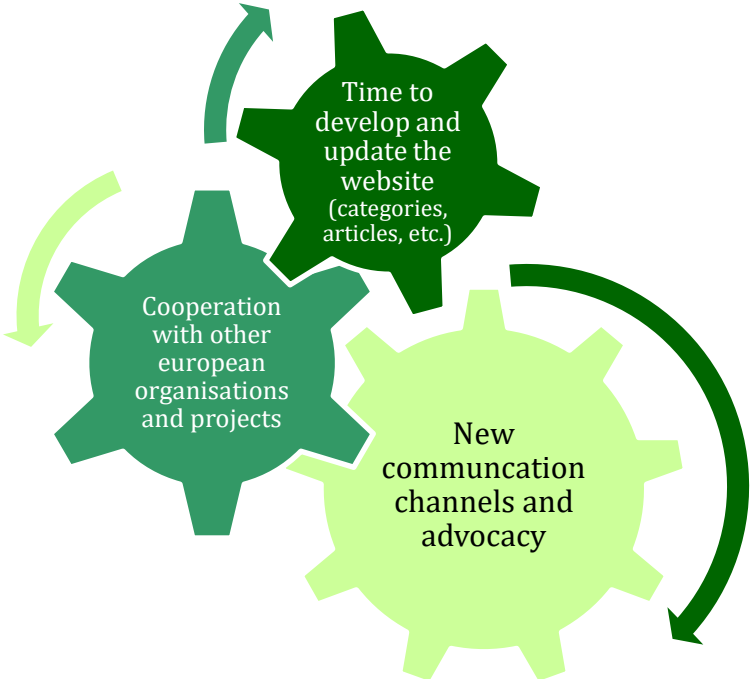
The war and the economic crisis led to an energy crisis, which in turn led to a massive increase of the heating equipment market. When possible, the HACKS teams took advantage of this change, promoting the most efficient solutions and multipliers' involvement in energy efficiency.

HACKS websites development and update work with new product categories, articles, information and new features, crucial for multipliers engagement, were developed by partners reinforcing the existing platforms and allowing the development and fulfilment of new and planned activities. Multipliers, already involved in partnerships, dealing with end-users in particular were interested in dissemination work and in using some of the project information and outputs. Under the circumstances, these activities mainly relied on social media channels and internet.

Some partners were in relation with or were themselves stakeholders of other H2020 or national projects which, under the circumstances also tried to keep-up their activities and therefore sought for collaboration to boost their results.

When dealing with stakeholders, it is important to understand the advantages they want to obtain from a possible partnership with HACKS and remember that their timing and flexibility might not be ideal for partners. They usually seek for free content for their associates, targets or clients, publicity, to be associated with a renowned agency or NGO, cooperation in projects of their own, or they have to fulfil legal obligations. The energy utilities, for example, must demonstrate to the national energy regulator their efforts in improving energy efficiency among their clients, so usually they are receptive to engage in projects such as HACKS. Some partners have been successful in approaching them. Many environmental NGOs and energy agencies working on these topics found useful to join forces with HACKS partners. The next chapter presents examples of good opportunities and successful activities.

Graph 4: Main strengths and opportunities



5 Successful activities carried out by partners

Despite the limitations described above, partners managed to carry out interesting and relevant activities. Over the 245 partnerships reach, examples are presented bellow according to multipliers typology.

5.1 Activities with Energy utilities



Partner: EWZ is an energy utility of Zurich, also operating in areas of Eastern Switzerland

Activities: Rebate programme for comfort fans compliant with the HACKS/Topten selection criteria, financed by EWZ and implemented on Topten.ch. A similar new rebate programme for heat pump water heaters is planned

Partnership image: Submission form on Topten.ch for rebate programme

GESUCH FÜR
Privatpersonen →
Ich habe Geräte für den Privatgebrauch gekauft.

GESUCH FÜR
Liegenschaften und Unternehmen →
Ich habe Geräte für eine Liegenschaft oder ein Unternehmen gekauft.

**Förderbeitrag für energieeffiziente
Geräte mit dem Topten Label**
Für ewz Kundinnen und Kunden
der Stadt Zürich

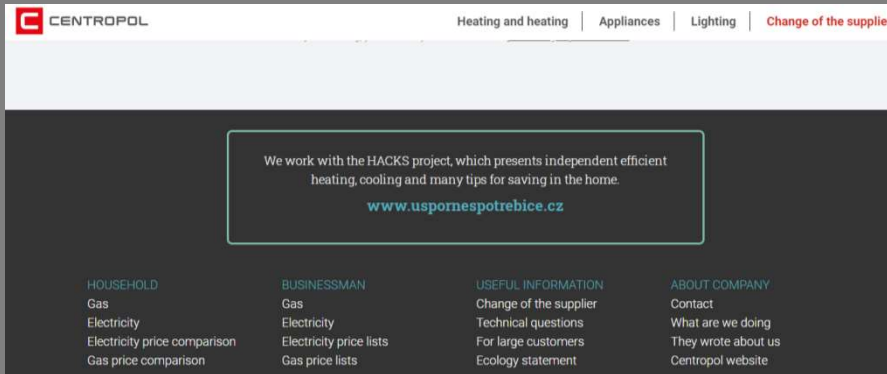
ewz **topten.ch**



Partner: Centropol Energy is a Czech supplier of electricity and gas

Activities: On their website this energy utility provides their clients a set of tips to promote energy savings. The tips are inspired by the HACKS project and they announce the partnership with the link to the project website

Partnership images: Link on website tips



Partner: Fundación EDP is the foundation of the electricity company EDP in Spain

Activities: Workshops organised together targeting vulnerable people

Partnership image: Workshop presentation screenshot



Partner: Innogy is a Czech Republic gas provider

Activities: Leaflet on energy saving tips and series of infographics from Topten/HACKS

Partnership image: Facebook post screenshot



5.2 Activities with Energy agencies



Partner: ENOVA is the Norwegian energy agency working in energy and greenhouse gas emissions

Activities: Development and distribution of 800 letters to oil heating owners, inviting them to an open meeting (attended by 100) about energy efficient HACKS solutions²

Partnership image: Meeting picture



Partner: Energikontor Väst is a Swedish regional energy agency, supporting organisations and individuals to move towards sustainable energy systems

Activities: Topten Sverige is a standard tool in their work, providing knowledge and support, not only on HAC equipment

Partnership image: Presentation screenshot



Partner: Energikontoren Sverige is the unifying organization of regional Swedish energy agencies and municipal energy advisors

Activities: BSPonEE project is a partnership between several entities of Baltic region to form a multipliers platform for energy efficiency, providing knowledge and support, not only on HAC equipment

Partnership image: BSPonEE website page



² The Municipality of Bodø (National Authority) was also involved in the organisation of the event

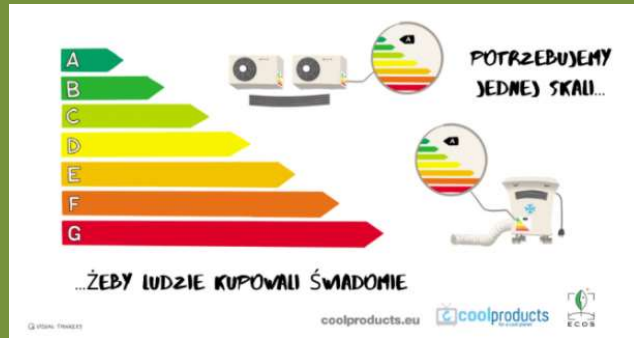
5.3 Activities with Environmental associations



Partner: European Environmental Citizens Organisation for Standardisation (ECOS)

Activities: Joint campaign on portable AC to call for a single energy label for all types of air conditioners

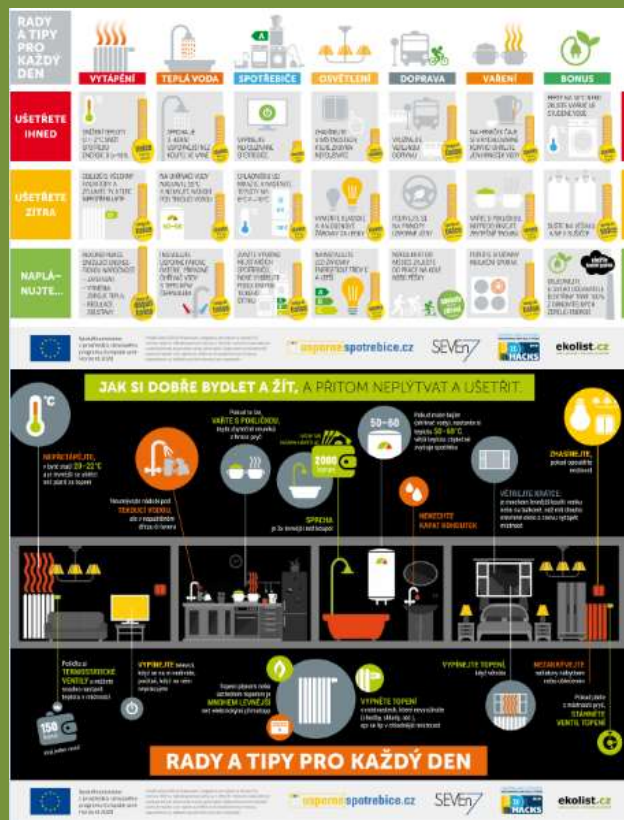
Partnership image: Infographics translated in Polish for a website article and social media



Partner: Hnutí DUHA is a Czech Republic environmental organization

Activities: Newsletter distribution with HACKS infographics, 80 copies

Partnership image: Infographics translated in Polish for a website article and social media



5.4 Activities with National authorities



Partner: FAIRE network is the French public service for building renovation provides free advice from experts

Activities: Mutual websites links exchange

Partnership image: Partners website screenshot (adaptation)



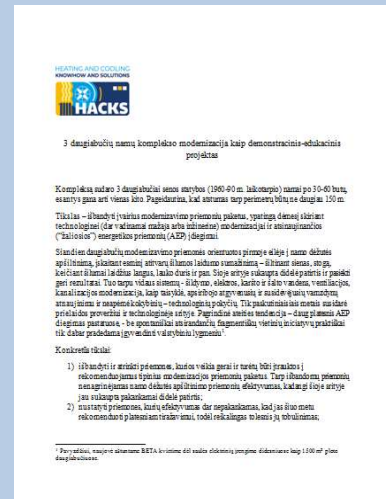
that



Partner: Housing Energy Efficiency Agency is the Lithuanian governmental agency working on the implementation of national policies for multifamily houses renovation

Activities: Preparation of a catalogue with technical specifications, which include HACKS database, to renovate multifamily houses

Partnership image: Draft catalogue screenshot



Partner: UGAP is the French buying agency for public procurers

Activities: Dissemination of the translated public procurement guidelines

Partnership image: Public Procurement Guidelines cover





Partner: ENCPE is the Portuguese National Strategy for Green Public Procurement and guidelines

Activities: Display of Topten/HACKS procurement guidelines

Partnership image: Website screenshot



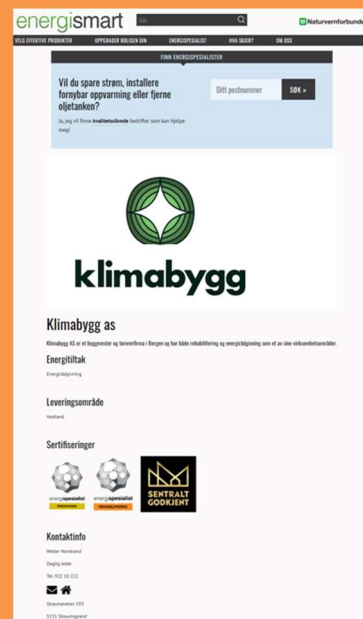
5.5 Activities with Installers



Partner: Klimabygg is a Norwegian local installer, approved as Energyadvisor

Activities: Installers web profile on energismart.no (Norwegian Topten) where they receive online requests through a contact form. Approval of installers through qualifications and experience with customers checking is done beforehand.

Partnership image: Screenshot of installer profile on energismart.no



Partner: Narvells AB is a Swedish representative of installers

Activities: Discussions and suggestions about criteria, tips/advice, product lists and other Topten/HACKS features.

5.6 Activities with Retailers



Partner: Idealo is an online platform for products selling

Activities: Online checking by co2online and deep links on topeffizient.de

Partnership image: News from the beginning of cooperation



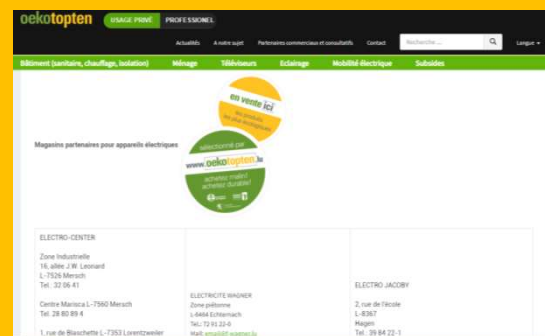
Activities: Meetings with AIRE and Federdistribuzione retailers' associations to discuss the project have showed several results. About 21 members, in particular those already involved in other H2020 projects, joined as partners.



Partners: Hoffmann-Freres is a Luxembourg retailer of construction materials

Activities: Raising customers' awareness on the project messages. Information exchange. Regular visits were made to the retailer shops.

Partnership image: Partnerships list on website



Partner: Media Markt is the Swedish major retailer of electronics, appliances, heat pumps etc.

Activities: They used Topten as a reference tool to improve their energy efficiency internally and also making sure they have the most energy efficient products for their customers.

5.7 Activities with Professional unions



Partner: ANQIP is a Portuguese technical-scientific association that promotes quality and efficiency in building services

Activities: Sanitary tapware new category criteria were based on their national voluntary label criteria. Joint press release and green minute on national TV.

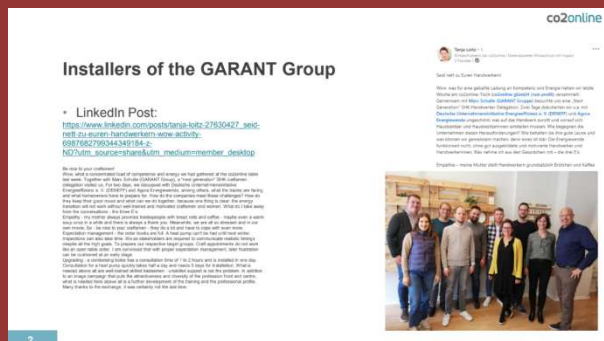
Partnership image: Green Minute announcing new category and collaboration



Partner: GARANT Group a marketing and purchase group for medium-size companies

Activities: Meetings with them and the Ministry of Economic Affairs and Climate Action, about heat pumps installation and solutions for high demand

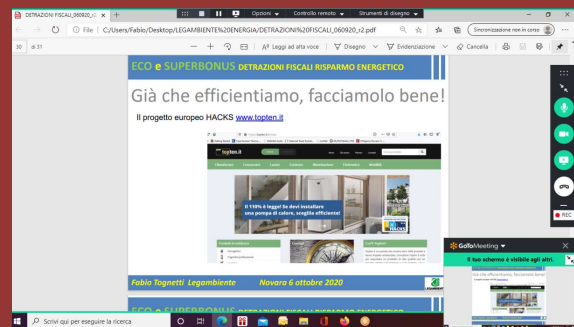
Partnership image: News on LinkedIn post



Partner: Ordine degli Architetti di Novara is the Novara city local association of Architects

Activities: Workshop for several stakeholder's

Partnership image: Event audience picture



5.8 Activities with Universities



Partner: Fachhochschule Graubünden is a university in Eastern Switzerland focused on architecture, engineering, digital sciences, mobile robotics, among other areas

Activities: Research project to test viability of air conditioner units on roofs³

Partnership image: University laboratory facilities



Partner: Charles university is the head of the university in Prague.

Activities: Infographics delivered and several more approaches discussed.

5.9 Activities with Trade associations



Partner: ATTB is the Belgium Association for Thermal Technicians

Activities: ATTB is part of a core group, created with several trade associations, that meet and exchanges information relevant for the HACKS project. Afterwards ATTB presented the project to its 23 heat pumps industry and 2 circulation pumps industry members

Partnership image: Online core group meeting



³

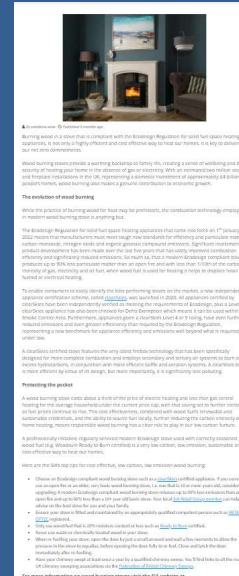
Project supported by EZK (energy utility)



Partner: SIA is the English Stove Industry Alliance

Activities: Article on website Topten.uk with Top tips given by SIA

Partnership image: Event audience picture



Partner: CNA is the Italian trade association of craftsman

Activities: Joint event for low-income families, pensioners and elders for dissemination of several materials

Partnership image: Event audience picture



5.10 Activities with Other multipliers



Partner: Klimaaktiv is the Austrian climate protection initiative that promotes climate-friendly technologies and services

Activities: Networking with professionals. Online article for the heating season (published on klimaaktiv website and social media channels)

Partnership image: Heating season flyer





Partner: The REPLACE project promoted the installation of biomass boilers in the residential sector in Castilla and León

Activities: Workshop organised together for biomass boilers installers

Partnership image: Workshop presentation screenshot



Partner: TZB HVAC website portal intended to inform about HVAC and other building technologies

Activities: Workshop organised together to promote new ideas for HVAC experts

Partnership images: Workshop audience picture



6 Discussion and Conclusions

The first half part of the HACKS project has been very challenging. Selecting and engaging key multipliers was critical for the success of project but due to the pandemic, most partners could not align with their initial plans. To overcome the delays some strategies were conceived to adapt and reschedule the project developments given the multipliers' specific constraints and timeframe. During the project's second half, this strategy proved right: the existing partnerships deepened and new ones were created, oriented to meet the initial plans.

The value of the HACKS project relied on the websites content so the effort to develop new categories of Topten product lists, to update existing ones and add other relevant information that could enrich them became a priority. These activities also attracted multipliers, especially when they were looking for concrete elements when facing the need to reduce energy consumption during the winter 2022 / 2023 because of the energy crisis.

Relying on and strengthening partnerships established before the project or running for other projects also proved to be effective in developing and keeping some activities ongoing.

The challenge to involve installers, the less accessible multiplier, could in some cases be bypassed thanks to the involvement of their associations and other intermediaries, in direct contact with them, that could convey the HACKS messages and make the first step into a partnership.

Another approach regarding communication materials and channels had to be considered, by most partners, in face of the constraints. For example, face-to-face activities were replaced by online meetings and workshops, and leaflets were kept only in digital form. E-learning activities were carried out more frequently as well, since partners did explore opportunities that weren't foreseen in the beginning.

Topten materials and information were continuously used by multipliers, reinforcing the project because multipliers added their insight, name, image, dissemination power, etc. to the Topten/HACKS tools. They had on their websites links to the most efficient product list; They relayed and disseminated the HACKS infographics with energy saving tips, its social media posts, its leaflets about energy poverty including the HACKS criteria, its public procurement guidelines; They jointly organised workshops, training sessions, wrote articles, used videos internally or directed to installers and consumers and used the heating and the cooling calculators. Several found inspiration in the HACKS policy recommendations and rebate programmes to support investments in energy efficient heating and cooling technologies and energy refurbishment.