Exchange of experiences with previous replacement campaigns and their embedding in policy programmes, SWOT of facilitating policy measures

Report D2.4

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1 | General information

With heating and cooling (HC) comprising 50% of the final European energy consumption and over 68% of all gas imports (European Commission, 2019), permanently reducing consumption and increasing the share of renewables in this sector is paramount for a successful Energy Union. In particular, the fact that 80 million out of 120 million installed space heating systems in Europe currently achieve an energy label class C or D gives rise to major concern (EHPA, 2019). REPLACE therefore aims to boost the phase-out of inefficient and old heating and cooling systems by targeting consumers, investors/owners as well as intermediaries (installers, plumbers, and chimney sweepers) and helps them to make or support the making of informed decisions.

In WP2, an analysis of infrastructural requirements, legal and regulatory framework for the decarbonisation of the heating and cooling sector is carried out. Task 2.4 of WP2 identifies best practices and synergy potential for cooperation at the municipal and regional level though selected replacement campaigns. Possibilities for cross boarder knowledge is explored.

Task 2.4 was **to search for previous boiler or oven replacement campaigns** that targeted the diffusion of alternative technologies in the residential (but also other rather more fragmented) heat sectors in target regions (like hotels, schools, other public buildings etc.). Campaigns targeting single technical measures like insulation of the uppermost ceiling or an improvement of the existing heating and in-house heat distribution system were also of interest.

For each campaign there's an overall concept and elements described, its regional outreach, communication activities, on- and off-line campaign activities, the supporting policy measures and instruments, whether the aims where achieved, challenges/difficulties experienced, lessons learned as well as a SWOT of the measures and instruments with regard of the aims of the campaign/action.

2 | Executive summary

Altogether, 22 campaigns for promotions of heating and cooling equipment that had taken place inside the REPLACE regions are described in detail. The directed campaigns into replacement of old, inefficient heating and cooling equipment did not take place in all regions. One of the most influential factors was the financial incentive, but Bulgaria for instance does not offer any. Hence such regions are facing even more difficult task in encouraging the investors for replacement.

Furthermore, the report presents five more campaigns that occurred outside the REPLACE target regions (Denmark, UK, Czech Republic and Italy). Although the main actors for those five regions will not be accompanying the REPLACE campaigns, the main ideas and methods of campaigns have been summarized and the approached can be adopted by REPLACE partners.

Replacement campaigns inside the REPLACE target regions show a variety of different targeted approaches that strive to the same goal. From the aim to directly targeting the replacement of inefficient equipment or indirectly with basic promotion of energy efficiency through open door day's events or general financial incentives on either national or local level. The core campaign approaches can be distinguished as:

- targeted campaign for replacement of inefficient heating generators (Austria, Macedonia, Germany, Slovenia)
- promotion of energy efficiency and renewable energy sources on national or local level (Bosnia, Croatia, Macedonia, Serbia)
- directed measures for the improvement of air quality (Bulgaria)

Campaigns that were already carried out and focused on inefficient heating generators were primarily targeting old and inefficient fossil-fuelled stoves with inverters, pellet boilers or fuel oil boilers. All this are going to be addressed and targeted throughout REPLACE campaigns.

The novel approach to replacement of inefficient heating equipment in residential sector is with the support of cohesion funds by EU Structural and Investment Funds, the campaign that took place in 7 Bulgarian municipalities. Although the attractive financial leverage and well-positioned municipalities, that are able to reach target residents, the campaign still has the ability to learn from experiences on the field, improve and transpose to other municipalities.

REPLACE campaigns will build on already carried out campaigns inside and outside REPLACE target regions. The report D2.4 shows an in-depth overview of the work that has already been done on national and local level in order to replace inefficient heating systems and to improve air quality.

3 | Replacement campaigns in project target countries

3.1 Campaign "Out of fuel oil in several Lower Austrian Municipalities", AT No 1

3.1.1 Description of action, actors, outreach and targets of action

In this section **a telephone exchange on experiences** with an employee of the Energy and Environment Agency of Lower Austria (ENU), a subsidiary organization of the Lower Austrian State Government is given. ENU initiated **a pilot fuel boiler replacement campaign** covering **eight municipalities in Lower Austria** that was **implemented in summer and September 2019**. Some first results have been achieved.

Links for further information

- https://www.enu.at/raus-aus-dem-oel
- https://www.enu.at/energiebewegung-raus-aus-dem-oel-leitfaden

3.1.2 Overall concept and elements of the campaign

3.1.2.1 Preparatory activities

- **Survey** by ENU on location and ownership of inefficient boilers and on how old they are:
  - In Austria, the municipalities are in charge of air pollution control. Theoretically they can decommission heating systems that do not fulfil air pollution standards.
  - Air pollution of operating systems is controlled by local chimney sweepers, who occasionally also establish a kind of a database on installed heating systems and related specifications. Municipalities, due to their responsibilities, have access to those databases.
  - Therefore, chimney sweepers and municipal energy officers were asked where old and inefficient boilers are situated and how many there are.
- **Creation of the campaign** by a regional Local Working Group (LWG), steered by ENU
- **Meetings** with local installers in the municipalities, steered by ENU

3.1.2.2 Communication activities, on- and off-line campaign activities

- **Informing** targeted end consumers on campaign offer
  - Via letters from mayors, which in Austria are allowed to contact households directly
- **End consumers** can announce interest to municipal office or directly to ENU
  - ENU, or its energy advisers, respectively offer free of charge energy advice to end consumers

3.1.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

Accredited, independent (public) ENUs' energy advisers (representing a "**one-stop-shop**" functionality) get into contact with end consumers after the initial request (e.g. at municipality). The first three times are for free:

- 1st face-to-face visit: stocktaking, recommendation regarding best fitting RES system, offer a list of "recommended installers" that became "listed" due to a special "package deal offer" agreement with the States campaign implementing agent (ENU), the end consumer can ask several listed installers for offers comprising such package deals

The listed installers' package offers all represent a "**carefree boiler replacement package**" **for end consumers** – within a limited target region and time – consisting of

- the boiler replacement for the RES system recommended by an independent energy advisor,
- the commissioning of sub-contracts with entities responsible
  - for disposal of the old heating system and fuel,
  - or in case of sudden break-down a mobile heating container for bridging over installation of the new system,
  - for related electric installations
- the management of permission and funding issues.

Installers that commit themselves to such a package solution deal become listed as "recommended installers" exclusively referred to end consumers by the public one-stop-shop mentioned before (the reference is to the list, not to a specific installer). The majority of installers who attended the local workshops, where the action was presented, accepted the conditions surprisingly well.

- The "**listed installers**" requested by the end consumer to give an offer (typically two to three) all send their package deal offers to both the end consumer and the "one-stop-shop"
- 2nd contact between end consumer and energy advisor: the latter checks the installers' offers whether they are complete, reasonable and comparable and asks installers for any supplements/clarifications necessary, on that basis the end consumer decides which offer he/she accepts

3.1.3 Supporting policy instruments

Financing package of the policy program, consisting of the following elements:

- The State of Lower Austria plans to compensate for any lack of access to federal boiler investment grants (stop-and-go policy). Furthermore, the State itself offers grants for fuel switches on top of the federal grants. This comes to a total of about 8,000 EUR per replaced fuel oil boiler.
- The State's campaign implementing agent, ENU, made a deal with private banks that agreed to offer loans that have instalment rates in the range or even below the actual annual monetary energy saving achieved. In other words, this means that the loan term can be extended.
- For end consumers that cannot afford a boiler replacement (despite grants and low instalment rates) or are too old to get a loan, it is currently under discussion that the State finances the loan required by a mortgage; as banks otherwise would make relatives (if any) of low income or elderly people liable for any loan repayment shortcomings (which might be a severe barrier).

- The State's campaign implementing agent made special deals with RES equipment and fuel suppliers: End consumers that switch to pellets in the first year of operation get 4 tons of pellets for free (2 tons are financed by the State, 2 tons by the pellet industry). Furthermore, discussions with heat pump manufacturers were started to ask for investment discounts (however, the talks do not seem very promising).
- Another point of contention is whether or not people who want to avoid contact with banks should be able to opt for a "carefree boiler replacement package" from "listed plant/energy contracting companies". The contractor in that case would own the new heating system and sell heat like an "in-house" district heat supplier.

3.1.3.1 Monitoring, target achievement

- 3rd contact between end consumer and energy advisor: feedback house visit after one year of operation with new system

3.1.3.2 Challenges/difficulties experienced, lessons learned

As this action is a pilot initiative developed by ENU and its independent energy advisors, only certain municipalities were selected. Energy advisors are already residing and are very active in the community of most of the selected municipalities. As the actors involved know each other, it was assumed that the concept that was mutually developed would have high chances for being actually implemented.

It turned out that those municipalities where the activities started earlier, namely in summer 2019, made more progress than those who became active in September 2019, as fewer activities have taken place there.

It was also reported that information about the action for end consumers should not be specifically addressed to the group of owners of old, worn-out fuel oil boilers. The group found itself being stigmatized and therefore did not like that approach at all. One lesson learned, therefore, is to avoid stigmatizing certain groups, but to always invite all residents to planned actions.

Another lesson learned that points in a similar direction is that it is wise not to make feel people uncomfortable when talking about why they should switch away from oil, coal or gas to renewable heat sources. The majority of rural end consumers do not like to feel threatened by scenarios that show what could happen to us and our environment, if society fails to cope with the climate mitigation measured required to limit temperature rise to 1.5 to 2.0 °C.

They feel much more comfortable if they get positive messages about the benefits a fuel switch for renewables offers to them, their children, neighbors their local community and region (personal, social, environmental, air, employment effects etc.). Some people also like to hear that the money spent for oil, coal or gas does not go to some large companies or non-democratic regimes abroad anymore, but stays in the region and helps people have a better life there.

A third lesson learned so far is that the policy program has become somewhat complex by now. It is not clear to all parties who is responsible for which tasks or who should make the first contact (i.e. how to initiate the first contact). It shall be made clear, especially to end consumers, who the main contacts are and what their responsibilities or offers are.

3.1.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 1: SWOT analysis of replacement campaign action ***AT No.1***

Replacement campaign action AT No.1		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGTH**	**WEAKNESS**
	Free of charge energy advice One-stop-shop principle Package solutions offered by installers Financing package Joint action of local & regional actors Lessons learned regarding communication	Approach currently relies on personal relationships. It is questionable how far the approach can be replicable in other regions. Some boiler manufacturers did not find the approach helpful to their business model; they showed no interest to participate or were not happy at all about the planned actions. The work force of installers is far below that that will be needed by 2021 onwards (see below).
External origin	**OPPORTUNITY**	**THREATS**
	The Federal Government of Austria takes the decarbonisation of Austrians business and residential sectors very seriously – also as a possible answer to cope with COVID-19 related economic crisis. It is expected that more public and hopefully private money goes into decarbonisation measures. Other Austrian regions are also interested in approaches for maintaining a liveable environment and how the energy supply can be organized more sustainably.	The COVID-19 pandemic lead to economic crises both on the supply and demand side. As a consequence, prices for oil, coal and gas went down. Many end consumers still using fuel oil boilers already bought their fuel oil needed for the upcoming heating season. Despite a higher volume of public funds to grant money for a fuel switch for renewable heat sources, it is expected that fuel oil end consumers won't be much interested in a fuel switch until that winter is over (also for practical reasons as many fuel oil tanks accommodate enough fuel oil for the following year).

3.1.4.1 Effectiveness of the campaign, measures not covered at all

The campaign started off promising especially in those regions where implementation phase has been longer than in other regions. All target municipalities will face a difficult upcoming heating season as many owners of old fuel oil boilers took the opportunity to bunker cheap fuel oil well before the winter starts.

The federal government plans, however, to generally forbid a prolonging fuel oil usage after a break down or a decommissioning of an old fuel oil boiler due to environmental constraints (e.g. emission limits – here the municipalities are in charge in Austria). The related regulations shall already be put in place by the nine Austrian Federal States in 2021.

The States are therefore highly interested in joint Top-down and Bottom-up policy programs and measures that help people affected by such regulation to better cope with the challenges and consequences those regulations may make demand on them.

In the light of the upcoming regulations it is not yet clear what exemptions will be made for what groups of society and how to ensure that vulnerable groups like low income households or elderly or not healthy people or single mothers are not overburden. Campaigns need to better address and work out more reasonable approaches and solutions for such vulnerable groups in the long term.

3.1.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

3.1.5.1 Transferability

In general the approach developed and being implemented in Lower Austria at several municipalities holds several elements that look promising to be implemented in other Austrian regions as well. As described in the SWOT above there are many ideas that are worth being discussed in other regions as well.

As a big challenge is given by the fact that the number and capacity of installers is not sufficient for the plans regarding the decarbonization of the Austrian heating markets, it is worth thinking about how one can go about not increasing the burden of installers (i.e. not putting additional responsibilities on their shoulders). Therefore, the Austrian Local Working Group established in the Austrian REPLACE pilot region State of Salzburg proactively aims to strengthen the involvement of manufacturers of heating systems based on renewable heat sources into the campaign activities.

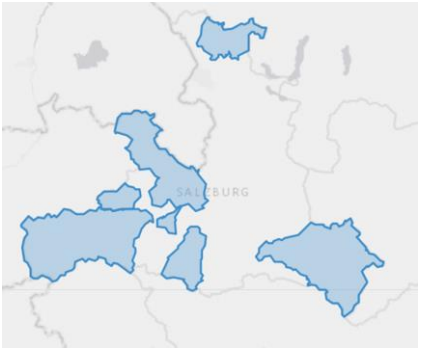
The main idea is that manufacturer's liaise more strongly with installers and offer additional services to end consumers and installers, so that all three parties can mutually benefit. Currently, these approaches are being further elaborated on and discussed with all relevant parties in the State of Salzburg.

3.1.5.2 Synergy potential for cooperation at the municipal and regional level

As described in the previous paragraphs, a State level Local Working Group (LWG), which acts as a province-wide developing and steering group of regional and local implementation activities, was established in the Austrian pilot region State of Salzburg.

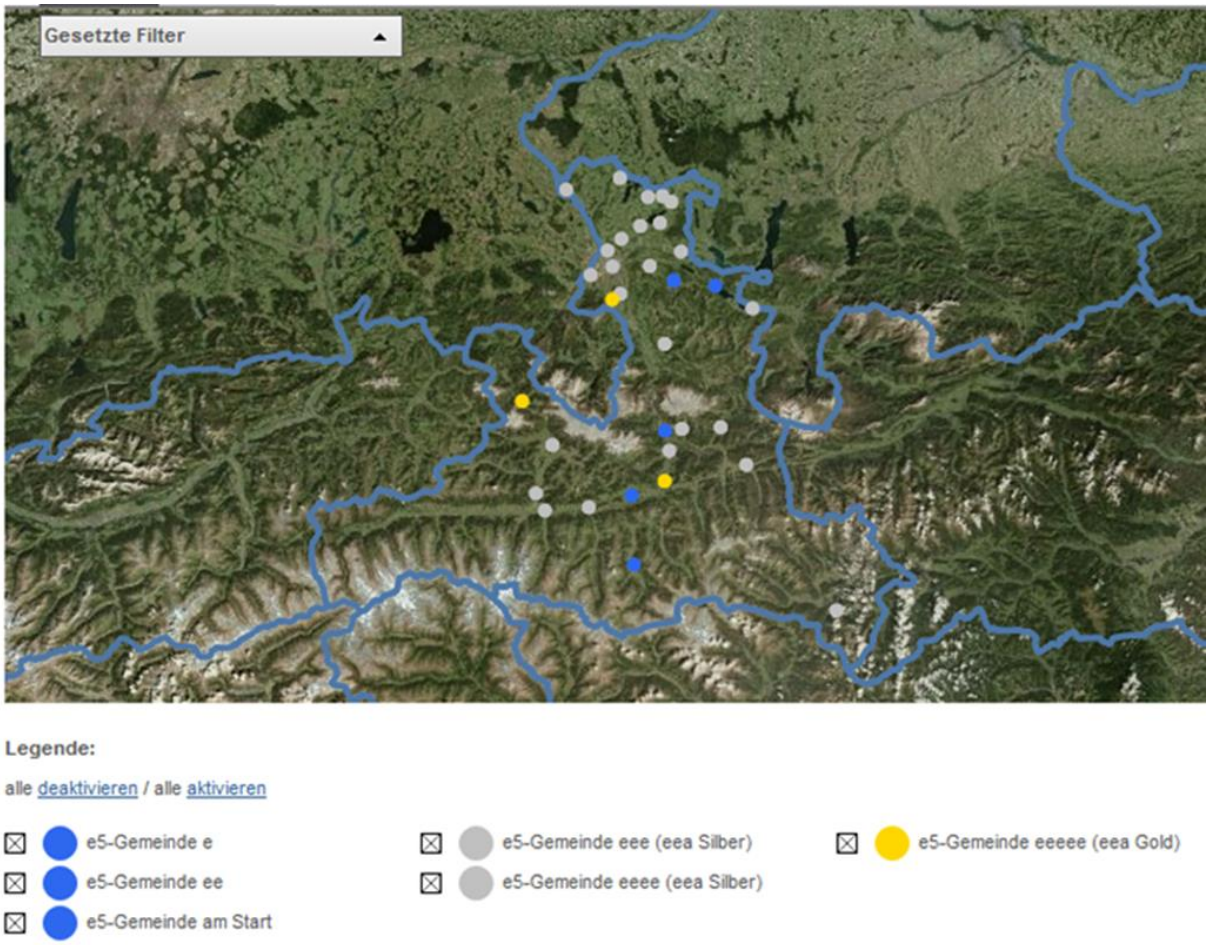
This LWG includes institutionalized stakeholders that are already active in decarbonisation activities on the regional and local levels. The idea is to motivate those stakeholders, together with their regional and local partners, to actually roll out the jointly developed boiler replacement campaign.

One of the main implementation institutions on regional level (including several local districts) are the climate and energy managers of the Federal Austrian Climate and Energy Fund. In Salzburg, four climate and energy mangers are active in several Salzburg regions (see figure). All four managers committed themselves to be an active part of the REPLACE action.



On the local level, a similar State level institutionalized structure exists, namely in the framework of the e5 municipalities. Salzburg has 119 municipalities, 33 of which are currently an active part of the e5 program in Salzburg.

The e5 programme (where the "e" stands for energy) encourages Austrian municipalities to act in a sustainable manner at all levels: in dealing with energy, consumption, mobility and the economy. 20 percent of Austrians now live in e5 municipalities and regions, and seven out of nine Austrian federal states participate in the programme. The higher the implementation level for energy and climate protection measures in a municipality or town, the higher the number of "e" awarded – much like stars in the restaurant industry. The State's e5 office is part of the LWG. An employee of the Austrian Energy Agency (the REPLACE project coordinator) is the country-wide management representative of e5, who strongly works with the State's e5 offices. The following map shows where the e5 municipalities are situated and how many e's they have earned as a result of their ongoing activities.



e5 also has an outreach component that targets the international level: Austrian communities taking part in the e5 programme for energy-conscious municipalities are automatically part of the **"European Energy Award" programme** – the European e5 counterpart, which evolved in 2004 from the separate Austrian e5 and Swiss "Energiestadt" (energy town) programmes.

3.2 Campaign “Goodbye Oil in Upper Austria”, AT No. 2

3.2.1 Description of action, actors, outreach and targets of action

The “Goodbye Oil” information and activity campaign (Adieu Öl in German, https://www.adieuöl.at/) in Upper Austria urges private persons, municipalities, associations, schools as well as companies to take action and commit themselves to switch from oil to renewable energies. The OÖ Energiesparverband (Upper Austria Energy Saving Association), the central information hub for commercially independent energy advice in Upper Austria, and the Federal Province of Upper Austria are the main implementers of the campaign. The three main arguments within the campaign are:

1) Oil heating is becoming obsolete: In the past 12 years, the consumption of heating oil in Upper Austria has dropped from 300 to just under 200 million litres. In other words, since 2005, the number of oil-fired heating systems has been reduced by 42,000. New building constructions are prohibited to be heated with fossil oil since this year by law. The older your oil heater is, the higher the likelihood that you will need to repair or replace it.
2) Replacing the heater and switching to renewable energy is much easier than people think: The first point of contact for people or companies interested in the switch is getting in touch with the OÖ Energiesparverband that helps with the decision-making process and provides information about available subsidies. The final renewable energy heating system that is installed depends on the conditions of the building itself. The entire process can happen in just a few days! With the HEINZi[1] tool, you can easily identify qualified installers, who will provide non-binding cost estimates for the heating system of your choice, thereby allowing you to compare the costs and services from the comfort of your home.
3) The operating costs of modern systems are much lower than traditional oil-based systems. Furthermore, subsidies are available, disposal costs of the oil system are included, and the initial upfront investment pays off very quickly. Another advantage, apart from the reduction in emissions and the benefits to the environment, is that renewable energy sources often come from Austria (and do not have to be imported) and thus have more stable prices.

3.2.2 Overall concept and elements of the campaign

3.2.2.1 Preparatory activities

- Market research study on the reasons why people are unwilling to switch their oil boilers (barriers, challenges, etc.)

[1] https://www.heinzi.com/

3.2.2.2 Communication activities, on- and off-line campaign activities

The campaign includes an important informative element: all partner municipalities taking part in the campaign are committed to organizing three activities (ex. consultation days, publications, events) to force their citizens to make the switch. The OÖ Energiesparverband financially supports the partner municipalities and also provides the necessary expert advice.

Furthermore, the Adieu Öl campaign organizes various competitions for individuals, schools, clubs, plumbers and companies and offers prizes up to 3,000 Euros. A number of informative flyers and brochures are available here: https://www.adieuöl.at/index.php?id=2#c143

3.2.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

The overall campaign concept is based on voluntary participation: the participating private persons, municipalities, associations, schools as well as companies are doing so because they believe in the campaign message. The campaign also builds upon the established structures of the region (for example, the Upper Austria Energy Saving Association and the HEINZi tool).

The campaign focuses on not only providing free expert energy advice, but developing specific information packages for each target group. The information is presented in a creative and simplistic manner and includes information on funding opportunities. Furthermore, the campaign has a competitive element to further engage and encourage participants to do even better than their "neighbour".

3.2.3 Supporting policy instruments

Financial support is offered by the Federal Province of Upper Austria as well as the Austrian government for private households, municipalities, employees and associations. Here is the list of funding provided for private households switching from oil heaters to ones fuelled by renewable energy sources:

- Change from oil to pellets or wood chips:
  - State funding:
    - 2,900 EUR
    - With disposal of an oil tank: 100% of the net costs up to max. 1,000 EUR additionally
  - Federal funding:
    - 5,000 EUR
- Change from oil to heat pump:
  - State funding:
    - Air-water heat pump: max. 1,700 EUR
    - With disposal of an oil tank: 100% of the net costs up to max. 1,000 EUR additionally
    - Geothermal or water-water heat pump or deep hole (geothermal probe): 100 EUR / kW nominal heat output, max. 2,800 EUR
    - Funding only applies if certain efficiency requirements are observed!
  - Federal funding:
    - 5,000 EUR
- Connection to local / district heating:

- State funding:
  - District heating connection: 140 EUR / kW connected load, max. 2,800 EUR
  - With disposal of an oil tank: 100% of the net costs up to max. 1,000 EUR additionally
  - Heat at least 80% from renewable energy or from CHP systems
- Federal funding:
  - 5,000 EUR

- Subsequent installation of a solar system:
  - for 4 to 10 m² system ⇒ 1,750 euros
  - for 11 to 19 m² ⇒ 175 euros / m²
  - from 20 m² ⇒ 3,500 euros
  - Max. 50%, minimum size 4m², Solar Keymark or Austria Solar seal of quality

For more information on available funding, the OÖ Energiesparverband provides further details on its website: https://www.adieuöl.at/index.php?id=19

3.2.3.1 Monitoring, target achievement

The OÖ Energiesparverband is the unit that will constantly monitor the campaign. Currently there is no official information available about the actions progress and impact.

3.2.3.2 Challenges/difficulties experienced, lessons learned

A number of people criticized the method of development and implementation of the campaign[2]. Their main argument was that the campaign downplays the high costs associated with the replacement or switch of oil boilers.

The campaign focused on the positive benefits such a switch would bring to the consumer: the local region would prosper, the environment would benefit and it would lead to a generally better standard of living. Furthermore, the campaign emphasized how easy the switch is for the end consumer, since they have access to expert advice from the Upper Austria Energy Saving Association.

The market research study showed that 97 percent of Upper Austrians are willing to heat with renewable energy. The readiness for a change sinks with age. Costs are also a barrier: 40 percent of the surveyed renovators with existing oil heating who do not want to switch to another energy source state that they do not have the necessary money for it. A fifth of this group says that they are too old and that the investment would no longer be worthwhile.

[2] More information (in German) here: https://www.nachrichten.at/wirtschaft/wirtschaftsraumooe/kampagne-adieu-oel-des-landes-veraergert-die-mineraloelhaendler;art467,3205354

Therefore, the campaign appeals to homeowners not to be guided by the idea of being too old. "A heating system has a life span of about 30 years. Think about the future: if they inherit the house, they will certainly want to hand it over in good condition - and that includes a well-functioning heating system."

40 percent of oil heating owners who are dissatisfied with their system are mainly because of the high price of the fuel. The oil price is subject to fluctuations, often driven by political events in the producing countries. 29 percent complain about the poor environmental and climate balance of their heating system, and 24 percent are annoyed that the oil heating system takes up too much space.

Another argument against oil heating systems is that the unpleasant smell of oil in the house would disappear when the heating system is replaced.

3.2.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 2: SWOT analysis of replacement campaign action ***AT No.2***

Replacement campaign action AT No.2		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGTH**	**WEAKNESS**
	Free of charge independent, product-neural energy advice, on-site at the homes of end consumers Financing package from the Federal Province and the national government Joint action of local & regional actors Communication and information elements Awareness raising	The campaign builds solely on existing structures and does not address measures to ease work of key professional players (e.g. plumbers, installers), which currently often have a very high work load. The campaign does not address barriers that end consumers are faced with (e.g. complex subsidy administration at several points, high time and information demand to refurbish a heating system).
External origin	**OPPORTUNITY**	**THREATS**
	The Federal Government of Austria takes the decarbonisation of Austrians business and residential sectors very seriously – also as a possible answer to cope with COVID-19 related economic crisis. It is expected that more public and hopefully private money goes into decarbonisation measures. Other Austrian regions are also interested in approaches for maintaining a liveable environment and how the energy supply can be organized more sustainably.	The COVID-19 pandemic lead to economic crises both on the supply and demand side. As a consequence, prices for oil, coal and gas went down. Many end consumers still using fuel oil boilers already bought their fuel oil needed for the upcoming heating season. Despite a higher volume of public funds to grant money for a fuel switch for renewable heat sources, it is expected that fuel oil end consumers won't be much interested in a fuel switch until that winter is over (also for practical reasons as many fuel oil tanks accommodate enough fuel oil for the following

		year).

3.2.4.1 Effectiveness of the campaign, measures not covered at all

This campaign had a similar approach to the one described in the previous section in that it was tailored to a specific region of Austria. See section 3.1.4.1 for more information regarding the overall situation for decarbonization efforts in Austria.

Some politicians (e.g. the former Environmental Councilor) think that it is certainly good and right to promote the phase-out of oil heating and to inform the consumers concerned. But this alone is not enough. It needs more initiative, i.e. not only the end of the new installation of oil heating systems in new buildings - only about 3 percent of new installations are affected by this -, but a general end to the new installation of oil heating systems in Upper Austria - i.e. also for the renovation of buildings.

3.2.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

3.2.5.1 Transferability

Many Austrian federal provinces are leading the way to a decarbonized future. The approach taken by Upper Austria has the potential to be adapted and replicated in other Austrian regions as well.

See the section 3.1.5 for more details.

3.2.5.2 Synergy potential for cooperation at the municipal and regional level

The idea to make n fuel oil boiler replacement information campaign addressing multipliers like communities, associations, clubs, schools and companies is good. Prizes might be an additional incentive for those groups to speak about doing something that is publicly recognized as being good.

3.3 Campaign "EUSEW", BA No 1

3.3.1 Description of action, actors, outreach and targets of action

EU Sustainable Energy Week (EUSEW) is a campaign conducted by the European Union with the aim of raising public awareness about energy efficiency and renewable energy sources. The central event EUSEW is being held in Brussels, Belgium and it involves the most important political and social figures from all over Europe. EUSEW is held annually since 2006 and has organized over 300 events across Europe. "My House of the Future" is an event organized in 2011 during EU Sustainable Energy Week in Sarajevo, Bosnia and Herzegovina with great success. During two days the citizens of Sarajevo were given detailed information about the presented energy efficiency measures and renewable energy technologies. Public authorities, energy agencies, industry associations, businesses, civil society organisations and the media are all invited to take part in the conference.
Partners of the event are world leaders in energy efficiency and renewable energy technologies, guaranteeing quality information and rich content, presented in a new and unusual way at the most frequent square in Sarajevo.

3.3.2 Overall concept and elements of the campaign

3.3.2.1 Preparatory activities

- Creation of the campaign,
- Contacting local organizers and partners,
- Local organizers making deal offers for partners and sponsors as well as promotion activities for citizens.

3.3.2.2 Communication activities, on- and off-line campaign activities

- Survey among the visitors of local organizer's portal about the concept of passive houses (the poll question was "Are you familiar with the concept of passive houses" and only 11% of visitors said they fully know what a passive house is.).
- Google and Facebook Internet Campaign targeting people from all over Bosnia and Herzegovina and encouraging them to create their own opinion on energy efficiency.
- EUSEW media campaign on Radio Stari Grad (RSG), Klix.ba, BHT1 and other media with which local organizer cooperates.

3.3.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

Sustainable Energy Week is designed to demonstrate to business people, decision-makers and the wider public that sustainable energy technologies are viable, cost-effective and good for the environment. Center for Education and Raising Awareness of Energy Efficiency - Energis was the first organizer of the European Union Sustainable Energy Week in Bosnia and Herzegovina.
Since the field of energy efficiency and renewable energy sources is rapidly evolving and it is not promoted enough in B&H, the first EUSEW event in Bosnia and Herzegovina was held in April, 2011 at the Square of Sarajevo Children. Many professionals from all over the Europe presented the latest available energy efficiency solutions from the EU. Renewables were one of the main topics, solar panels and heat pumps were also included.

The second main event of the occasion is the presentation of renewable energy sources applicable for average households. Within the event, in one of the Cinema City halls, professor at the Faculty of Architecture at the University in Zagreb, Ljubomir Mijačević and Mr. Harald Heuweisser gave lectures concerning the topic "Energy Efficiency in Construction".

3.3.3 Supporting policy instruments

3.3.3.1 Monitoring, target achievement

The goals of the EUSEW event in Bosnia and Herzegovina were:

- Raising the profile and improve the image of organization, town and country;
- Being part of a European campaign;
- Turning Sarajevo into a frontrunner in energy efficiency promotion;
- Attracting media attention and pushing an issue of energy efficiency into headlines;
- Energizing local community in order for their endorsement for energy efficiency and renewable energy projects;
- Helping local companies expand into a fast-growing green energy markets and presenting them EE and RES options;
- Innovating and setting a new direction for energy efficiency promotion;
- Making it easier to attract investment into sustainable energy projects in Bosnia and Herzegovina;
- Getting additional visibility and support from EUSEW Brussels.

According to the organizer's opinion, the campaign was held with great success. What particularly pleased organizers was the fact that citizens are willing to implement the energy efficiency measures saw during these two days.

3.3.3.2 Challenges/difficulties experienced, lessons learned

The lack of knowledge, financial support and quality technical support is a major obstacle. Surely, this event has attempted to overcome these obstacles by connecting citizens and leaders in energy efficiency and renewable energy sources in Bosnia and Herzegovina.

3.3.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 3: SWOT analysis of replacement campaign action ***BA No.1***

Replacement campaign action BA No. 1 (label the examples by adding country code and number)		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGHT**	**WEAKNESS**
	Keeping up with new trends *Attempting at well-trafficked location* *Great media support*	Low awareness amongst end consumers Raising awareness mainly to the participants of EUSEW

	Many different professionals gathered with the same goal	
External origin	**OPPORTUNITY**	**THREATS**
	Listening to the first - hand experiences *Citizens meeting new technologies based on renewables resulting with chance to change things for the better* *Recognised importance of energy efficiency*	Lack of financial sources preventing people from investing in new technologies Extra costs for the implementation of energy efficiency measures on existing buildings Lack of public interest

3.3.4.1 Effectiveness of the campaign, measures not covered at all

Even though the EUSEW project "My house of the Future" turned out to be strongly effective and successfully held campaign, some measures were left uncovered. Since the financial situation in this region is not brilliant, lack of money is preventing people from investing in new technologies, so it would be helpful to ensure some funding from the state for those who decide to invest in energy efficiency measures.

3.3.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

3.3.5.1 Transferability

Gathering many different professionals and citizens together to discuss best examples of new technologies is always a good idea for energy efficiency campaign. Using model of "My House of the Future" is a great way to bring energy efficiency close to the citizens who have no previous experiences with renewables and energy saving methods. Similar method could be used during REPLACE campaign to describe boiler efficiency levels. Also, having a good media support helps in raising awareness and catching people's attention.

Ensuring some funding from the Government would help to keep public interest and to implement measures that are discussed during the campaign.

3.4 Campaign “ENESANSA”, BA No 2

3.4.1 Description of action, actors, outreach and targets of action

The project "ENERGY REHABILITATION OF SARAJEVO" - ENESANSA was launched by Ministry of Housing Policy of Canton Sarajevo, with the aim of implementing energy saving actions in this Canton, such as increasing energy efficiency in the areas under the jurisdiction of the Canton Sarajevo: public companies, administrative bodies, cantonal institutions and construction.

The primary objective of ENESANSA project was to increase energy efficiency in buildings that are heated by “KJKP Toplane” system, as well as buildings whose owners use individual heating systems. The implementation of this project results in financial savings for citizens, a more comfortable way of living, but also a reduction of greenhouse gas emissions.

3.4.2 Overall concept and elements of the campaign

3.4.2.1 Preparatory activities

- Targeting buildings that use large amount of energy per m^2, (decision is made on the basis of the Study of the Efficiency of Investing in Reduction of Heat Losses in the Collective Housing Sector in Canton Sarajevo),
- Allocating funds for building renovation,
- Finding contractors.

3.4.2.2 Communication activities, on- and off-line campaign activities

Informing publicity about progress of the Project through newspapers, portals' webpages (Radio Sarajevo, Klix, Akta) and Government sites.

3.4.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

From 2007 to 2013, the Ministry of Housing Policy of Sarajevo Canton implemented a pilot project related to the thermal insulation of 11 buildings heated by “KJKP Toplane Sarajevo” system, as well as six smaller residential buildings heated by individual systems (mainly wood and coal stoves).

During 2013, budget allocations to the Ministry of residential policy Sarajevo Canton were evidently reduced, which initiated a lack of funds to increase energy efficiency. At the beginning of 2014, plans were made to continue the insulation of buildings in Alipasino Polje. That same year, the Municipality of Novi Grad invested approximately KM 300.000 for the reconstruction of facades and roofs on the buildings.

In September of 2015, the Municipality of Novi Grad, in cooperation with the Ministry of Physical Planning, Construction and Environmental Protection of Canton Sarajevo, started the implementation of a pilot project for the insulation of residential buildings in Alipasino Polje. In 2016, project activities expanded and, in addition to building insulation, plans were also made to install allocators in all the buildings by 2020.

3.4.3 Supporting policy instruments

- 2 million BAM provided by Ministry of Housing Policy of Canton Sarajevo for construction works, facade and stairways recoveries and installation of measuring devices at facilities in the municipalities of Novi Grad and Novo Sarajevo (2007-2009).
- 100.000 BAM provided by Ministry of Housing Policy of Canton Sarajevo for Study of the Efficiency of Investing in Reduction of Heat Losses in the Collective Housing Sector in Canton Sarajevo (2009).
- 300.000 BAM provided by Municipality of Novi Grad for reconstruction of facades and roofs on buildings at Aneks, Aerodrosmko naselje and Ilijas region (2013).
- 500.000 BAM by Municipality of Novi Grad (2015).

3.4.3.1 Monitoring, target achievement

Main goals of ENESANSA project are:

- to minimize unwanted heat losses from buildings,
- to ensure the same level of comfort is achieved with lower room air temperatures,
- to reduce energy consumption and
- to promote energy efficiency.

Installation of allocators and thermometers as well as thermal insulation improved energy efficiency in many buildings in Canton of Sarajevo, which resulted in reducing energy consumption and contributed to the air pollution reduction. During the promotion of the Project and while tracking its progress through local newspapers and portals, publicity was informed about the importance of energy efficiency from both, economical and global climate aspect.

3.4.3.2 Challenges/difficulties experienced, lessons learned

The main obstacle to project realization is lack of financial resources, which led to the temporary interruption of the project realization.

3.4.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 4: SWOT analysis of replacement campaign action ***BA No.2***

Replacement campaign action BA No. 2 (label the examples by adding country code and number)		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGHT**	**WEAKNESS**
	Thermal insulation of buildings resulting less amount of needed energy per m² *Monitoring and reducing energy consumption*	Lack of funds for building renovation
External origin	**OPPORTUNITY**	**THREATS**
	Employment of domestic labour	Change in Government restriction

	Promoting energy efficiency *Less heat losses* *Reducing air pollution* *Raising interest in energy efficiency measures*	

3.4.4.1 Effectiveness of the campaign, measures not covered at all

Even though the ENESANSA project was interrupted in 2013, it is still one of the most important energy efficiency projects in Bosnia and Herzegovina. Installation of allocators and thermometers as well as thermal insulation improved energy efficiency in many buildings in Canton of Sarajevo and contributed to the air pollution reduction. A possibility that hasn't been considered is lack of resources to continue the implementation of a particular phase of the project, which led to temporary interruption of project implementation. The opportunity for improvement lies in better informing publicity, not only about the targets of the project and next steps, but also about the results (for example yearly savings) that are achieved by implementing earlier mentioned measures.

3.4.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

3.4.5.1 Transferability

Considering that this Project was implemented in Canton of Sarajevo, circumstances are the same. It is crucial to educate publicity about the advantages of energy efficiency and to raise awareness through widely available information channels such as web portals and social media. What should be considered is Government's help with loans for interested citizens because there is always possibility that the lack of financial sources could occur.

3.5 Campaign "Public call for applications for natural persons to co-finance photovoltaic systems, condensing gas boilers and biomass (pellets/wood) boilers for single-family homes in the Zagreb County for 2020", HR No 1

Zagreb County has made a strategic commitment to boost investments in energy efficiency and renewable energy measures. Additionally, the county is encouraging and incentivizing natural persons to implement projects to increase energy efficiency and use renewable energy sources, which also contributes to environmental protection and the reduction of fossil fuel consumption.

3.5.1 Description of action, actors, outreach and targets of action

In the period between 2009 and 2014, Zagreb County in cooperation with the Environmental Protection and Energy Efficiency Fund (hereinafter: EPEEF) implemented a campaign "I can have solar collectors, too". The campaign encouraged the use of renewable energy sources in Zagreb County households, mainly solar energy for heating and domestic hot water preparation. As a follow up to that campaign, in 2019, Zagreb County published a first public call for applications for natural persons to co-finance photovoltaic systems and condensing gas boilers for single-family homes in the Zagreb County.

Following the success of the first call, Zagreb County published a similar public call this year, adding the possibility to co-finance installation of biomass boilers, as well. Last year Zagreb County received 99 project applications, out of which 82 were approved and 74 of them were completed. Funds for co-financing the projects are allocated from the Zagreb County Budget based on the Rulebook on General Conditions for Grants, Subsidies and Aid.

The campaign and the public call are focused on single-family house owners considering the replacement of their existing heating systems. The main actor is Zagreb County because the funds for the project implementation are granted from the county's budget and REGEA, as a regional energy agency, participates as technical assistance during the period of project preparation and implementation.

More information can be found on the following link: https://www.zagrebacka-zupanija.hr/natjecaji/318/javni-natjecaj-za-prijavu-fizickih-osoba-za-sufina

3.5.2 Overall concept and elements of the campaign

3.5.2.1 Preparatory activities

The proposal of the technical and administrative aspect of the public call, such as justification of the co-financing amount, selection criteria, documentation required for application, was prepared by REGEA and confirmed with the Zagreb County. These propositions were then included in the Rulebook on General Conditions for Grants, Subsidies and Aid, and the funds are planned within the County's budget.

3.5.2.2 Communication activities, on- and off-line campaign activities

Besides publishing the call on Zagreb county website and REGEA's social media sites, the call and the campaign were also advertised on the local radio stations. Additionally, REGEA was responsible for establishing a phone number, which could be used by the interested citizens and potential applicants to find out necessary details.

3.5.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

Interested citizens apply for the co-financing of the photovoltaic systems, condensing gas boilers and biomass (pellets/wood) boilers, which are eligible investments within the published public call.

Submitted project applications are evaluated based on the following criteria: annual household electricity/heat consumption, number of household members and the development index of the municipality in accordance with the Decision on the categorization of local (regional) government units by the level of development (NN 132/17).

After the project applications are evaluated and the final list of beneficiaries prepared, beneficiaries can start with the project implementation. After signing the grant contract with the county, beneficiaries contact the contractors or the installers themselves and have five months to install the system they applied for in the project application. Optionally, beneficiaries can use a database of certified installers provided by the Ministry of Construction and Physical Planning (hereinafter: MGIPU) to help them find installers in their area.

Upon completion of the installation, the beneficiary hands over the Value Coupon issued by the Zagreb County to the contractor and in that way pays the contractor the value of the grant component of the Value Coupon. The remainder of the eligible funds, as well as the portion of the ineligible funds indicated on the invoice, is paid by the beneficiary to the contractor for the service provided. The contractor, after completing their service, submits the Project Implementation Report to Zagreb County. The grant component is subject to the submission of a complete Project Implementation Report and after the on-site inspection of the works carried out by REGEA on behalf of the Zagreb County.

3.5.3 Supporting policy instruments

Financing package

The maximum amount of funds that an individual user can obtain for the installation of photovoltaic systems within this year call is 50% of the eligible costs, i.e. a maximum of 20.000 HRK (~2.600 EUR). Zagreb County has secured a total of 300.000 HRK (~40.000 EUR) for the installation of photovoltaic systems in the Zagreb County Budget for 2020, and the secured funds will be distributed among applicants with the highest number of points. The maximum amount of funds that an individual user can obtain for the installation of condensing gas boilers is 50% of the eligible costs, i.e. a maximum of 10.000 HRK. (~1.300 EUR). The maximum amount of funds that an individual user can obtain for the installation of biomass boilers (pellets/wood) is 50% of the eligible costs, i.e. a maximum of 20.000 HRK (~2.600 EUR). For the installation of condensing gas boilers and biomass boilers (pellets/wood) in the Zagreb County Budget for 2020, a total of 350.000 HRK (~46.000 EUR) has been secured, and the secured funds will be distributed among applicants with the highest number of points.

3.5.3.1 Monitoring, target achievement

After completing works on the installation of the system, the contractor submits the Project Implementation Report, available on the Zagreb County website to Zagreb County for the verification. Based on the Project Implementation Report and the on-site audit of the works by REGEA's engineers, Zagreb County disburses the grant funds to the contractor.

The public call does not contain set targets, such as energy or CO_2 savings and therefore the beneficiaries are not obliged to report on the achievement of targets.

3.5.3.2 Challenges/difficulties experienced; lessons learned

The difficulties with applications mainly stem from the fact that applicants do not (carefully) read the terms of the call. During the project implementation, the applicants had some issues finding the contractors, however, it was not a common case.

The contractors faced issues with invoicing their services when submitting the Project Implementation Report. As of July 2019, all public institutions use only electronic invoicing (e-Invoice) and as it was newly introduced, contractors had no experience in using it, which presented a challenge for issuing the invoice.

Lessons learned

Last year's call did not have a provision which would prevent two or more co-owners of the family house to apply for more co-financed measures. Based on this loophole, spouses, both co-owners of the family home, each applied for co-financing one measure. Since there was no provision which would prevent them from doing this, there was no basis to exclude them from the process, as both of their applications were valid. In this year's call, this loophole was amended, so one family house can apply only for co-financing of one measure.

3.5.4 SWOT of the measures and instruments with regard to the aims of the campaign/action

Table 5: SWOT analysis of replacement campaign action **HR No. 1**

Replacement campaign action HR No.1		
	Helpful in achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGTH**	**WEAKNESS**
	• *County's financial capacity to support the implementation of measures* • *Organised collaboration between Zagreb County and REGEA during the call preparation and implementation* • *Interested beneficiaries* • *Easy access to necessary information regarding the call and the implementation of the project*	• *Targets regarding the sustainability, energy efficiency, energy and emission savings are not defined and beneficiaries are not obliged to monitor and report achieved targets* • *Co-financing depends on the allocated county's budget for the given year and can be reduced*
External origin	**OPPORTUNITY**	**THREATS**
	• *Cooperation with REGEA, supporting the implementation of the call*	• *Global pandemic causing, inter alia, cutting "unnecessary" budget items and*

	• *Increased awareness of the citizens on the benefits of renewable systems and possibilities to increase energy efficiency in their homes*	*redistributing funds between the budget items.*

3.5.4.1 Effectiveness of the campaign, measures not covered at all

The campaign and the public call are considered successful, due to the number of applications, the positive feedback from the beneficiaries and the interest in this year's call.

3.5.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

3.5.5.1 Transferability

The campaign was/is conducted in Zagreb County, which is part of the target region North-West Croatia. Therefore, no special, nor different circumstances were observed in the analysed region, which would affect the implementation of REPLACE campaigns.

One of the elements of the campaign, which can be used in REPLACE campaigns is support to the citizens looking for feasible and sustainable solutions for their heating systems. This can be achieved through various activities within REPLACE project, during the project's lifetime.

3.5.5.2 Synergy potential for cooperation at the municipal and regional level

In case the similar campaign is implemented next year, there is a potential to pursue stronger collaboration between Zagreb County and REPLACE project. This could result in an integrated approach towards the replacement of inefficient heating systems, covering both informational and financial aspects of the replacement campaign, but also providing the greater impact of the project.

3.6 The campaign "Renovated buildings - saving more, worth more", HR No. 2

About 40% of the total energy consumption is consumed in buildings, which is why ensuring minimum energy consumption to achieve optimal comfort of living is of utmost importance.

It is estimated that in Croatia there are about 50 million m^2 of usable floor space of multi-apartment buildings. 65% of the buildings are in the continental part, while about 35% are in the coastal part of Croatia. The buildings were mostly built before 1987, which means that they consume approximately 200-250 kWh/m^2 of heating energy. After a conducted research, EPEEF concluded that by applying energy efficiency measures, the consumption of these buildings can be drastically reduced, which triggered a nation-wide campaign.

3.6.1 Description of action, actors, outreach and targets of action

In July 2014, the Government of the Republic of Croatia, in cooperation with the Ministry of Physical Planning and Construction and the EPEEF as the implementing body, adopted the Energy renovation programme for multi-apartment buildings for the period 2014 to 2020. First public call for co-financing energy renovation of multi-apartment buildings was published in 2014 and it was financed with national funds. From 2016 onwards, public calls were funded using the European Structural and Investment Funds (hereinafter: ESIF). Eligible activities related to the energy renovation of the buildings within the calls for the co-owners of the buildings were: renovation of the building envelope, installation of a new high-efficiency heating system, replacement of the existing hot water preparation system with a system using RES, replacing common indoor lighting, promoting the use of RES by installing solar heating systems, i.e. preparing hot water, heat pumps, biomass heating plants or boilers, etc., installing a building automation and control system.

As a part of the first call in 2016, the EPEEF conducted a campaign to promote the project at the national and local level but also to support potential applicants in the phase of project preparation of the project, as well as during the implementation of the successful applicants' projects. The name of the campaign was "Renovated buildings - saving more, worth more". EPEEF used the campaign to raise awareness about the benefits of energy renovation, informing the citizens about the published call and providing support to applicants and beneficiaries in the preparation and implementation phase.

The campaign was focused on owners of the apartments in multi-apartment buildings, as well as the building management companies. The main actor was the EPEEF, preparing and running the campaign in parallel with the published call. Targets of the campaign were aligned with the targets and indicators of the published call and the Energy renovation programme for multi-apartment buildings for the period 2014 to 2020 and as such its main objective was to educate and inform target groups about the benefits and possibilities of the energy renovation.

More information can be found on the following link: http://zgradekojestede.fzoeu.hr/

3.6.2 Overall concept and elements of the campaign

3.6.2.1 Preparatory activities

Preparatory activities included:

- citizen awareness surveys,

- analysis of the motivation and effects of energy renovation on the citizens and their properties.

3.6.2.2 Communication activities, on- and off-line campaign activities

The campaign was focused on educating and informing the citizens about energy renovation, its benefits and possibilities, as well as the use of available co-financing. Communication activities included both online and offline actions, which could be accessed through multiple channels.

Online campaign activities included:

- Web site with the necessary information on the campaign and the public call.

Offline campaign activities included:

- Technical assistance to the end user during preparation and implementation of the project activities,
- TV adverts,
- Adverts in local and national newspapers,
- Educational workshops for citizens,
- Educational workshops for the building management companies,
- Showcasing good energy renovation examples,
- Prize competition for the end-users submitting their videos, which demonstrate the benefits of the energy renovation of their building.

3.6.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

The campaign stemmed from the Energy renovation programme for multi-apartment buildings for the period 2014 to 2020 and the need to reduce energy consumption in the residential buildings, most of which were built before 1987.

MGIPU published the first call funded by the ESIF for co-financing energy renovation in multi-apartment buildings in October 2016, which was open until the end of January 2017.

This Call supported the implementation of energy renovation activities that will result in reduced energy consumption for heating / cooling of refurbished buildings, as well as the increased use of renewable energy sources, through an integrated approach.

Within the published call, EPEEF was granted funds for the educational and informational campaign “Renovated buildings - saving more, worth more” to facilitate the implementation of the project activities. Favourable terms of the call resulted in 649 project applications, out of which 596 projects were eligible for co-financing. Total co-financing budget for the eligible projects amounted to 560 million HRK, which caused a gap between the initial and necessary budget allocation. Due to the popularity of the call and increased demand, MGIPU and EPEEF agreed to increase the initial budget allocation almost fivefold and started using additional funds available from European structural and investment funds for the energy renovation of buildings. Use of these funds was aligned with the Specific objective 4c2 Reducing energy consumption in residential buildings (in multi-apartment buildings and single-family homes) given in the Operational Programme Competitiveness and Cohesion 2014-2020 (hereinafter: OPKK). The strategic framework of OPKK provides 100 million EUR

for the reconstruction of the housing sector by 2020, of which approximately 70 million EUR is intended for the reconstruction of multi-apartment buildings.

After approving the project application, property owners could start preparation and implementation activities listed in their project proposal and the EPEEF facilitated the implementation through an extensive and coordinated campaign. After signing the co-financing contract, successful applicants, i.e. beneficiaries, had 18 months to finish the energy renovation of their multi-apartment building.

Some of the activities during the campaign implementation included technical support to applicants during the preparation of the project proposal and, in the case of project approval, support to the beneficiary in the implementation of the project. Besides these activities, EPEEF provided support for the review of the draft project proposal, including all annexes made by the applicant, development of standard forms and guidelines for conducting public procurement procedures for applicants, control of the draft tender documentation and other ad-hoc customer support. The contracted projects included 16.000 households in multi-residential buildings.

Following the success of this initiative, MGIPU announced the publication of a new public call for proposals for energy renovation of multi-apartment buildings in the first quarter of 2020, which will support the implementation of energy renovation measures and the use of RES. However, due to the COVID-19 pandemic, the call has been postponed.

3.6.3 Supporting policy instruments

Financing package of the call

- Initially allocated budget for this action was 147,4 million HRK, and the co-financing rate for works and inspection was 60%, regardless of the location of the property and, with the maximum co-financing limit of 13 million HRK per project. Activities such as energy audits, preparation of energy certificates and project documentation were eligible for 85% co-financing rate. Due to the high demand, the initial allocation was increased fivefold.
- Commercial banks offered loans for the energy renovation of buildings.
- Majority of the co-owners of the building had to agree with the energy renovation of the building. In case the building's own part of the investment exceeded the amount in the joint reserve fund of the building, building's co-owners (as a single entity and representing the building) were eligible to apply for a loan to fund the building's improvements. In cases when the building was managed by the local government-owned building management company, there was a possibility of lending from the company instead of going directly to the commercial bank. Loan application and approval would result in an increase of the monthly payment to joint reserve in order to cover the costs of the renovation. Increase in monthly payment is usually covered by the difference in energy savings after the energy renovation.

3.6.3.1 Monitoring, target achievement

Following the signing of the Contract with the beneficiaries, MGIPU monitored whether the project achieved the stated goals and results, while EPEEF was responsible for monitoring to ensure the implementation of the project in accordance with the contractual provisions.

Beneficiaries of the call had to report the status of project implementation, results and the expenses occurred since the last report to the EPEEF quarterly. This reporting procedure also served as a method to apply for a down payment/reimbursement of costs occurred in the previous period.

3.6.3.2 Challenges/difficulties experienced, lessons learned

From the building manager perspective, it was an additional service outside their core business that was "imposed" on them and which required a lot of resources that could hardly or could not be paid from the existing building management fees. From a user perspective, there has been an increase in the prices of construction materials and labour in the market caused by these calls due to a lack of manpower.

3.6.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 6: SWOT analysis of replacement campaign action HR No.2.

Replacement campaign action HR No.2		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGTH**	**WEAKNESS**
	• *Availability of grants for co-financing energy renovation, including the replacement of the heating systems* • *Various media dissemination activities aimed towards current and future beneficiaries*	• *Buildings with the status of cultural heritage were excluded from the call* • *Renovation of the chimneys, which is required for the replacement of old boilers with the condensing boilers, was one of the eligible activities of the call but rarely implemented, as co-owners were focusing more on the replacement of joinery and thermal insulation of the building.*
External origin	**OPPORTUNITY**	**THREATS**
	• *Collaboration between different stakeholders, from public institutions to private companies and end-users* • *EU Green Deal, which could encourage further investments in integral energy renovation* • *Use of financial instruments instead of grant funds for the energy renovation activities*	• *Lack of interest for energy renovation if the grant funds are not available or the co-funding rate is decreased.* • *Increase of the material and labour costs due to the high demand.*

3.6.4.1 Effectiveness of the campaign, measures not covered at all

The campaign was considered successful, as the initial target within the public call was 50 received projects applications. The target was exceeded multiple times, as there were almost 650 project applications and numerous good examples and positive results after the project application.

3.6.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

3.6.5.1 Transferability

The campaign was implemented on a national level and there are no special circumstances occurring in the target regions of the project REPLACE, which would affect the transferability of the elements.

An element which could be transferred and used for the REPLACE campaigns are media and dissemination activities. In the later phase of the campaign "Renovated buildings – saving more, worth more", the focus was on demonstrating the benefits of the energy renovation. This was done through various channels: TV, radio, social media, and one of the highlights of such advertising was the comparison of energy and financial savings between two identical buildings, one of which was renovated and the other was not, enabling potential beneficiaries to see and hear about the achieved savings.

3.6.5.2 Synergy potential for cooperation at the municipal and regional level

Project REPLACE will not rely on TV adverts to promote campaigns and results. However, the achieved results can be disseminated using similar techniques like in the mentioned campaign – comparing energy and financial savings between similar types of buildings, one of which is using old heating systems and the other one using the efficient heating system.

3.7 The campaign "Co-financing of electricity generation for own consumption from renewable energy sources in households"; HR No. 3

The installation of renewable energy sources on houses has been in the center of attention in Croatia for several years and the government bodies have been working on proper manners of incentivization of such project for family houses and buildings. One such campaign is the focus of this chapter.

3.7.1 Description of action, actors, outreach and targets of action

This campaign was designed by the The Environmental Protection and Energy Efficiency Fund. It is aimed at citizens residing in Croatia who wish to integrate a new photovoltaic power plant for electricity generation for the purpose of using it for own consumption, on an existing house in Croatia. This campaign was initiated in September 2019 as a part of implementation of the Programme for Energy Reconstruction of Family Houses for the period od 2014 to 2020 that was adopted by the Government of Croatia on March 27th 2014. Targets of the campaign are existing family houses that have an over 50% surface intended for residency, that has three residential units at most and that does not have a construction surface over 600 square meters.

Croatian citizens can apply for the co-financing if they are owners or co-owners of the building in question, that have a legal residence at the place of the project and that fill out the proper application form for the project.

The financing can go up to 75,000 Croatian kuna. The incentives go towards two activities:

- Supervision of the project, with the incentive intensity:
  - up to 80%, but not more than 2,000 Croatian kuna in the areas of special country care and a first group of islands;
  - up to 60%, but not more than 1,500 Croatian kuna in mountain areas and in the second group of islands;
  - up to 40%, but not more than 1,000 Croatian kuna in other areas in Croatia.
- Procurement and installation of a PV plant:
  - up to 80%, but not more than 73,000 Croatian kuna in the areas of special country care and a first group of islands;
  - up to 60%, but not more than 54,750 Croatian kuna in mountain areas and in the second group of islands;
  - up to 40%, but not more than 36,500 Croatian kuna in other areas in Croatia.

3.7.2 Overall concept and elements of the campaign

3.7.2.1 Preparatory activities

Preparatory activities included:

- Citizen awareness surveys,
- Analysis of the motivation for installing objects for own electricity generation and financial savings from such measures.

3.7.2.2 Communication activities, on- and off-line campaign activities

On-line campaign included:

- Advertising on the web pages of The Environmental Protection and Energy Efficiency Fund
- Advertising on the official web pages of municipalities and cities

Off-line campaign included:

- Adverts in local and national newspapers,
- Adverts from companies selling photovoltaic panels.

3.7.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

This campaign presented itself as a part of the Programme Programme for Energy Reconstruction of Family Houses for the period od 2014 to 2020 that was adopted by the Government of Croatia on March 27th 2014. It is in line with the act 7 and 20 of the Law on The Environmental Protection and Energy Efficiency Fund. Act 7 states that The Fund is responsible for all activities concerning the financing of projects, programmes and activities that have a goal of environment protection, increasing of energy efficiency and increasing the use of renewable energy sources. Act 20 states that

the funds can be given to legal and natural persons for financing previously stated goals through loans, incentives, and donations procured through public calls published by the Fund.

This campaign is also in line with Act 6 of the Law on Energy Efficiency, which states that the Fund is in charge of incentivizing rational energy management and energy efficiency.

The campaign is line with the national goal, as well as a global goal, of emission reductions and more rational use of energy, which can be achieved by increasing the installments of renewable energy sources not just by utilities and private investors but also by natural persons using them for own electricity generation on their residences.

3.7.3 Supporting policy instruments

3.7.3.1 Monitoring, target achievement

Following the signing of the Contract with the selected beneficiaries, the Fund has right to:

- check the conditions that the beneficiary had to meet for the Fund's approval and the conclusion of the contract;
- monitor the intended use of the Fund's resources, which includes field controls of the performed works.

In case of non-fulfillment of the stated conditions or unintended cost, the conditions for payment of approved funds will not be met, ie the user will have to return the paid funds, including the default interest.

The public call does not contain set targets and therefore the beneficiaries are not obliged to report on the achievement of targets.

3.7.3.2 Challenges/difficulties experienced, lessons learned

The difficulties with applications mainly stem from the fact that applicants do not (carefully) read the terms of the call. This is why the call had to be temporary closed because of the large number of applications. After the detailed examing, several of them failed the basic conditions of the call and this is why call was re-opened twice. It was finally clesed in December 2019.

3.7.4 SWOT of the measures and instruments with regard to the aims of the campaign/action

Table 7: SWOT analysis of replacement campaign action **HR No. 3**

Replacement campaign action HR No.3		
	Helpful in achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGTH**	**WEAKNESS**
	• *Promotion of renewable energy sources* • *Fund's financial capacity to support the implementation of measures* • *Easy access to necessary information regarding the call and the*	• *Co-financing depends on the allocated Fund's budget for the given year* • *A limited number of co-financing projects in line with the Fund's budget* • *Very strict conditions regarding the eligible households*

	implementation of the project	
External origin	**OPPORTUNITY**	**THREATS**
	• *Increased awareness of the citizens on the benefits of renewable systems* • *Increase energy efficiency in households* • *Reduced costs for the electricity*	• *Lack of interest for photovoltaic implementation on one hand* • *And too many application on the other hand, causing closing of the call*

3.7.4.1 Effectiveness of the campaign, measures not covered at all

The campaign and the public call are considered successful, due to the large number of applications, what caused temporary closing of the call.

3.7.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

3.7.5.1 Transferability

The campaign was implemented on a national level and there are no special circumstances occurring in the target regions of the project REPLACE, which would affect the transferability of the elements.

One of the elements of the campaign, which can be used in REPLACE campaigns is support to the citizens looking for feasible and sustainable solutions for the use of renewable energy sources in their households. This can be achieved through various activities within REPLACE project, during the project's lifetime.

3.7.5.2 Synergy potential for cooperation at the municipal and regional level

There is no synergy potential between REPLACE Project and this campaign, since the call is closed in December 2019. In case the similar campaign is implemented next year, there is a possible potential to pursue stronger collaboration with REPLACE project in terms of comparation of energy and financial savings between similar types of buildings.

3.8 Campaign "Replacement of inefficient heating systems", MK, No 1

3.8.1 Description of action, actors, outreach and targets of action

In 2019 the Government of N. Macedonia published a call for replacement of equipment in heating and cooling systems. In order to reduce air pollution and to replace fossil-fuelled systems with efficient heating and cooling systems, the municipalities in the country were given an opportunity to apply for improvement of the systems in the public and administrative buildings, as well as the facilities from the primary health care in accordance with the conditions given in the announcement (Goverment of the Republic of North Macedonia, 2019).

The Government of N. Macedonia published such announcement for 2020 as well. Municipalities have already received the funding, but due to the COVID-19 situation, all activities have been postponed (Goverment of the Republic of North Macedonia, 2020).

3.8.2 Overall concept and elements of the campaign

3.8.2.1 Preparatory activities

The municipalities are obliged in accordance with the requirements in the announcement to show an entire picture of the condition of the heating and cooling systems in all facilities in the municipality. In addition, strategic documents that go along with such measures have to be attached to the application. The application prioritizes the facilities to which these measures apply. Also, professional services in the municipalities or external expert services are obliged to submit technical documentation.

3.8.2.2 Communication activities, on- and off-line campaign activities

The professional services in the municipalities inform the responsible body and directors of these institutions, about the realization of such measures. In accordance with a representative, a plan is made for the realization of the project in conditions when the facilities are occupied (e.g. children and working staff) and the dynamics of the work. Municipal experts who carry out the project also accept the role of supervising the implementation of the measures.

3.8.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

The overall campaign concept is common and transparent. It consists of the following steps:

- Public call from the Government of the Republic of North Macedonia posted on the webpage of the Government
- Technical preparatory work and submission of application of municipalities
- Scoring and acceptance of projects
- Implementation phase
- Surveillance and commissioning

3.8.3 Supporting policy instruments

The full cost of up to 100,000 euros is the maximum burden on the Government's program. The public announcement is conducted by the General Secretariat of the Government. The municipalities that participated in the call receive notification about the scoring and acceptance of the projects for which they requested funds. A special commission from the General Secretariat and other ministries decides on the applications according to the criteria given in the call. After the realization of the project, the equipment and the system will be transferred to the municipality or the respective public institution ownership.

3.8.3.1 Monitoring, target achievement

The commissioning is done with the representatives of the Government or the respective Ministry. The expert from the municipality provide technical data for the new system compared to the old,

inefficient system on energy savings and reduction of PM_{10}, $PM_{2.5}$ and CO_2 emissions. Maintenance in the warranty period of the equipment is still an obligation of the professional services in the municipality or the companies that will be engaged for the maintenance.

3.8.3.2 Challenges/difficulties experienced; lessons learned

The country has, over time, acknowledged the need for an energy transition and has begun an extensive and enhanced improvement in many aspects to transfer the heating systems into much greener options. The Government, with this public call, is focused on the municipal public buildings. All municipalities in the country are given an opportunity to apply for the financial support. On the one hand, many municipalities, especially in the rural areas lack the enthusiasm to spare effort and to utilize the fund. This might happen due to various reason, such absence of experts in the field, shortage of energy educated staff, incredulity of them receiving the support, unwillingness and unreadiness for large-scale change, etc. However, there are a lot of examples of municipalities that used the benefits of this program.

No major concerns were identified during the application process. Moreover, the number of already implemented and completed projects is sufficient to serve as a role model and something from which other municipalities can conclude lessons learned.

3.8.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 8: SWOT analysis of replacement campaign action ***MK No.1***

Replacement campaign action MK No. 1		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGHT**	**WEAKNESS**
	Public and transparent process *Wide outreach* *Air quality improvement* *Existence of national strategies and regulations*	*Lack of educated staff on municipal level* *Unreadiness of the municipality*
External origin	**OPPORTUNITY**	**THREATS**
	Replacement of inefficient heating systems *Reduction of PM and CO_2 emissions* *Improvement of the overall image of the municipality* *Stakeholder engagement*	*Lack of applicants* *Lack the enthusiasm* *Unwillingness to change the current systems*

3.8.4.1 Effectiveness of the campaign, measures not covered at all

The effectiveness of the campaign is inevitable and gets more attention. The old, fossil-fueled heating systems are being replaced with heat pumps, pellet boilers or wood chips boiler. The inverter

heat pumps are a representative switch to efficient solution. The working conditions are improved; thus, the purpose of the public goal is achieved. Hence the municipal buildings are contributing to the reduction of the air pollution.

3.8.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

The campaign is at national legal; therefore, it is suitable for all municipality. Hence, elements of the campaign are transferable to the KAGoP region as well. In fact, the KAGoP region, as part of the capital city has even greater opportunity to implement the campaign. KAGoP region is far more advanced and have applied for various kinds of municipal buildings to receive funds. However, the municipalities in the region, as act of replication, carry out similar campaigns at local level.

3.8.5.1 Transferability

The municipalities are organising such announcements in order to improve the local air pollution. As a matter of fact, the local campaigns for replacement of inefficient heating systems are similar and already existing. At this point, the campaigns show positive effect and enlarged interest by the stakeholders (individual companies, experts, municipal representamen, etc).

An example for replacement of inefficient system was identified in the municipality of Gjorche Petrov. Due to the lack of a central heating system in the municipality, an alternative, yet inefficient solution for heating the sport hall was detected. 7 electric convectors with a total capacity of 49kW were installed, while in the locker rooms infrared heaters with a total capacity of 12kW were installed. This solution, did not meet the required capacity of the thermal energy and was also a major electricity consumer. The municipality of Gjorche Petrov identified this problem and set on a completely new energy efficient solution that will give the desired effect of heating and cooling in accordance with all standards for this type of building. Namely, in accordance with the envisaged budget, the municipality decided on a solution with 16 installed fan coil units with an individual capacity of 7 kW placed horizontally. As a heating/cooling source for this system, a low-temperature heat pump air - water with a nominal heat capacity of 112 kW of thermal energy and 26kW/h of nominal electricity consumption was chosen.

3.8.5.2 Synergy potential for cooperation at the municipal and regional level

Solutions for implementation in Macedonian target region were identified and applied to different calls by the municipalities. The cooperation between municipal and regional level could be strengthen and this kind of activities are right direction to go.

3.9 Campaign “Measures for EE improvements in public buildings”, MK, No 2

3.9.1 Description of action, actors, outreach and targets of action

In 2019 the Government of N. Macedonia published a call for measures to improve the EE of public buildings in the municipalities and thus reduce the need for heating. The call applies to all municipalities in the country where the measured values of air pollution in the previous year are

significantly higher than the allowed and average days in the year where such a situation is recorded. The call refers to public buildings (schools, kindergartens), administrative buildings and health facilities. The announcement defines the criteria for ranking applications and the commission that decides on it (Goverment of the Republic of North Macedonia, 2019).

The Government of N. Macedonia published such announcement for 2020 as well. Municipalities have already received the funding, but due to the COVID-19 situation, all activities have been postponed (Goverment of the Republic of North Macedonia, 2020).

3.9.2 Overall concept and elements of the campaign

3.9.2.1 Preparatory activities

Municipalities are obliged to submit a complete picture of the condition of the facilities as a description or as report on completed energy controls for each facility separately. In particular, it should be stated for which energy measures funds for realization are required (facade, doors and windows, roof construction). For each proposed measure, a technical specification is submitted at the announcement level. The effect of the measure implementation (in reduced energy consumption, reduced emission of PM_{10} and $PM_{2.5}$ and the emission of CO_2) is calculated.

3.9.2.2 Communication activities, on- and off-line campaign activities

Municipalities inform the institutions about the realization of such measures. Along with a representative, a plan is made for the realization of the project in conditions when the facilities are occupied (e.g. children and working staff) and the dynamics of the work. Municipal experts have role of supervising the implementation of the measures.

3.9.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

The overall campaign concept is common and transparent. It consists of the following steps:

- Public call from the Government of the Republic of North Macedonia posted on the webpage of the government
- Technical preparatory work and submission of application of municipalities
- Scoring and acceptance of projects
- Implementation phase
- Surveillance and commissioning

3.9.3 Supporting policy instruments

The whole procedure for tender and project approval is implemented by the Government Secretariat. It also concludes the contract with the registered contractor. The cost related to the work under the contract is fully covered by the funds provided in the call. After the completion of the construction, the municipalities report on the realization in accordance with the agreement with the Government.

3.9.3.1 Monitoring, target achievement

The commissioning is done with the representatives of the Government or the respective Ministry. The experts from the municipality provide technical data for the EE measures (facade, carpentry, roof construction) and energy savings.

3.9.3.2 Challenges/difficulties experienced; lessons learned

Lately, the country has been focusing on energy efficiency (EE) and has been providing satisfactory results on that subject. This Governmental public call has been focused on the municipal public buildings. All municipalities in the country are given an opportunity to apply for the financial support. On the one hand, many municipalities, especially in the rural areas lack the enthusiasm to spare effort and to utilize the fund. This might happen due to various reason, such absence of experts in the field, shortage of energy educated staff, incredulity of them receiving the support, unwillingness and unreadiness for large-scale change, etc. However, there are a lot of examples of municipalities that used the benefits of this program.

No major concerns were identified during the application process. Moreover, the number of already implemented and completed projects is sufficient to serve as a role model and something from which other municipalities can conclude lessons learned.

3.9.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 9: SWOT analysis of replacement campaign action ***MK No.2***

Replacement campaign action MK No. 2		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGHT**	**WEAKNESS**
	Public and transparent process *Wide outreach* *Improved working conditions* *Existence of national strategies and regulations*	*Lack of educated staff on municipal level* *Unreadiness of the municipality*
External origin	**OPPORTUNITY**	**THREATS**
	Better insulation *Energy saving* *Improvement of the overall image of the municipality* *Stakeholder engagement*	*Lack of applicants* *Lack the enthusiasm* *Unwillingness to implement EE measures*

3.9.4.1 Effectiveness of the campaign, measures not covered at all

The effectiveness of the campaign is inevitable and gets more attention. The EE measures will improve the working conditions; thus, the purpose of the public goal is achieved. Hence the municipal buildings are contributing to the reduction of the air pollution and energy savings.

The effectiveness of the campaign is shown thought an example in the municipality of Gjorche Petrov. The municipality apply in the public call for measures to increase EE in public building in 2019 announced by the General Secretariat of the Government of N. Macedonia. The measure was focused on replacement of doors and windows in a kindergarten. Total of 53 dilapidated interior doors and windows were replaced with new doors and windows with high energy efficiency and significant improvement of the energy characteristics of the building.

3.9.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

The campaign is at national legal, so it is equable for all municipality, by means that the elements of the camping are transferable to the KAGoP region as well. In fact, the KAGoP region, as part of the capital has even greater opportunity to implement the campaign. KAGoP region is far more advanced and have applied for various kinds of municipal buildings to receive funds. However, the municipalities in the region, as act of replication, carry out similar campaigns at local level.

3.9.5.1 Transferability

The municipalities are organising such announcements in order to improve the EE. As the matter of fact, the local campaigns for subsidizing EE measures are similar and already in place. At this point, the campaigns show positive effect and enlarged interest by the stakeholder (individual companies, experts, municipal representamen, etc).

3.9.5.2 Synergy potential for cooperation at the municipal and regional level

Solutions for implementation in Macedonian target region were identified and applied to different calls by the municipalities. The cooperation between municipal and regional level could be strengthen and this kind of activities are right direction to go.

3.10 Campaign “Replacement of fossil-fueled stoves with inverters”, MK, No 3

3.10.1 Description of action, actors, outreach and targets of action

The municipality of Aerodrom is launching a subsidy campaign for the local population in order to stimulate the reduction of air pollution that occurs from space heating. This campaign is focused towards improving the ambient air quality and increasing the number of citizens who will decide to invest for a new heating technology. The households which replace the old coal, wood or oil stoves with inverter heat pumps, will receive reimbursement from the local government (Municipality of Aerodrom - subsidy for inverters, 2020).

3.10.2 Overall concept and elements of the campaign

3.10.2.1 Preparatory activities

The preparatory activities consist of:

- Collecting data on quantity and age of coal, wood, oil stoves among the local population by filling out questionnaire from the municipality or the local communities;
- Launch a campaign based on collected data.

3.10.2.2 Communication activities, on- and off-line campaign activities

By announcing a public call, local self-government bodies inform the citizens about the possibility for subsidized replacement of coal, wood, oil stoves with inverter heat pumps. Citizens express their interest in replacing the inefficient technologies with new heating systems by filling out a request-application prepared by the local self-government services based on the published announcement.

3.10.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

The overall campaign concept is common and transparent. It consists of the following steps:

- The municipality announces a Public Call for partial reimbursement for inverter heat pumps, as a replacement for the existing coal, wood, oil furnaces, on its website and in at least one printed / electronic medium;
- The municipality forms a commission of experts who will take care of the campaign and the implementation of all its phases;
- Within the set deadline in the call, the citizens submit the completed applications along with all the necessary documentation;
- Applicants fill out a statement claiming that they were users of a such inefficient system, that the house/building in which the inverter heat pump would be installed is not under construction and that it has no connection to central heating, regardless of whether it is used or not;
- Upon completion of the Public Call, the commission checks the received applications and performs onsite control.

3.10.3 Supporting policy instruments

The municipality will subsidize the replacement of inverter heat pumps, covering up to 50% of the declared cost, but not more than 15,000 denars including personal tax. The applicants will receive the subsidy according to the order of received requests in principle "First come, first served" until the exhaustion of the funds provided for that purpose in the budget of the local self-government for the current year. The payment of the approved funds for the applicants who have fulfilled the conditions from the public call will be performed by the Department of Finance of the local self-government after the decision made by the Council, and upon the proposal of the Commission. In addition, the applicants must submit proof that the purchase of an inverter heat pump has been made in a time period defined in the public call, as an original bill or invoice.

3.10.3.1 Monitoring, target achievement

After the heating season has passed, the Commission will inspect the houses/buildings that have replaced the old stoves with inverter heat pump.

3.10.3.2 Challenges/difficulties experienced; lessons learned

In recent years, many subsidy programs have been published, whether on national or local range. In particular, this subsidy measure is aimed for the local population in order to reduce the pollution, to make energy savings and to improve living conditions. This initiative is highly welcomed. Nevertheless, some people are egger to replace their old heating systems, but they lack finance regardless the help of the municipality.

3.10.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 10: SWOT analysis of replacement campaign action ***MK No.3***

Replacement campaign action MK No. 3		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGHT**	**WEAKNESS**
	Public and transparent process *Wide outreach* *Air quality improvement* *Improved living conditions* *Existence of local strategies and regulations*	*Lack of finance – end users* *Unreadiness of the municipality to support such replacement*
External origin	**OPPORTUNITY**	**THREATS**
	Replacement of inefficient heating systems *Reduction of PM and CO_2 emissions* *Energy saving* *Improvement of the overall image of the municipality* *Stakeholder engagement*	*Poor promotion of the subsidy* *Lack of applicants* *Lack the enthusiasm* *Unwillingness to change the current systems*

3.10.4.1 Effectiveness of the campaign, measures not covered at all

The replacement campaigns are becoming more popular. The old, fossil-fuelled heating systems are being replaced with inverter heat pumps, a representative switch to efficient solution. The living conditions are improved; thus, the purpose of the public goal is achieved. Hence each household with replaced heating systems is contributing to the reduction of the air pollution and energy saving.

3.10.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

The campaign is at municipal legal, by means that the elements of the camping are transferable to the other municipalities from the KAGoP region as well. In fact, the KAGoP region, as part of the capital has even greater opportunity to implement the campaign. KAGoP region is far more advanced and have applied for various kinds of municipal buildings to receive funds. However, the municipalities in the region have already done different campaigns with successful outcome.

3.10.5.1 Transferability

The municipalities are organising such announcements in order to improve the local air pollution. At this point, the campaigns show positive effect and enlarged interest by the households.

3.10.5.2 Synergy potential for cooperation at the municipal and regional level

Solutions for implementation in Macedonian target region were identified and applied to different calls by the municipalities. The cooperation between municipal and regional level could be strengthen and this kind of activities are right direction to go.

3.11 Campaign "Replacement of fossil-fueled stoves with pellet boilers", MK, No 4

3.11.1 Description of action, actors, outreach and targets of action

The municipality of Aerodrom is launching a subsidized campaign for the households to install cleaner heating systems - better quality stoves to heat their homes such as the pellet stoves. These boilers are more energy efficient and release less emissions. The aim of the action is to replace the old stoves (coal, wood, oil). Key actors that take part in the action are the households and the municipality which provide the subsidy (Municipality of Aerodrom - subsidy for pellet boilers, 2020).

3.11.2 Overall concept and elements of the campaign

3.11.2.1 Preparatory activities

The preparatory activities consist of:

- Collecting data on quantity and age of coal, wood, oil stoves among the local population by filling out questionnaire from the municipality or the local communities;
- Launch a campaign based on collected data.

3.11.2.2 Communication activities, on- and off-line campaign activities

By announcing a public call, the local self-government bodies inform the citizens about the possibility for subsidized replacement of coal, wood, oil stoves with pellet boilers. Citizens express their interest

in replacing the inefficient technologies with new heating systems by filling out a request-application prepared by the local self-government services based on the published announcement.

3.11.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

The overall campaign concept is common and transparent. It consists of the following steps:

- The municipality announces a Public Call for partial reimbursement for pellet boilers, as a replacement for the existing coal, wood, oil furnaces, on its website and in at least one printed / electronic medium;
- The municipality forms a commission of experts who will take care of the campaign and the implementation of all its phases;
- Within the set deadline in the call, the citizens submit the completed applications along with all the necessary documentation;
- Applicants fill out a statement claiming that they were users of a such inefficient system, that the house/building in which the boiler would be installed is not under construction and that it has no connection to central heating, regardless of whether it is used or not;
- Upon completion of the Public Call, the Commission checks the received applications and performs field control.

3.11.3 Supporting policy instruments

The municipality will subsidize the replacement of pellet boilers, up to 50% of the declared costs, but not more than 15,000 denars including personal tax. The applicants will receive the subsidy according to the order of received requests in principle "First come, first served" until the exhaustion of the funds provided for that purpose in the budget of the local self-government for the current year. The payment of the approved funds for the applicants who have fulfilled the conditions from the public call will be performed by the Department of Finance of the local self-government after the decision made by the Council, and upon the proposal of the Commission. In addition, the applicants must submit proof that the purchase of an pellet boiler has been made in a time period defined in the public call, as an original bill or invoice.

3.11.3.1 Monitoring, target achievement

After the heating season has passed, the Commission will inspect the houses/buildings that have replaced the old stoves with pellet boilers.

3.11.3.2 Challenges/difficulties experienced; lessons learned

In recent years, many subsidy programs have been published, whether on national or local range. In particular, this subsidy measure is aimed for the local population in order to reduce the pollution, to make energy savings and to improve living conditions. This initiative is highly welcomed. Nevertheless, some people are egger to replace their old heating systems, but they lack finance despite the help of the municipality.

3.11.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 11: SWOT analysis of replacement campaign action ***MK No.4***

Replacement campaign action MK No. 4		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGHT**	**WEAKNESS**
	Public and transparent process *Wide outreach* *Air quality improvement* *Improved living conditions* *Existence of local strategies and regulations*	*Lack of finance – end users* *Unreadiness of the municipality to support such replacement*
External origin	**OPPORTUNITY**	**THREATS**
	Replacement of inefficient heating systems *Reduction of PM and CO_2 emissions* *Energy saving* *Improvement of the overall image of the municipality* *Stakeholder engagement*	*Poor promotion of the subsidy* *Lack of applicants* *Lack the enthusiasm* *Unwillingness to change the current systems*

3.11.4.1 Effectiveness of the campaign, measures not covered at all

The replacement campaigns are becoming more popular. The old, fossil-fueled heating systems are being replaced with pellet boilers, a representative switch to efficient solution. The living conditions are improved; thus, the purpose of the public goal is achieved. Hence each household with replaced heating systems is contributing to the reduction of the air pollution and energy saving.

3.11.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

The campaign is at municipal legal, by means that all the elements of the camping are transferable to the other municipalities from the KAGoP region as well. In fact, the KAGoP region, as part of the capital has even greater opportunity to implement the campaign. KAGoP region is far more advanced and have applied for various kinds of municipal buildings to receive funds. However, the municipalities in the region have already done different campaigns with successful outcome.

3.11.5.1 Transferability

The municipalities are organising such announcements in order to improve the local air pollution. At this point, the campaigns show positive effect and enlarged interest by the households.

3.11.5.2 Synergy potential for cooperation at the municipal and regional level

Solutions for implementation in Macedonian target region were identified and applied to different calls by the municipalities. The cooperation between municipal and regional level could be strengthen and this kind of activities are right direction to go.

3.12 Campaign “Replacement of fossil-fueled stoves with inverters”, MK, No 5 – in progress

Currently, the national electricity producer ESM Macedonia provides incentives for the substitution of old and inefficient wood/oil boilers with inverter heat pumps. This action is applicable to consumers that live in the cities with the higher national air pollution (5,200 households in Skopje, 2,500 in Bitola, 1,500 in Tetovo и 800 in Kichevo). The action provides consumers with 1000 EUR and has a total budget of 10 mil. EUR. Based on the budget offered by the ESM Macedonia, the 10,000 households would install heat pumps with a total capacity of about 20-30 MW (ESM Macedonia subsidy for inverter, 2020).

3.13 Campaign “Energy efficient homes”, MK, No 6 – in progress

“Energy efficient homes” refers on subsidizing and supporting residential buildings in the municipality of Karposh in cooperation with NGO HABITAT Macedonia. The total amount of financial support for the project is 50 000 EUR.

Beneficiaries of subsidies and support are the Associations of owners and managers of residential buildings who apply on the basis of a public call by filling out an application, submitting the necessary documentation and meeting the required conditions. Hence, they acquire the right to receive subsidized investments for EE measures (installation of a facade or roof). Furthermore, the financial support will be provided on a “first-come, first-served” basis until the funds are exhausted in the budget of the municipality of Karposh for 2020. In addition, the residential buildings should be older than 25 years, the community of owners should agree on the construction of an EE facade and agree to participate with their own funds for part of the total amount. Subsidizing will be supported by funds from the budget of Karposh, in the amount of 30%, but not more than 600,000 denars of the total amount of EE measures. If an owner receives a welfare, then the part of the cost will be subsidized 100% of the value of the investment.

The municipality publishes the call in electronic form on the website of the municipality, in printed form in all public buildings, in a media which cooperate with the municipality and text messages to each president of the Association of owners.

In order to complete the fulfillment of the conditions for granting, a commission of 3 members from the municipality of Karposh and two from Habitat Macedonia is formed. They provide technical support to the users and monitor the performance (Municipality of Karposh, 2020).

3.14 Campaign “Measures for the improvement of air quality”, BG No 1

3.14.1 Description of action, actors, outreach and targets of action

In Bulgaria, OP Environment 2014-2020, funded by the EU Structural and Investment Funds, provides grants for „Measures for the improvement of the air quality”. It is a national programme, managed by the Ministry of Environment and Water, with a total budget of 57 million euros. The programme's objective is to reduce the particulate matter (PM) emissions of the residential heating in municipalities with high PM air concentrations and adopted mitigation programmes.

The beneficiaries are the municipal administrations, which in turn ensure the replacement of the polluting heating systems at the households on their territory. The heating fuelled by firewood and coal briquettes shall become fuelled by natural gas, electricity, pellets, or district heating. As a last resort, if none of these alternatives is applicable, the new technology can run on firewood or coal, provided that the technology has high performance.

Participating municipalities: Burgas, Vidin, Dimitrovgrad, Montana, Plovdiv, Smolyan, Sofia.

The maximum project duration is 59 months.

Links:

- http://ope.moew.government.bg/files/useruploads/files/nasoki_measures_air_0512.pdf
- http://ope.moew.government.bg/bg/notice/noticedetail/from/noticecurrent/id/97/typeId/1
- http://2020.eufunds.bg/bg/6/0/Project/Search?Prior=Kjp7B%2BKM1RM%3D&ShowRes=True&IsProgrammeSelected=False&IsRegionSelected=False

3.14.2 Overall concept and elements of the campaign

3.14.2.1 Preparatory activities

- Investigation of attitudes of the population
- Organization and conduction of awareness raising/training campaign for the population
- Analysis of the situation
- Preparation of mechanisms
- Preparation of public procurement documentation
- Defining of marginal prices

3.14.2.2 Communication activities, on- and off-line campaign activities

Each beneficiary is obliged to elaborate information and communication activities for the campaign. The specific activities depend on the beneficiary preferences.

The financing of these activities, however, is limited to maximum 1% of the total project costs.

3.14.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

The procedure will be implemented in two stages, the first one including actions for preparation of the second stage, i.e. implementation of investment measures.

The investment measures include replacement of stoves and boilers on fossil fuels with other using natural gas, electricity, pellets and other biomass/fossil fuel, or connecting to central heating or natural gas networks.

The programme addresses individual dwellings in residential buildings.

3.14.3 Supporting policy instruments

The total amount destined for this campaign is BGN 111.4 million BGN (57 million euros). The amount goes for grants to municipalities, which purchase heating equipment for private households. The financing is divided as follows: up to 85% by Cohesion Funds (94.7 million BGN) and up to 15% national co-financing (16.7 million BGN). The funding is allocated to each of the participating municipalities - Burgas, Vidin, Dimitrovgrad, Montana, Plovdiv, Smolyan, Sofia – depending on the number of dwellings with problematic heating.

The support provided by the municipalities to their residents is project – specific.

For more information, please see the National programme for improving the air quality: http://www.strategy.bg/StrategicDocuments/View.aspx?lang=bg-BG&Id=1288

3.14.3.1 Monitoring, target achievement

The monitoring of the different aspects of the programme implementation is allocated to a number of organizations, depending on their competence: Ministry of Environment and Water, Ministry of Economy, State Agency for Metrological and Technical Surveillance, and the municipalities.

The programme has no specific target. Instead, each beneficiary (municipality) sets its own target.

3.14.3.2 Challenges/difficulties experienced, lessons learned

The programme is ongoing and there are no completed or substantially advanced projects,so it is too early to assess the programme experience.

3.14.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 12: SWOT analysis of replacement campaign action ***BG No 1***

Replacement campaign action BG No 1		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGHT**	**WEAKNESS**
	Grant funding is attractive for beneficiaries. Municipalities are well positioned to manage the projects – they are competent, trusted	Inefficient public spending - 100% grant would be sufficient only for a limited number of projects.

	and close to the residents. The programme is targeted at the most polluted settlements and most polluting technologies.	Programme implementation is too slow: project duration is about 5 years.
External origin	**OPPORTUNITY**	**THREATS**
	The heating replacement may have a demonstration effect in settlements / districts, where most households use primitive firewood or coal stoves. If the programme is successful, it may be extended to other cities and towns.	Residents may restrain from investing in fuel switch, if they expect that they may benefit from the programme's grant in the future.

3.14.4.1 Effectiveness of the campaign, measures not covered at all

The programme effectiveness may be higher (more households can be covered), if a lower percentage of grant is provided. However, there are no studies about it.

All replacement measures are covered by the programme – for example see the preparatory measures described above.

3.14.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

3.14.5.1 Transferability

The campaign preparatory activities can be considered in REPLACE. Among the eligible municipalities, Smolyan municipality is within Rhodope region. Smolyan has started the implementation of its project (campaign).

3.14.5.2 Synergy potential for cooperation at the municipal and regional level

In July 2019, Smolyan municipality signed a 58-month contract amounting to nearly € 5 million. The project is implemented into 2 steps. The first step is a preparatory one and includes:

- Survey of at least 4 000 households to identify both the pollution sources and people's attitude towards heating replacement - preferences, drivers, barriers, etc.
- Information and training campaign aiming to increase residents' awareness about both PM adverse effects and advantages of modern heating
- Assessment of heating in each city district
- Prioritization of the investments
- Energy audits, visits of households to assess the individual technology and conditions
- Development of a financial plan, including average and marginal replacement costs.

The second step of the project in Smolyan is the actual implementation of the heating replacement and includes purchase, delivery, and installation of the equipment at the selected households. Additionally, this step includes uninstallment and handling (e.g. recycling) of the old equipment.

The project in Smolyan is expected to benefit more than 2 600 households and the average cost per household is estimated at about € 1 530. (http://www.smolyan.bg/bg/menu/subcontent/2479)

Cooperation with the municipality is expected to take place within REPLACE.

3.15 Campaign "Bulgarian Municipalities Working Together to Improve Air Quality", BG No 2

3.15.1 Description of action, actors, outreach and targets of action

This campaign represents the integrated project **LIFE-IP Clean Air: Project "Bulgarian Municipalities Working Together to Improve Air Quality"**, supported by the LIFE Programme of the European Commission. The project aims at improving the air quality in 6 Bulgarian municipalities: Sofia, Burgas, Veliko Tarnovo, Montana, Ruse and Stara Zagora.

Coordinating beneficiary: Sofia Municipality; Associated beneficiaries: municipalities of Burgas, Ruse, Stara Zagora, Veliko Tarnovo and Montana, and the NGO Club "Economika 2000".

The duration of the project is 6 years; from 2 October 2018 to 2 October 2024.

Links:

- http://www.lifeipcleanair.eu/en-us/home.aspx
- https://www.zazemiata.org/wp-content/uploads/2020/03/Presentation_LIFE-IP-CLEAN-AIR.pdf

3.15.2 Overall concept and elements of the campaign

3.15.2.1 Preparatory activities

- Analysis of the Air Quality Programs and collection of additional information
- Analysis and assessment of household heating as a source of air pollution
- Analysis of alternatives for household heating and market research (Face-to-face surveys of 8 producers/importers of alternative household heating solutions)
- Analysis of the Target Energy Assistance Program of Bulgaria
- Design of a scheme for transition towards alternative forms of household heating (+Public discussions of the scheme for transition towards alternative forms of heating in each municipality)
- Building the capacity of the coordinating beneficiary, the associated beneficiaries and the stakeholders (trainings already conducted)

3.15.2.2 Communication activities, on- and off-line campaign activities

- Promotion through national and social media, elaboration of information materials, boards, banners, etc.
- Establishment of local information centres
- Organization and conducting of national and local level events

3.15.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

The core instrument to achieve the objective is design and implementation of a scheme for transition to alternative forms of the household heating in the six municipalities. The scheme envisages transition from heating with wood and coal to heating with pellets, gas or use of the central heating network.

The concrete actions include:

- Demonstration (testing) of the scheme for transition towards alternative forms of household heating
- Assessment of the pilot testing scheme and finalization of its design
- Building the capacity of the coordinating beneficiary, the associated beneficiaries and the stakeholders (phase 2)
- Implementation of the transition scheme to alternative forms of household heating
- Assessment of the scheme implementation
- Building the capacity of the coordinating beneficiary, the associated beneficiaries and the stakeholders
- Developing a proposal for implementing the scheme at national level

The implementation is divided into 3 phases:

1. Preparatory
2. Pilot testing of the Scheme for transition to alternative forms of heating - 500 households in the 6 municipalities; and assessment of implementation mechanism and changes if needed
3. Full implementation of the Scheme – 10 000 households; assessment of its implementation; proposal for replication of the Scheme via the National Association of Municipalities in the Republic of Bulgaria

3.15.3 Supporting policy instruments

The project budget is EUR 16.7 million, and the financial contribution of the European Commission is 60%.

3.15.3.1 Monitoring, target achievement

- Evaluating the impact of project actions and compiling tables of indicators

3.15.3.2 Challenges/difficulties experienced, lessons learned

No information is available.

3.15.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 13: SWOT analysis of replacement campaign action BG No 2 and

Replacement campaign action BG No 1		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGHT**	**WEAKNESS**
	Grant funding is attractive for beneficiaries. Municipalities are well positioned to manage the projects – they are competent, trusted and close to the residents. The programme is targeted at the most polluting technologies. The programme has a pilot phase, whose lessons are incorporated in the larger implementation.	Inefficient public spending - 100% grant would be sufficient only for a limited number of projects. Programme implementation is too slow – 6 years.
External origin	**OPPORTUNITY**	**THREATS**
	The heating replacement may have a demonstration effect in settlements / districts, where most households use primitive firewood or coal stoves. If the programme is successful, it may be extended to other cities and towns.	Residents may restrain from investing in fuel switch, if they expect that they may benefit from the programme's grant in the future.

3.15.4.1 Effectiveness of the campaign, measures not covered at all

It is too early to assess the programme effectiveness

3.15.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

The project methodology, particularly the preparatory activities, is somewhat transferable to REPLACE.

Additionally, an After-LIFE Plan presenting how actions implemented under the Integrated project would be continued or replicated elsewhere, how human resources and management capacities built up during the project will be maintained, how related funding would be ensured, etc.

3.15.5.1 Transferability

The results of the preparatory activities (see „Preparatory activities" section above") may benefit the preparation of REPLACE campaign, provided that that information can be shared with REPLACE team.

After-LIFE Plan will be elaborated, presenting how actions implemented under the Integrated project would be continued or replicated elsewhere, how human resources and management capacities built up during the project will be maintained, how related funding would be ensured, etc. Unfortunately, the Plan will be elaborated after the start of REPACE campaign.

3.15.5.2 Synergy potential for cooperation at the municipal and regional level

No cooperation is possible, because the programme targets cities outside Rhodope region.

3.16 Pilot project "Improving the air quality in residential heating sector through replacement of individual heating devices on fossil fuels on the territory of the Municipality of "Novi Iskar", BG No 3

3.16.1 Description of action, actors, outreach and targets of action

In 2017, "Za Zemyata" NGO and "Greenpeace Bulgaria" initiated a proposal for creation of national and municipal programmes for replacement of inefficient and polluting residential heating, which was adopted and further developed by the Municipality of Sofia as a pilot project. Its aim was to improve air quality through replacement of heat appliances fueled by wood and coal with more efficient stoves burning pellets.

The project was realized on the territory of the Municipality of "Novi Iskar", which is part of Sofia Municipality. It included gratuitous delivery and installation of 30 stoves on pellets to single-family residential buildings and provision of the required amount of pellets to cover the needs for one heating season.

http://www.novi-iskar.bg/piloten-proekt-za-podobryavane-kachestvoto-na-atmosferniya-vzduh.html

3.16.2 Overall concept and elements of the campaign

3.16.2.1 Preparatory activities

1. Households submit application forms to the municipality
2. The assessment of the applications is based on administrative compliance, socio-economic status of the residents, and technical audit.

3.16.2.2 Communication activities, on- and off-line campaign activities

- Publication of announcements and invitation on the websites of the Municipality of "Novi Iskar" and of the Municipality of Sofia
- Information meeting with the residents
- The project was largely promoted in national media channels

3.16.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

First, the Mayor appointed a Commission to:

- organize and manage the project documentation and organize the operative work of the project
- assess the received applications and list the candidates
- control the delivery, installations and exploitation of the stoves
- inform society about the project activities

The Mayor then issued the procedures for the start of the project, including:

- timeframe, place and way of application

- term and place of the stages of the procedure
- publication of invitation for participation by the local administration
- registration of applications
- assessment of applications
- list of candidates
- publication of approved candidates
- conclusion of contracts with beneficiaries

After the installation all stoves were registered by the LA, which then exercised control over meeting the contract requirements.

The main requirement to all candidates was to own the property.

Applicants could apply for a dwelling (room) heated by solid fuel (wood and coal) with an area of up to 100 m2, which was heated continuously during the heating season or was the main heated room in the dwelling.

3.16.3 Supporting policy instruments

The financing of the project in the amount of BGN 90 000 was provided by the budget of the Sofia Municipality for 2017.

3.16.3.1 Monitoring, target achievement

- Testing of consumers' satisfaction through interviews with all participating beneficiaries
- Report on the results of the interviews: https://www.zazemiata.org/wp-content/uploads/2020/01/Dolkad-beneficienti-pechki.pdf
- Results of the interviews: https://www.zazemiata.org/anketa-pechki-so/

3.16.3.2 Challenges/difficulties experienced, lessons learned

Many respondents shared that they experienced problems either with the heating equipment or low quality pellets. For the 30 heating systems, 17 problems were registered and this resulted in dissatisfaction of some residents. So, it is recommended that there is not only guarantee service of the equipment, but also penalty of the supplier to incentivize him/her to provide quality equipment. Problems with pellet quality were reported by 46% of the residents. One of the project recommendations is to leave the fuel purchase up to the residents, it is not the role of the municipality to identify the fuel supplier.

Another problem is that households sometimes forget the instructions for the proper operation, so they experience problems. Clear written instructions are recommended instead.

3.16.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 14: SWOT analysis of replacement campaign action BG No 3

Replacement campaign action BG No 3		
	Helpful to achieving the objective	*Harmful to achieving the objective*
a	**STRENGHT**	**WEAKNESS**

	Comprehensive assessment of the household needs	Complicated application / evaluation process (high transaction costs) Low quality of heating equipment and pellets, due to poor project requirements and lack of penalty for the suppliers No emission measurements / estimations.
External origin	**OPPORTUNITY**	**THREATS**
	The pilot project provided lessons learned and recommendations that can be integrated into future campaigns.	Poor quality new technologies may create negative image of modern and efficient technologies.

3.16.4.1 Effectiveness of the campaign, measures not covered at all

The effectiveness was limited to only 30 households, because this is a pilot project.

Among the measures not covered, only the emission quantification (old and new equipment) was omitted.

3.16.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

3.16.5.1 Transferability

The elements of the campaign are not transferable to REPLACE campaign, but the lessons learned and the recommendations will be considered.

3.16.5.2 Synergy potential for cooperation at the municipal and regional level

No synergy potential for cooperation is available, as the project is completed and it covered another region.

3.17 DESIREE GAS Project, BG No 4

3.17.1 Description of action, actors, outreach and targets of action

The Project "Demand Side Residential Energy Efficiency Through Gas Distribution Companies. In Bulgaria" (DESIREE GAS) aims to provide a dedicated and effective mechanism to support the gasification of the Bulgarian households. It promotes the most efficient technologies and supports the switch from carbon-intensive electricity to natural gas, thus reducing energy consumption and carbon emissions in the residential sector in Bulgaria.

The project is funded by the International Fund "Kozloduy" (KIDSF), administered by the European Bank for Reconstruction and Development (EBRD). Managing Authority is the Bulgarian Ministry of Energy.

The project started in September 2015 and lasts 36 months. Grants are expected to cover funding for more than 10 000 households.

Links:

- https://desireegas.bg/en/
- https://www.overgas.bg/novini/nad-9-mln-leva-sa-spestili-klientite-na-overgaz-s-desiree-gas/

3.17.2 Overall concept and elements of the campaign

The project intends to provide grants to about 10 000 households in Bulgaria to support the gasification and installation of high-efficiency boilers.

For this purpose by consensus between the Ministry of Economy, European Bank for Reconstruction and Development and GDCs has been developed a concept for the approval procedures for grant or reimbursement and criteria for selection of beneficiaries. Also rules are prepared for technical validation, monitoring and control prior to the approval of the grant.

The eligibility criteria of beneficiaries (households) consider the following aspects:

- Technical: distance from the existing gas network; fuels used in present opportunities for energy savings;
- Property: the status of the property; existing building; residence;
- Social: level of income; size of the property and others.

Eligible Installers are classified according to technical and financial criteria in accordance with the existing licensing regime. To ensure compliance with the grant criteria for high energy efficiency in accordance with international standards, eligible materials and equipment must fulfill all EU and local regulations in force and comply with recent regulatory provisions for high energy efficiency heat generation equipment used.

The procedure for applications by potential beneficiaries for grants to join the gas network consists of six basic steps:

1. Prior approval - household files an application to Gas distribution companies (GDCs) for connection and Grant. GDCs undertake a review of the application of technical eligibility in view of the availability of gas network in the territory / possibility to deliver the required amount of gas. If technically eligible, the application shall be reviewed for compliance with the criteria of DESIREE GAS Project to obtain the grant. If eligibility criteria are met the GDC issues a Statement for connection;
2. Final approval - The selected eligible installer makes a technical inspection of the site to determine the required works and costs. The installer send a quotation (offer) to the owner, the latter may accept or request a revision. The process ends with the signing of connection agreement and engineering contract between the GDC and the owner of the property;
3. Verification of eligibility - DGP Consultant verifies the completeness and eligibility of the applications. If the application is not eligible a Rejection Letter is issued;
4. Construction - selected eligible installer prepares detailed design in accordance with the submitted quotation and national regulations that must be approved by the Technical Supervision. Construction and installation works are performed by the installer. After

completion of construction works an Act for initial technical inspection is issued by the authorized company for technical supervision;

5. Connection – following the issuance of the Act for initial technical inspection by the authorized company for technical supervision and based on the contract with GDC, the connection to gas network is performed;
6. Grant disbursement – the household submits to the GDC a delegation of payment. The GDC claims for grant payment to the DGP Consultant by submission of a Request for payment including all requested documentation. After verification of application the DGP Consultant confirms the payment of the Grant from KIDSF and sends a notification to the Ministry of Energy and the EBRD for disbursement of funds for all approved cases.

3.17.3 Supporting policy instruments

KIDSF provides 20% of the project costs (now increased to 30%). Households have to cover the remaining 70% of the investment. Two banks have designed special preferential loans, which could be provided to the interested participants.

3.17.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 15: SWOT analysis of replacement campaign action BG No.4

Replacement campaign action SI No. x		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGHT**	**WEAKNESS**
	High efficiency of public spending, due to the low grant share	The programme is limited to gas technologies only.
External origin	**OPPORTUNITY**	**THREATS**
	Such a scheme can be used for RES heating in the future	Natural gas heating may be unacceptable in long term (e.g. after 2040), due to its GHG emissions, so new investments in infrastructure and heating equipment need to be carefully considered.

3.17.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

3.17.5.1 Transferability

The campaign is not transferable to REPLACE.

3.17.5.2 Synergy potential for cooperation at the municipal and regional level

No synergy potential for cooperation is available, because natural gas technologies are generally not applicable to Rhodope region, due to its poor gasification.

3.18 Campaign “Small Renewable District Heating and Cooling Grid in Letnjikovac”, City of Šabac (SER) No 1

The suburb of Letnjikovac is located on the southern edge of Sabac. In the central part of the settlement there are buildings of the primary school "Stojan Novaković", Center for Professional Development and 6 other public buildings. Near this central part, there are 310 single-family residential buildings within 3 residential blocks. The following figure shows the layout of the buildings at this location.

Figure 1: Settlement “Letnjikovac”, public buildings and households within 3 apartment building blocks

Figure 2: Apartment buildings – Block I, Block J and Block K

For the needs of heating the school building (B) and the Center for Professional Development (C), a boiler room with two heating oil boilers with a capacity of 2 x 400 kW was built in year 1997. In the period 2016-2018, the project “Market uptake of small modular renewable district heating and cooling grid for communities” (CoolHeating - H2020) was realized. The aim of the project was to develop a technical concept, as well as a business and financial model, for the construction of a small district heating network on a site, with a wood chip boiler that would replace the existing heating oil boilers. Plan was to implement the project in two phases.

In the first phase, it is planned to connect public buildings to the district heating network. In October 2018, a wood chip boiler with a capacity of 500 kW was installed, which was used for heating the school building (B) and the building of the Center for Professional Development (C) in 2018/19 and 2019/20 season. During 2020, works on the reconstruction of the boiler room and the installation of another boiler on a wood chip with a capacity of 500 kW are planned. In addition, a district heating network is being built for connection of 6 public buildings.

In the second phase of the project, which is planned to be completed in 2021, the installation of a third wood-fired boiler with a capacity of 1 MW, construction of a district heating network in blocks I, J and K and connection of 310 single-family buildings are planned. The total heat consumption is 4,105 kW and taking into account the coefficient of simultaneous operation whose value is 0.7, the required heat capacity is 2,800 kW. For the needs of supplying heat to all buildings on the location, in addition to the existing wood-fired boiler which is operational from October 2018 and the boiler which will be operational from the end of 2020, it is planned to install a 1 MW boiler during 2021.

3.18.1 Description of action, actors, outreach and targets of action

Heating oil and electricity are used for heating public buildings at the location "Letnjikovac", except for the two mentioned buildings (school and Center for Professional Development). The dominant fuel for heating households is firewood, but coal is also used. However, firewood and coal combustion boilers are extremely inefficient with an average efficiency of around η = 0.40.

As it was said, after 2020, neither heating oil nor electricity will be used in public buildings, but everything will be connected to the boiler room with wood-burning boilers. This decision was made by the city administration and the project is already being implemented.

Activities within the REPLACE project are aimed at households located in this location. The installation of the third boiler on wood chips and the construction of the district heating network in the apartment blocks I, J and K will provide conditions for the connection of all households on the location. The development of the district heating network and the reconstruction of the existing boiler room is the obligation of the local energy company "Toplana-Šabac", which is the initiator of the replacement of inefficient boilers and fossil fuel boilers.

The replacement campaign and connection to the district heating network will be organized and implemented by the local energy company.

Figure 3: Planned network for district heating for residential blocks I, J and K

The goal of the campaign is to motivate homeowners to make the decision to connect to the district heating network. Renewable energy district heating should be based on market principles, sustainable from the financial aspect but also from the aspect of environmental protection. Campaigns and connections could not be completed in one year, and it is required for all activities planned within a reasonable period of time to be divided into smaller units (for example, focus on one block of flats) and include all stakeholders (representatives of the city administration,

representatives of local energy companies, citizens but also activists of (green) NGOs, equipment manufacturers and installers).

For the success of the replacement campaign, it is important to realistically assess the effects, primarily the number of connections compared to the planned and reduction of CO_2 emissions, as well as reduction of concentration of PM 10 and PM 2.5 particles, which is one of the key motivations for citizens to participate in the project.

3.18.2 Overall concept and elements of the campaign

3.18.2.1 Preparatory activities

The campaign is implemented through three steps: user survey, creation of a campaign plan and implementation of activities envisaged by the campaign plan.

Survey. Data on energy consumption and data on devices and technologies used for heating and cooling in public buildings are available thanks to the implemented energy management activities. The collection of data on energy consumption and appliances used in households is conducted through a survey. At the end of 2018, a form with questions was prepared, which was answered by 100 household owners at the location of the Letnjikovac settlement. The form contained the following questions:

Consecutive number of the building: ____

Category of building: ☐ household, ☐ public, ☐ industry small, ☐ industry medium,

Year of construction of the building: _____

Heated m² of the building: _____

Needed flow temperature of the central heating system: _____°C

Existing heating system: ☐ central heating, ☐ individual stoves, ☐ other: _____

Annual demand of fuel for heating:

Logwood	_____ m³
Wood chips	_____ m³
Pellets	_____ t
Natural gas	_____ m³
Fuel oil	_____ l
Electricity	_____ kWh
Coal	_____ t
Other:	_____

Sanitary water preparation with: ☐ electricity, ☐ natural gas, ☐ logwood, ☐ wood chips, ☐ pellets, ☐ fuel oil, ☐ coal, ☐ not sanitary water preparation, ☐ other

The building is cooled with: ☐ electricity, ☐ no cooling

Estimated current cooling demand (electricity): _____ kWh per year, or otherwise fill out the number of rooms that are cooled: _____, or otherwise the cooled m²: _____

Annual expenses for heating: _____ *(in local currency)*

Generally willingness to connect to the DH system: ☐ yes, ☐ no

Estimated operating time per day: _____ (e.g. 5am to 10pm)

Additional technical information about the consumer: _____
_____

The survey was conducted by representatives of the local energy company with the support of representatives of the city council and citizens - household owners.

Creating a campaign plan. For the needs of the campaign, questionnaires were prepared and printed, and the campaign was implemented according to the "door to door" model during a previously defined period of time. It is envisaged that the collected data will be grouped by streets and apartment blocks. Before the start of the campaign, the persons who conducted the field survey underwent a one-day training in order to get acquainted with the project, the method of data collection, processing and storage.

Realization of activities envisaged by the campaign plan. Before collecting door-to-door data, meetings of representatives of the local energy company, city administration and citizens living at the location where the campaign plan was presented were held. The terms of the survey and the manner of informing citizens about the project were agreed. On these meetings it was discussed about the sustainability of the project and the effects of replacing fossil fuels and inefficient devices, as well as the financial model of project implementation. Attention is focused on the quality of buildings and the application of energy efficiency measures aimed at buildings at the Letnjikovac location to support the sustainability of district heating using renewable fuels (in this case wood chips).

3.18.2.2 Communication activities, on- and off-line campaign activities

Information about the project was shared through the web portal of the city administration and statements through the media. However, after the presentation of the project to the public, the interest of homeowners in the Letnjikovac location increased.

Considering the experiences from the project of implementation of energy efficiency measures, which has been implemented since 2010, the decision was made to establish direct communication with citizens. This was achieved by providing a term during the week in which citizens interested in the project can ask questions about the project to engineers from the local energy company.

In Serbia, in general, there is no developed expert network available to citizens. For that reason, the support of local energy companies organized, most often as public utility companies, is necessary because they have the necessary knowledge and capacity to be able to help citizens make an informed decision on the transition to renewable energy.

3.18.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

Technical assistance and support to end consumers is organized in the term "open door" in the space of the energy company. The engineers employed by the company have taken on the role of energy consultants. Interested building owners were invited through the media to a face-to-face meeting with engineers dealing with energy efficiency projects and heating and cooling projects.

The analysis of the effects of switching to district heating with wood chips also took into account the energy properties of buildings. The results of individual analyses proved that from the aspect of

sustainability of district heating as well as from the aspect of energy consumption in buildings, a package of measures must be applied, which includes energy efficiency measures and improvement of energy properties of buildings and connection to the district heating network.

The local administration decided to support this package of measures and as a support instrument, a decision was made to establish a local budget fund for energy efficiency. Along with the decision on the establishment of this fund, the criteria that interested parties should meet in order to apply for the support of the fund as well as the criteria for ranking when awarding incentives are proposed. Unfortunately, due to unclear republican laws on the manner of raising funds for the needs of the fund, the part of the campaign related to financial support did not become operational regardless of the decision made. An aggravating circumstance is that this is a local campaign and there were no similar examples in Serbia, so there are no examples of good practice that could be used to overcome or mitigate the barrier related to the way the local fund for financing energy efficiency and renewable energy projects works.

3.18.3 Supporting policy instruments

The establishment of the budget fund for energy efficiency and renewable energy projects did not give the expected result, so the support policy was changed. Taking into account the fact that municipality is the founder and 100% owner of a local energy company, the supervisory board decided to support the development of the district heating network and finance with its own funds the connection of end consumers who decided to replace their old inefficient boilers and boilers using fossil fuels. In January 2020, the City Council of Sabac confirmed the decision made by the supervisory board.

This model of support has an innovative character in relation to the situation in other municipalities in Serbia where it is common practice for the end customer to pay fees for connection to the district heating network and all connection costs.

End users are motivated to connect to the district heating network because they do not incur any costs. However, there is a condition that ensures optimal functioning of district heating. Building owners are required to meet the requirements of the Rulebook on Energy Efficiency of Buildings[3] in such a way that each connected building must be in energy class "C". This condition is necessary to prevent energy waste at end users regardless of the fact that this energy is generated from a renewable energy source as well as to optimize the cost of investment in the district heating network.

3.18.3.1 Monitoring, target achievement

This campaign was launched at the end of 2018, when the first surveys with end users were conducted at the "Letnjikovac" location. The results of the survey showed interest in connecting households to district heating, so the project was developed in stages. During 2019, the conceptual solution and project documentation for the expansion of the network were prepared. The municipality has decided to connect 6 public buildings at this location to the newly built district

[3] https://www.paragraf.rs/propisi/pravilnik_o_energetskoj_efikasnosti_zgrada.html

heating network and to install a wood chip boiler with a capacity of 500 kW, which means that the total capacity of the boiler room is increased to 1,000 kW (including the existing wood boiler.). In that way, the municipality sent a message to the citizens that the local administration itself is motivated to switch from electricity and fossil fuels to renewable energy, and it showed that on the example of publicly owned facilities. This phase of the project will be completed by the end of 2020.

The next step is the preparation of project documentation and preparation for the construction of a district heating network in three residential blocks in the settlement "Letnjikovac", as well as the continuation of the dialogue with the citizens.

Based on the data on the consumption of wood chips and the delivered energy, the efficiency of the district heating operation is monitored and the achieved financial savings are recorded. In support of this project, but also in general the project of replacing fossil fuels and inefficient boilers in Šabac, an action was launched to monitor air quality. In addition to two official and certified stations for measuring pollutant emissions in the air, an initiative was launched by a group of citizens and BOŠ[4] to set up small (non-certified) measuring stations in several places in the city that can register PM 10 and PM 2.5 particulate emissions. The assumption was that individual furnaces in Šabac are the dominant emitters of PM particles in relation to traffic and industry. If they would prove it, then it would be an additional motivation for the citizens to speed up the replacement project and achieve the goals stated in the document "Energy Policy of the City of Sabac" much faster than planned, which refer to a significant increase in the share of renewable energy in Sabac.

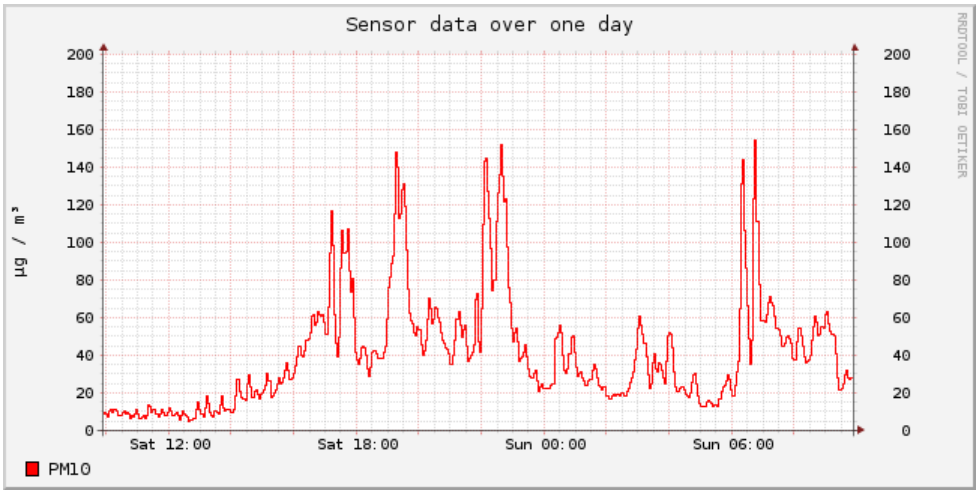
In February 2020, a meeting was held attended by representatives of the energy company ("Toplana-Sabac"), representatives of BOŠ, representatives of local self-government, NGOs and citizens.

[4] http://www.bos.rs/

Picture 1: Discussion about air quality in Šabac

At the meeting, five small devices were distributed that were installed in different parts of the city, and the data on the emission of PM particles that the devices measure are shared according to the "open data" model on the web portal https://maps.sensor.community . Measurement and data collection began at the end of February 2020, and the results showed that really small furnaces with inefficient boilers and fossil fuel boilers are the dominant source of PM particles in Šabac. Analyzing the emission diagrams of PM particles, regularities were observed when emission peaks were registered in the morning (6:00 am) and during the evening hours starting at 18:00 pm, and that during the day when the air temperature rises the emissions decrease, which leads to the conclusion that it is precisely the influence of individual furnaces.

The impact of traffic and industrial furnaces is excluded because the time of monitoring emissions during 2020 coincided with the duration of the COVID19 pandemic, when there were restrictions on the movement of people (and vehicles) in Serbia (and in Sabac) and the economy and public sector worked with reduced capacities.



Picture 2: Diagram of PM 10 emission in the settlement "Letnjikovac" (March 2020.)

It should be emphasized once again that these are not official measurements and that certified devices are not used, but that it is an initiative of a group of citizens and the use of devices that are built on the principle of DIY. However, chart trends show the essence of the problem and can help with a district heating connection campaign and a replacement project. In this way, the awareness of citizens is raised about the need to reduce the use of fossil fuels in order to preserve air quality and in general in order to protect the environment.

3.18.3.2 Challenges/difficulties experienced, lessons learned

The problem that was not expected during the preparation of the campaign is that the local budget fund for project support will not be operational. At the state level, there are no support mechanisms aimed at citizens, but there are financial instruments aimed at the public sector and companies. Commercial banks have launched campaigns to finance energy efficiency projects, but with restrictions that can be grouped on lending conditions (relatively high interest rates that are not appropriate for energy efficiency projects and significantly higher than in EU countries, repayment periods, etc.) and loan security. Observed from this aspect, for the banking sector, housing communities are not visible and there have been no cases of housing communities formed in multi-family buildings successfully applying for loans for the implementation of energy efficiency measures or renewable energy projects.

When establishing the local budget fund, it was considered that energy efficiency and increasing the share of renewable fuels were in the public interest and that local administrations should create mechanisms and technical support (information on technical and environmental aspects of these projects) as well as financial support mechanisms. However, the legislation in Serbia is not completely clear and in some cases there are contradictory solutions, so the result is that the local budget fund for support of energy efficiency measures and renewable energy projects has not become operational.

Challenges for the implementation of projects for the replacement of old and inefficient devices and devices that use electricity and fossil fuels for heating and cooling are also generated by problems in the building sector. Only at the end of 2016, the Rulebook on energy efficiency of residential buildings and energy certification of buildings was adopted, and then the conditions were created for energy efficiency projects to become sustainable.

There are still no formal licenses in Serbia that are licensed as energy advisors, although this is regulated by state legislation. This shortcoming is compensated by hiring engineers from local energy companies that deal with district heating and hiring experienced engineers who deal with the design of heating and cooling installations.

3.18.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 16: SWOT analysis of replacement campaign action ***SER No.1d***

Replacement campaign action SER No. 1 **"Small Renewable District Heating and Cooling Grid in Letnjikovac"**		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	*STRENGHT*	**WEAKNESS**
	At the location "Letnjikovac" there is a boiler with a capacity of 500 kW on wood chips and a	Not all households have a central heating installation in their homes.

	small district heating network to which two public buildings are connected. *For 2020, it is planned to build a district heating network in the length of 700 m and to install another boiler with a capacity of 500 kW on a wood chip and to connect 6 more public buildings.* *The document Energy Policy of the City of Šabac foresaw an increase in the share of renewable energy in Šabac and the achievement of energy independence by 2050.* *The owner of the project (Development of a district heating network that uses renewable energy sources) is local energy company JKP "Toplana-Šabac", 100% owned by the city of Šabac.* *The City Council of the City of Šabac has made a decision to exempt end users from paying all costs for connection to the district heating network.*	Not all buildings on the site meet the requirements for classification in energy class "C", which is a condition for connection to the district heating network. There is a lack of energy advisors to help end customers make an informed decision about replacing their inefficient boilers and fossil fuel boilers.
External origin	**OPPORTUNITY**	**THREATS**
	Collective actions such as procurement of equipment and materials for heating and cooling and materials for thermal insulation of buildings. *"Letnjikovac - energy island", the project is attractive for funds that support the implementation of green technologies.*	Disruptions in the energy and fuel market in the direction of reducing the price of oil and natural gas, which would result in renewable energy not being competitive with the price of fossil liquid and gaseous fuels. Subsidized or low electricity prices make renewable energy projects uncompetitive. Unclear legislation and complicated procedures for the implementation of renewable energy.

3.18.4.1 Effectiveness of the campaign, measures not covered at all

The campaign would be more effective if financial models were developed and subsidies were available for the implementation of renewable energy projects. On the other hand, the motivation of citizens would be higher if, at the same time as the campaign to replace inefficient boilers and fossil fuel boilers, a campaign "for cleaner air and environmental protection" was launched, as well as educating citizens through various promotional activities.

No restrictive measures were considered, such as a ban on the use of coal or liquid fuels in parts of the city where a district heating network has been developed, nor the obligation to connect new buildings to the district heating network because there is no decision maker's support.

3.18.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

3.18.5.1 Transferability

The implementation of the REPLACE project will be successful only if there is strong support from decision makers. By adopting the document "Energy Policy of the City of Šabac", the local administration has set itself the goal to increase the share of renewable energy and reach the level of energy independence by 2050. The REPLACE project fully fits into the framework defined by this document. The concept of development of rural settlements is very similar to suburban settlements, which may mean that the project would be applicable in the same way in rural settlements (there are 51 of them in the administrative territory of the city of Šabac). It should be emphasized that the inhabitants of rural settlements own biomass, which increases the chance of increasing the share of biomass in the energy mix in rural settlements.

Engineers from a local energy company could take on the role of energy advisors. This would provide significant support to end customers to make informed decisions. On the other hand, the development of small district heating networks would be financed by an energy company, which would compensate for the lack of support schemes.

3.18.5.2 Synergy potential for cooperation at the municipal and regional level

Examples of good practice are the basis for exchanging experiences in the region. Cooperation between municipalities in Serbia as well as between municipalities in the region could be based on the transfer of knowledge and technology, joint financing of projects or joint procurement of equipment and works. Joint working groups (for example, “green councils” at the regional level) or professional associations of installers or energy companies, such as energy cooperative associations, could play a key role in establishing cooperation.

In 2018, a meeting was organized in Šabac with representatives of municipalities from the Federation of Bosnia and Herzegovina, at which the experiences gained through the implementation of the project of thermal insulation of buildings in Šabac were discussed. On that occasion, the results of the project were presented, as well as the model of co-financing the works.

A good example is the BioSol project within the cross-border cooperation program between Croatia and Serbia, in which Šabac and Gradiška are partners, and the topic is the financing of renewable energy projects. The realization of this project is in progress.

However, in order for cooperation between municipalities to be more intensive, it is necessary for projects to be visible. In this particular case, this means that in addition to media support for campaigns for the implementation of renewable energy projects, media campaigns on the results achieved are also necessary.

3.19 Campaign “Replace and save”, SI No 1

Slovenian Consumers Association (sl. Zveza potrošnikov Slovenije – ZPS) is an independent, non-profit, internationally recognized non-governmental organisation that is oriented in informing and protecting the interest of consumers in Slovenia. It was established in 1990 and was well received by

the consumers. Their role is to informs, council, educate the consumers and to test different appliances on the market to help consumer in their purchase decision (tested appliances get a tag "ZPS tested"). ZPS organised collective replacement campaigns for replacement of electricity and natural gas suppliers as well as collective campaigns for replacement of the heating and cooling devices.

3.19.1 Description of action, actors, outreach and targets of action

"Replace and save" campaign (sl. "Zamenjaj in prihrani") organised by the ZPS were oriented in collective replacement of natural gas and electricity suppliers in Slovenia. Three actions of **collective supplier replacement** have been organised so far and all can be considered as successful:

- first action[5] (2014/2015) attracted more than 40,000 interested household and has led to 14,000 signed contracts (that was more than 13,000 households). Calculated average cost reduction was 164 € per household and achieved total savings of the hole campaign 1 mio €;
- second one[5] (2017) attracted almost 26,000 interested household and has led to almost 16,000 signed contracts (more than 13,000 households). Calculated average cost reduction was 221 € per household achieved total savings of the hole campaign 1.2 mio €;
- the third[6] (april 2019) campaign attracted more than 28,500 interested consumers before the end of the auction. The final number of signed contracts was not yet available in the time of the D2.4 preparation. ZPS reported on a good customer response and poor response on the providers' side.

Two collective replacement campaigns organized by ZPS for heating and cooling devices (these two were the most recent ones):

- cooling devices[7] (jan. 2019) (air conditioning): more than 6,100 attracted customers;
- heating devices[8] (sep. 2019) (pellet stoves): almost 800 attracted.

Campaigns that were initiated by the ZPS covered all the regions in Slovenia.

[5] ZPS first and second collective action: https://www.zps.si/index.php/zamenjaj-in-prihrani/zamenjaj-in-prihrani-3/9459-skupinski-nakup-elektrike-in-plina-za-vse-potrosnike-zamenjaj-in-prihrani-3
[6] ZPS third collective action: https://www.zps.si/index.php/zamenjaj-in-prihrani/zamenjaj-in-prihrani-3/9610-znan-je-zmagovalec-licitacije-skupinskega-nakupa-elektrike-in-plina-zamenjaj-in-prihrani-3

[7] ZPS collective action - cooling devices https://www.zps.si/index.php/clear-2-0/9594-skupinski-nakup-klimatskih-naprav-se-do-21-aprila-se-nam-lahko-pridruzite-4-2019

[8] ZPS collective action - heating devices https://www.skupinskinakupzps.si/zaprto

3.19.2 Overall concept and elements of the campaign

Collective replace campaigns organised by ZPS are designed in a way that guides the consumer throughout the hole process to make it as customer friendly as much as possible. The overall concept consists of four stages.

Stage	Replace and save campaign	Collective replacement campaign
1.	First stage covers the process of consumers applying for the collective campaign.	
2.	Auction - In auction the energy suppliers form an offer that is further on negotiated between the SZP and the supplier.	ZPS investigates a set of suitable devices and tests them. Based on the ZPS testing, it prepares a list of the most suitable devices with an informative offer for the top 4 devices, then the customers decide which one is the best fit for their needs. If the customer is not happy with the proposition or is not interested in finalizing the application, the process ends here.
3.	The auction is ended, and the most suitable (most cost efficient supplier) is chosen by the ZPS. The consumer receives the informative cost calculation (data provided by the consumer in the application step) than decides whether or not he well make the switch of the energy supplier.	If a customer proceeds to this step (picks up the most suitable device in the previous step), they are committed to purchasing the device (online purchase with the voucher code provided by ZPS). The consumer then has to make final arrangements with the supplier/installer of the device and the final offer is then formalized (as the installation may vary from one consumer to another).
4.	The end of the process - signed contract from both sides (without hidden costs, no legal bounding, maximum price tariffs were set for 12 months and on time notification, about the new price tariffs after the 12 month period).	The end of the process - installation of the device.

Proces licitacije: https://www.zps.si/index.php/zamenjaj-in-prihrani/zamenjaj-in-prihrani-3/9459-skupinski-nakup-elektrike-in-plina-za-vse-potrosnike-zamenjaj-in-prihrani-3

Proces skupinskega nakupa: https://www.zps.si/index.php/clear-2-0/9408-skupinski-nakup-klimatskih-naprav-1-2019

3.19.2.1 Preparatory activities

Activities organised by ZPS were well structured, as they informed and taught the customer all about the needed steps that need to be taken to make the switch and also how they can benefit from the switch campaign (cost reduction, tested devices …). The campaigns were broadly present online and on social media. The customers could also further inform themselves about the switch related topics - content that ZPS regularly posted online. In order to participate in the collective action, the customers had to register online and afterwards the communication was held via e-mail, or if customer had additional questions ZPS also organised contact customer service.

3.19.2.2 Communication activities, on- and off-line campaign activities

ZPS's goal was to provide information, that customer needed to make the switch and make the switch possible - providing the suitable environment for that. Communication strategy was wrapped around the notion replace and save, which a collective campaign was all about. The consumers were well aware of the positive sides of the collective buy, but individually this is hard to maintain - a lot of individuals 'time and engagement would be needed in order to achieve the big scale effect such as ZSP campaigns had. ZPS provided a platform that enabled individual to apply for the collective buy, where they organised and negotiate with the suppliers (in the name of the consumer) for the collective buy. The message that was also loudly communicated with the customers' – what they can benefit by participating in the campaign: cost reduction with no hidden costs, no long term legal binding (straight forward with no complicated processes). Simplicity is an important virtue, because if the process becomes too complicated, we lose customers along the way. And when we include different interest groups, the organiser must guide the communication properly and provide a solid structure for all involved in the process.

3.19.3 Supporting policy instruments

3.19.3.1 Challenges/difficulties experienced, lessons learned

Overall the campaigns were widely recognised, the people connected with it. The organiser carried an important role – they had the negotiation power and they had substantial knowledge about the "problem". There were two types of the campaign the switch of the energy supplier and the replacement of the heating and cooling devices. The core of two campaigns differed from one another. The switch of the energy supplier, did not hold any additional cost- recorded a bigger involvement of the customer. For the replacement of heating and cooling devices the switching process was a bit different – the customer must have an intent to buy or the need to replace the device – which additional effort is needed (device purchase cost). So targeting concepts are different from one another, in case of device replacement the intent to buy a device is developed (at least to one extent). Where in the case replacing the energy supplier, the intent to make a switch was not dependant on replacing any device in the household.

3.19.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 17: SWOT analysis of replacement campaign action ***SI No 1***

Replacement campaign action SI No. 1 (label the examples by adding country code and number)		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGHT**	**WEAKNESS**
	Know how - ZPS role in the market enables them to draw information from their own research. *Recognisable role of ZPS with the customers.* *Tight connection with the consumers and the suppliers.* *ZPSs strong role in the market helps them with negotiations with the suppliers.*	*As ZPS is independent, they must gather and test independently – efficiency is important issue here.* *Maintaining quality and unbiasedness of research for every collective campaign*
External origin	**OPPORTUNITY**	**THREATS**
	The market offers unlimited development opportunities in terms of creating collective buys for the consumers. *Willingness of the consumers to participate in order to get a better deal.*	*As the ZPS is an independent, non-profit, internationally recognized non-governmental organization the financial support or funding can be questionable at the development of crisis on the market.* *Taking status quo position – nothing can change and nothing will change.* *(Aggressive) door-to-door selling has become a practice for service providers (to secure a provider position - without the discounts).* *Their role in the market can be perceived as a sensitive one - the customers or the suppliers get the feeling that they were being ripped off their role can quickly crush.*

3.19.4.1 Effectiveness of the campaign, measures not covered at all

Effectiveness of the campaigns, were measured to some extent (in the case of supplier replacement campaigns), where ZPS calculated the involvement of the consumers and the total and average savings (1. campaign: average cost reduction was 164 € per household, total savings of the campaign was 1 mio €; 2. Campaign: average cost reduction was 221 € per household, total savings of the campaign was 1,2 mio €).

3.19.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

3.19.5.1 Transferability

The main concept from ZPS could be transferred for the REPLACE purposes, but on a smaller scale. Because the ZPS campaign also included the actual testing of the device for cooling and heating. But this can be replaced by a thorough research of the specifications of the device. And then develop different packages for different consumer preferences. The web platform must be easy to use (consumer friendly) – the process must be short and uncomplicated (KISS principle), and the customer must always know who they can contact when encountering a problem.

3.19.5.2 Synergy potential for cooperation at the municipal and regional level

In 2020 there's no potential for synergy between REPLACE Project and this campaign, since the call is closed and ZPS has no plans to repeat it again in 2020, while their plans for 2021 are not know yet. In case the similar campaign is implemented next year, there is a possible potential to pursue stronger collaboration with REPLACE project in terms of HC replacements.

3.20 District Campaign "The old boiler has to go!", DE No 1

3.20.1 Description of action, actors, outreach and targets of action

The district wide campaign "The old boiler has to go!" was a replacement campaign for old heating boilers (installed in 1995 and before), organized by the district Climate Protection Initiative (CPI) "made in Kreis AK" (made in district AK [Altenkirchen]) and supported by local companies. The aim was to replace as many inefficient fossil fuelled heating boilers as possible in the timeframe of August 2015 to May 2016. The district-wide campaign was supported by the municipalities in the district and the Sanitary, Heating and Air Conditioning Technology Guild Rhein-Westerwald, which meant a participation of 37 regional heating installers, 13 heat generator manufacturers and eight fuel suppliers (Klimaschutz AK, 2015).

3.20.2 Overall concept and elements of the campaign

3.20.2.1 Preparatory activities

The district Altenkirchen campaign was based on another replacement campaign in the region. In 2014 (September to December 2014), a replacement campaign for old heating pumps was carried out in the district. 288 high-efficiency pumps were subsidized with 50 € by the CPI made in Kreis AK. Involved were 27 heating system installers, one fuel supplier and three heating pump manufacturers (Klimaschutz AK, 2014).

Based on the experiences, the CPI decided to organize a replacement campaign which addressed heating boilers. Before the campaign started, the campaign design was elaborated and the participation of regional heating sector stakeholders secured.

3.20.2.2 Communication activities, on- and off-line campaign activities

The regional press informed about the camapign and press releases were published on the websites of CPI made in Kreis AK and of Energy Agency Reinland-Pfalz. By adding campaign flyers into the official journal of the district, 65,000 households could be reached. Further communication material included a banner, beachflags and posters.

Information was provided via editorial contributions, newspaper ads, an information event and in addition commercial events of campaign partners, like in one bank building in Wissen, where an exhibition was shown during the campaign runtime to inform citizens about the possibilities (AK-Kurier, 2015).

All communication measures together did cost around 13,000 €.

Throughout the campaign and beyond, the participating companies were presented on the CPI website, on which also the campaign flyer could be downloaded (see Figure 4).

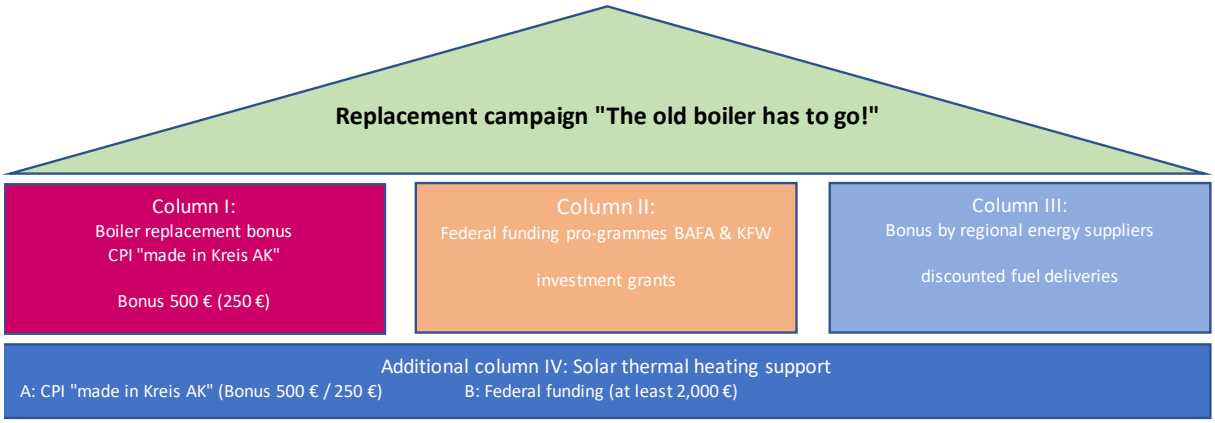
Figure 4: Flyer used in district campaign (Klimaschutz AK, 2015)

3.20.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

The subsidies were be paid by the campaign partners from the benefiting heating sector, installers and boiler manufacturers, and amounted to 250 or 500 €, depending on the investment volume. There was also a solar thermal bonus with the same bonus scale for solar thermal systems that support heating. This meant that a total bonus of up to 1,000 € could be applied for by the campaign if a combination of boiler replacement and the installation of a heating-supporting solar thermal system were commissioned. An agreement was also reached with the local fuel suppliers, which

allowed the participants to receive a ten percent bonus when purchasing fuel supplies by them (Energieagentur Rheinland-Pfalz, 2015).

The complete overview of the meaures can be seen in the Figure 5 below.



Column I: Boiler replacement bonus CPI "made in Kreis AK"				
Type of boiler	pellet or woodchip boiler or firewood gasification boilers	oil condensing boiler	natural gas condensing boiler	heat pumps
	250 € (investment ≤ 8,000 €) 500 € (investment > 8,000 €)	250 € (investment ≤ 8,000 €) 500 € (investment > 8,000 €)	250 € (investment ≤ 8,000 €) 500 € (investment > 8,000 €)	250 € (investment ≤ 8,000 €) 500 € (investment > 8,000 €)
Column II: Federal funding programmes BAFA & KFW (status as of: July 2015)				
BAFA basically promotes renewable energy projects **KFW** Bank generally promotes the installation of fossil heating systems	pellet boiler (minimum 3,000 €) firewood gasification boiler (lump sum of 2,000 €) firewood gasification boiler (lump sum of 2,000 €)	Fossil fuelled boilers are supported by KFW Bank (Program 430) with 10% of the eligible tests		Air-to-air heat pump (minimum 1,300 €) Geothermal and water heat pumps (minimum 4,000 €)
Column III: Bonus by regional energy suppliers				
	pellet boiler Westerwälder Holzpellets	oil condensing boiler Raiffeisen-Markt Gebhardshain H + R Bellersheim GmbH	natural gas condensing boiler H + R Bellersheim GmbH rhenag Rheinische Energie AG Stadtwerke Wissen GmbH	
Scope of bonus	1 ton of pellets	500 litres heating oil	500 m^3 natural gas	
duration of energy supply [years]	5	5	5	
bonus entitlement [per year]	0.2 tons	100 litres	100 m^3	
minimum order value [per year]	2 tons	1,000 litres	1,000 m^3	
maximum discount [%]	10	10	10	
Column IV (additional): Solar thermal heating support				
	Solar thermal energy (incl. boiler replacement)		Solar thermal energy (w/o boiler replacement)	
Solar thermal bonus CPI "made in Kreis AK"	250 € (investment ≤ 8,000 €) 500 € (investment > 8,000 €)		250 € (investment ≤ 8,000 €) 500 € (investment > 8,000 €)	
Basic funding BAFA	2,500 €		2,000 €	

Figure 5: Replacement campaign measures in district Altenkirchen (Klimaschutz AK, 2015)

3.20.3 Supporting policy instruments

Three existing federal supporting instruments were combined with the local organized funds, the BAFA Market Incentive Programme, the Energy efficiency incentive program (APEE - Anreizprogramm

Energieeffizienz), and the KfW Programmes for Energy Efficient Refurbishment. In the campaign, KfW Programme 430 for the promotion of efficient condensing boiler technology (natural gas & mineral oil) and KfW-Programme 167 for a soft loan were used. KFW programmes usually cannot be combined with the BAFA Market Incentive Programmes, however, KfW-Programme 167 is an exception.

The BAFA Market Incentive Programmes for heating with renewable energies included pellet heatings, woodchip heatings, firewood gasifiers, heat pumps and solar thermal energy.

The APEE included and additional bonus for the replacement of inefficient old systems with modern heating systems in combination with an optimisation of the entire heating system.

The KfW Programme 430 is designed to promote measures to save energy and reduce CO_2 emissions from existing residential buildings. The subsidy is also intended to reduce the financial burden of investment and heating costs and make them more calculable for the user in the long term. KfW Programme 167 promotes the installation of a new heating system based on renewable energies if the existing heating system was installed before 01.01.2009 (Klimaschutz AK, 2016).

3.20.3.1 Monitoring, target achievement

In district Altenkirchen, interested citizens had to hand in an application for the regional subsidy at the district administration, which provided the information about the chosen system. The campaign did not have a predetermined target in terms of CO_2 reduction or number of replacements to be achieved. The main objective was informing of and awareness raising among the population.

3.20.3.2 Challenges/difficulties experienced, lessons learned

There were no difficulties that could completely hinder the campaign. What can be said is that citizens' involvement is crucial for the success of the action.

3.20.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 18: SWOT analysis of replacement campaign action DE No. 1

Replacement campaign action DE No. 1		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGHT**	**WEAKNESS**
	Strong commitment by campaign organizers *Involvement of regional / local companies* *Involvement of citizens*	*Missing involvement of regional / local companies* *Missing involvement of citizens* *Quality management (energy consultant not mandatory if KfW credit is not involved)*
External origin	**OPPORTUNITY**	**THREATS**
	Political framework conditions	Political framework conditions

	Informed citizens *Financial situation* *Trustworthiness of installers and fuel suppliers*	Ignorance by customers and companies Low fossil fuel prices

3.20.4.1 Effectiveness of the campaign, measures not covered at all

The described campaign achieved a replacement of almost 316 inefficient boilers in district Altenkirchen, saving almost 1,000 t of CO_2 per year (exactly 989 t). It made no difference whether oil condensing technology, natural gas condensing technology or a regenerative alternative was used, which means that the maximum CO_2 reduction could not be achieved (Glässner, 2020).

3.20.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

3.20.5.1 Transferability

The campaign was based legally on German laws and used national funding measures that are available still and can be thus transferred within Germany without foreseeable problems. The local adaption can be achieved if local stakeholders are convinced to participate in a campaign and if the regional population is reached. The pilot region consists of four administrative districts compared to one administrative district in Altenkirchen. The administrative district of Altenkirchen counts nearly 130.000 inhabitants, whereas the Region Oberland counts about 440.000 inhabitants. In order to reach similar amounts of boiler replacements, the campaign would require about more than three times the budget for public relations and marketing and related stakeholder involvement.

In order to be able to transfer this campaign to Region Oberland the aspects of fair market competition and independent energy consultancy would be essential in order to guarantee key stakeholder's involvement and commitment to the activity. In addition, due to improved federal subsidies for heating system replacements, municipalities are harder to convince to spend additional budget (after COVID19).

3.20.5.2 Synergy potential for cooperation at the municipal and regional level

The synergy potential at municipal and regional level is high, especially due to the fact that a commonly shared budget for marketing activities can have a higher impact on end consumers than isolated campaigns. This is mainly the effect of a broader marketing mix (press, posters, radio etc.).

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3.21 Municipal Campaign “The old boiler has to go!”, DE No 2

3.21.1 Description of action, actors, outreach and targets of action

In the German community Hassloch, located in Rhineland-Palatinate in Southwestern Germany, the communal Klimaschutzbeirat (climate action advisory council - caac) carried out a boiler replacement campaign in the community. The campaign was led by the local caac, together with support from the municipal council. Involved in the action were eight local heating installers, two regional fuel suppliers and seven boiler manufacturers that operate in the region. The campaign was limited to the entire district of Hassloch, around 20,500 inhabitants on an area of 39.95 km^2. Activities of the campaign were limited by the runtime, which was from April 2018 to May 2019. In this period of time, almost 100 (exactly 96) boilers were replaced. Since it was also possible to replace the old heating system with a natural gas condensing boiler, the campaign did not succeed to considerably boost the use of more renewable energies in the heating systems. Only 2.5 heating systems, meaning that two systems out of 96 were converted into renewable concepts and one systems was extended with a solar thermal system.

3.21.2 Overall concept and elements of the campaign

3.21.2.1 Preparatory activities

The heating system replacement campaign was connected to the municipal energy and climate concept of Hassloch. In addition to the activities, the caac decided to organize a dedicated boiler replacement campaign. The campaign elements were decided between the participating actors (i.e. caac, municipal council and participating companies). Once the concept was finalized, it was presented at a municipal council meeting to inform the citizens about the campaign.

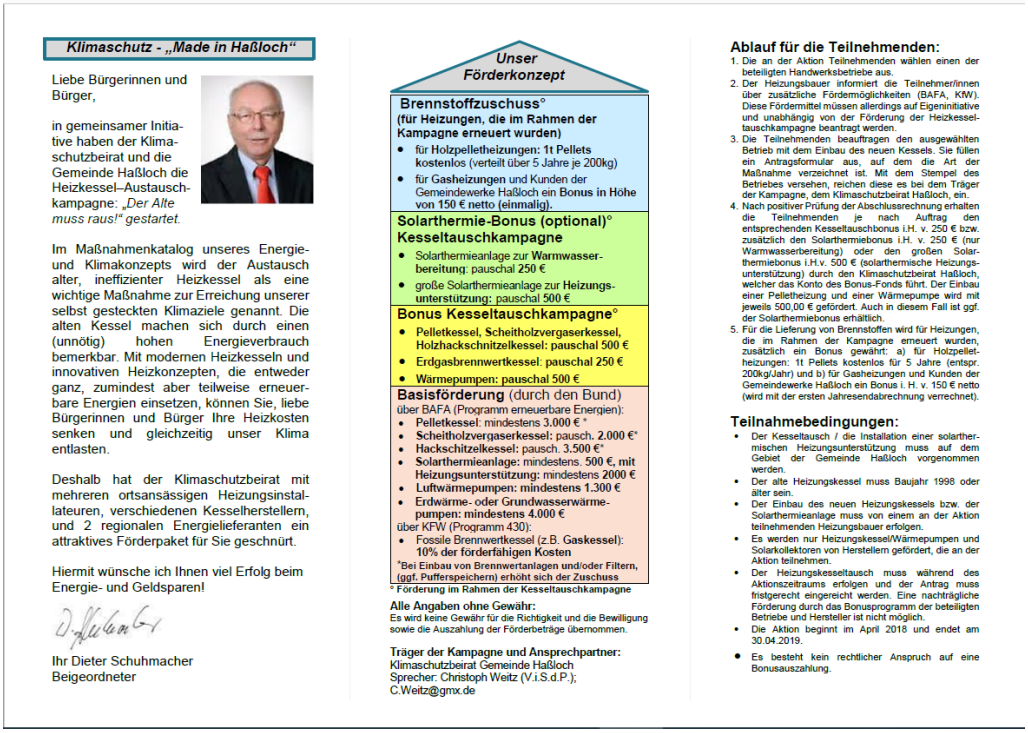
3.21.2.2 Communication activities, on- and off-line campaign activities

Most of the communication activities were offline measures like the municipal council meetings or municipal publications. In Hassloch, it was concidered important to directly address interested citizens or inform them via classical media. Thus, before the start of the camaign, a press release was

published and an article in the local distributed citizen magazine (Bürgerblatt). During the campign runtime, six newspaper articles were published to update and keep informed the citizens. Two dedicated camapaign information meetings were organized and very well received by the citizens. In these meetings, sustainable heating solutions and also the national and local funding measures were presented.

Online information was carried out using the municipal Facebook-account and the municial website of Hassloch, in the section climate & energy (Hassloch, 2020).

Furthermore, an information flyer (Figure 6) was distributed offline and online.



Klimaschutz - „Made in Haßloch“

Liebe Bürgerinnen und Bürger,

in gemeinsamer Initiative haben der Klimaschutzbeirat und die Gemeinde Haßloch die Heizkessel–Austauschkampagne: *„Der Alte muss raus!“ gestartet.*

Im Maßnahmenkatalog unseres Energie- und Klimakonzepts wird der Austausch alter, ineffizienter Heizkessel als eine wichtige Maßnahme zur Erreichung unserer selbst gesteckten Klimaziele genannt. Die alten Kessel machen sich durch einen (unnötig) hohen Energieverbrauch bemerkbar. Mit modernen Heizkesseln und innovativen Heizkonzepten, die entweder ganz, zumindest aber teilweise erneuerbare Energien einsetzen, können Sie, liebe Bürgerinnen und Bürger Ihre Heizkosten senken und gleichzeitig unser Klima entlasten.

Deshalb hat der Klimaschutzbeirat mit mehreren ortsansässigen Heizungsinstallateuren, verschiedenen Kesselherstellern, und 2 regionalen Energielieferanten ein attraktives Förderpaket für Sie geschnürt.

Hiermit wünsche ich Ihnen viel Erfolg beim Energie- und Geldsparen!

Ihr Dieter Schuhmacher
Beigeordneter

Unser Förderkonzept

Brennstoffzuschuss°
(für Heizungen, die im Rahmen der Kampagne erneuert wurden)
- für **Holzpelletheizungen: 1t Pellets kostenlos** (verteilt über 5 Jahre je 200kg)
- für **Gasheizungen** und Kunden der Gemeindewerke Haßloch ein **Bonus in Höhe von 150 € netto (einmalig).**

Solarthermie-Bonus (optional)° Kesseltauschkampagne
- Solarthermieanlage zur **Warmwasserbereitung**: pauschal **250 €**
- große Solarthermieanlage zur **Heizungsunterstützung**: pauschal **500 €**

Bonus Kesseltauschkampagne°
- **Pelletkessel, Scheitholzvergaserkessel, Holzhackschnitzelkessel: pauschal 500 €**
- **Erdgasbrennwertkessel**: **pauschal 250 €**
- **Wärmepumpen: pauschal 500 €**

Basisförderung (durch den Bund)
über BAFA (Programm erneuerbare Energien):
- **Pelletkessel**: mindestens 3.000 € *
- **Scheitholzvergaserkessel:** pausch. 2.000 €*
- **Hackschitzelkessel:** pausch. 3.500 €*
- **Solarthermieanlage:** mindestens. 500 €, **mit Heizungsunterstützung:** mindestens 2000 €
- **Luftwärmepumpen: mindestens 1.300 €**
- **Erdwärme- oder Grundwasserwärmepumpen: mindestens 4.000 €**

über KFW (Programm 430):
- Fossile Brennwertkessel (z.B. **Gaskessel**): **10% der förderfähigen Kosten**

*Bei Einbau von Brennwertanlagen und/oder Filtern, (ggf. Pufferspeichern) erhöht sich der Zuschuss
° Förderung im Rahmen der Kesseltauschkampagne

Alle Angaben ohne Gewähr:
Es wird keine Gewähr für die Richtigkeit und die Bewilligung sowie die Auszahlung der Förderbeträge übernommen.

Träger der Kampagne und Ansprechpartner:
Klimaschutzbeirat Gemeinde Haßloch
Sprecher: Christoph Weitz (V.i.S.d.P.);
C.Weitz@gmx.de

Ablauf für die Teilnehmenden:
1. Die an der Aktion Teilnehmenden wählen einen der beteiligten Handwerksbetriebe aus.
2. Der Heizungsbauer informiert die Teilnehmer/innen über zusätzliche Fördermöglichkeiten (BAFA, KfW). Diese Fördermittel müssen allerdings auf Eigeninitiative und unabhängig von der Förderung der Heizkesseltauschkampagne beantragt werden.
3. Die Teilnehmenden beauftragen den ausgewählten Betrieb mit dem Einbau des neuen Kessels. Sie füllen ein Antragsformular aus, auf dem die Art der Maßnahme verzeichnet ist. Mit dem Stempel des Betriebes versehen, reichen diese es bei dem Träger der Kampagne, dem Klimaschutzbeirat Haßloch, ein.
4. Nach positiver Prüfung der Abschlussrechnung erhalten die Teilnehmenden je nach Auftrag den entsprechenden Kesseltauschbonus i.H. v. 250 € bzw. zusätzlich den Solarthermiebonus i.H. v. 250 € (nur Warmwasserbereitung) oder den großen Solarthermiebonus i.H.v. 500 € (solarthermische Heizungsunterstützung) durch den Klimaschutzbeirat Haßloch, welcher das Konto des Bonus-Fonds führt. Der Einbau einer Pelletheizung und einer Wärmepumpe wird mit jeweils 500,00 € gefördert. Auch in diesem Fall ist ggf. der Solarthermiebonus erhältlich.
5. Für die Lieferung von Brennstoffen wird für Heizungen, die im Rahmen der Kampagne erneuert wurden, zusätzlich ein Bonus gewährt: a) für Holzpelletheizungen: 1t Pellets kostenlos für 5 Jahre (entspr. 200kg/Jahr) und b) für Gasheizungen und Kunden der Gemeindewerke Haßloch ein Bonus i. H. v. 150 € netto (wird mit der ersten Jahresendabrechnung verrechnet).

Teilnahmebedingungen:
- Der Kesseltausch / die Installation einer solarthermischen Heizungsunterstützung muss auf dem Gebiet der Gemeinde Haßloch vorgenommen werden.
- Der alte Heizungskessel muss Baujahr 1998 oder älter sein.
- Der Einbau des neuen Heizungskessels bzw. der Solarthermieanlage muss von einem an der Aktion teilnehmenden Heizungsbauer erfolgen.
- Es werden nur Heizungskessel/Wärmepumpen und Solarkollektoren von Herstellern gefördert, die an der Aktion teilnehmen.
- Der Heizungskesseltausch muss während des Aktionszeitraums erfolgen und der Antrag muss fristgerecht eingereicht werden. Eine nachträgliche Förderung durch das Bonusprogramm der beteiligten Betriebe und Hersteller ist nicht möglich.
- Die Aktion beginnt im April 2018 und endet am 30.04.2019.
- Es besteht kein rechtlicher Anspruch auf eine Bonusauszahlung.

Figure 6: Information flyer used for the Hassloch campaign

3.21.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

The overall concept combined existing German policy measures, like BAFA (German Federal Office of Economics and Export Control) measures with additions of local measures that were elaborated together with local companies. Below, the different measures that were offered to participants of the campaign are presented.

Table 19: Funding concept Hassloch

Campaign measures	**Fuel grant**
	(for heating systems, that were replaced during the campaign)
	- for wood-pellet heating systems: 1t pellets free of charge (distributed over 5 years à 200 kg)
	- for gas heatings *and* customers of the municipal utility: a bonus of 150 € (single payment)
	Solar thermal energy bonus (optional) boiler replacement campaign
	- solar thermal system for hot water preparation: lump sum of 250 €
	- big solar thermal system including heating support: lump sum 500 €
	Bonus boiler replacement campaign
	- pellet boiler, firewood gasification boilers, woodchip boiler: lump sum of 500 €
	- natural gas condensing boilers: lump sum of 250 €
	- heat pumps: lump sum of 500 €
nal meas	**Basic subsidies**
	using the BAFA measures (Program Renewable Energies)

	- pellet boiler: minimum 3,000 €*
	- firewood gasification boiler: lump sum of 2,000 €*
	- woodchip boiler: lump sum of 3,500 €*
	- solar thermal system: minimum 500 €, with heating support: minimum 2,000 €
	- air-to-air heat pump: minimum 1,300 €
	- geothermal or groundwater heat pump: minimum 4,000 €
	using the KFW Program (Program 430)
	- fossil fuelled condensing boiler (e.g. natural gas condensing boiler): 10 % of eligible costs
	*when installing condensing systems and/or filters (buffer storage if applicable)

Requirements for participating in the campaign were the following:

- the boiler to be replaced needed to be from 1998 or elder
- the boiler replacement needed to be realized on the municipal area of Hassloch
- the installation of the new boiler must be carried out by a campaign involved company
- only the boilers of the seven campaign involved boiler manufacturers were funded
- the replacement needed to be realized during the campaign runtime
- the campaign's offer does not mean a legal right to a bonus payment

3.21.3 Supporting policy instruments

As described above, existing BAFA and KFW measures were promoted to inform interested citizens comprehensively.

3.21.3.1 Monitoring, target achievement

The monitoring was prepared by the organization of the campaign participation.

Citizens who were interested to participate in the campaign needed to fulfill several predetermined steps:

- Campaign participants (Hassloch citizens) needed to choose a campaign involved company (i.e. craftmans's workshop) for the action.
- The commissioned company needed to inform the citizens about the additional national funding measures (BAFA, KFW); the citizens needed to apply for the national subsidies o their own.
- The participants had to commission the selected company with the installation of the new boiler. They had to fill an application form on which the type of measure was recorded, stamped by the providing company. The form then needed to be handed in to the caac of Hassloch.
- After a positive examination of the final bill, the participants received the corresponding boiler exchange bonus (depending on the chosen measure).

By handing in the stamped assignments to Hassloch caac, the caac could monitor directly the replacements triggered by the campaign.

The absolute result of almost 100 heatings system replacements in one year in a 20,000 inhabitants's town, was evaluated positively. The fact, that also natural gas fuelled boilers were funded prevented better CO_2 reductions. The, on first sight, cheapest measure was chosen by more the 95 % of the participating citizens.

3.21.3.2 Challenges/difficulties experienced, lessons learned

The campaign was well accepted by the citizens and the absolute number of replacements was also good. Most of the local companies of the heating sector supported the campaign in Hassloch. The only aspect that was afterwards rated negatively was the involvement of natural gas fuelled heating systems in the campaign design. It needs to be mentioned, that the municipal utilities are at the same time the local provider for natural gas and operate the municipal gas grid.

An involved heating system installer stated after the campaign, that, if the campaign would be repeated, gas fuelled boilers should only be funded if in combination with the big solar thermal solution, including heating support.

3.21.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 20: SWOT analysis of replacement campaign action DE No. 2number

Replacement campaign action DE No. 1		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGHT**	**WEAKNESS**
	Strong commitment by campaign organizers *Involvement of local companies* *Involvement of citizens*	*Missing involvement of local companies* *Missing involvement of citizens* *Quality management with regards to installers*
External origin	**OPPORTUNITY**	**THREATS**
	Political framework conditions *Informed citizens* *Financial situation* *Trustworthiness of installers and fuel suppliers*	Political framework conditions Ignorance by customers and companies Legal claims from installers outside of funded region Low fossil fuel prices

3.21.4.1 Effectiveness of the campaign, measures not covered at all

The Hassloch campaign reached many citizens and could also achieve a good result in numbers of boiler replacements, as the federal agency confirmed. According to the caac, a CO_2 reduction of 7.5 % could be achived in the municipality (Müller, 2020)

3.21.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

Generally, some elements of the boiler replacement campaign in Hassloch could be realized also in communities the region Oberland if aspects of fair market competition and involvement of independent energy consultants is integrated. Certainly, a difference between Hassloch and Region Oberland is the total inhabitants and the proportionally higher amount needed to address the target group. As described before, the weak point of the campaign, the one-on-one exchange of a gas boiler should and could be avoided by another campaign design.Transferability

The circumstances in the analysed region, a community in the district Bad Dürkheim, can be transferred directly to communities in the Bavarian Oberland. The campaign measures used, were national available funding and regional support that had to be negotiated between the campaign organizers and the local companies of the heating sector.

With regards to the transferablity, there are no dedicated challenges to be overcome in Germany.

3.21.5.1 Synergy potential for cooperation at the municipal and regional level

As described above, the synergy potential lies in the shared budget and broadened marketing mix for informing end consumers about possible subsidies at federal and state level. However, the missing involvement of independent energy consultants and the close relation between public authorities and private company interests creates a challenge for implementing the campaign in the Region Oberland. The solution for implementing campaign elements in the pilot Region Oberland could be to coordinate the campaign with representatives of the guilds and installers associations instead of individual companies.

3.22 Castilla y León renewable energy subsidies programs, SP Nº 1

3.22.1 Description of action, actors, outreach and targets of action

Investment subsidy program for the change from fossil fuel-based systems to renewable-based ones, intended to finance their buyers, both public (municipalities) and private (families, companies or non-profit associations).

These programs, financed with regional and European funds, have been maintained from the mid-1990s to the 2010s, having been reactivated from 2016, coinciding with the 2014-20 ERDF Operational Program.

During this time there have been notable variations depending on how the regulations and the market itself have evolved, however, the two key actors in the program, apart from the regional administration, have been the users / owners and the installation companies.

To understand the regional management of these grants, it is necessary to refer to EREN and General Directorate for Energy and Mines (DGEM). While the General Directorate is specialized in administrative and regulatory aspects, EREN is dedicated to the technical ones.

Links for further information

- https://energia.jcyl.es/web/es/iniciativas-subvenciones-fondos-feder/subvenciones-eficiencia-energetica.html

3.22.2 Overall concept and elements of the campaign

3.22.2.1 Preparatory activities

These grant programs are based on annual calls. Thus ideally, at the beginning of each year the call is officially published, offering a month and a half to apply. The beneficiaries are communicated in a couple of months and they have until the end of October to install the equipment.

The continuity of the aid over time, the specialization of the renewable sellers and professionals and the fact that the installations can be implemented in less than four months makes relative successful this apparently rigid scheme.

Thus, the preparatory meetings for the following year's calls usually start in October.

For that date, there is sufficient information in the EREN and the DGEM about what types of projects have been most demanded, what type of user has been most active, what possible legal modifications or administrative problems may have existed, etc.

The basis of this information is the continuous communication with installers, users, equipment manufacturers, legal and budgetary departments of the regional Administration, etc. Additionally, the verification visits to the facilities, as well as the EREN important role as owner and promoter of solar plants (both thermal and photovoltaic), biomass boilers, district heatings, etc., are an excellent source of data and criteria on the market situation.

In these meetings the call's technical and procedural aspects are designed. This involves to define what types of projects or applicants will be subsidized, or not, which will have priority over others, what amount of money they will receive, what conditions they must meet, etc.

In some cases, maintaining due caution so as not to benefit some agents over others, informal meetings have been held with associations where some, mainly technical, aspects of the upcoming calls have been discussed.

3.22.2.2 Communication activities, on- and off-line campaign activities

Given the continuity of the program over long periods of time and its knowledge by the renewable sellers, it has not really been necessary to dedicate many resources to advertising campaigns.

However, it is common to carry out institutional campaigns at the end of the year, mainly in newspapers. Also, in some cases, when there have been very important modifications, meetings have been held with installers in the different provinces of the region.

The processing of aid, since the end of the previous decade, is done online and all relevant information regarding them is published through our website.

3.22.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

The general concept of the campaign is to finance the acquisition of a renewable energy installation.

In the different calls, some types of projects (or users) could a) not be considered eligible or b) not had priority over others or c) not received additional percentages of support.

In addition to the above, the amount of subsidy set for each type of project varies depending on its technical characteristics, considering the minimum amount necessary to change the decision from to acquire a system based on fossil fuels to one based on renewables.

On the other hand, selection of beneficiaries shall be carried out in the order in which applications are submitted (or competing between them), from the time the dossier is complete, until the available credit is exhausted.

Only as a mere example of the last call, the priority that a project be subsidized is based on a score that depends on criteria such as energy produced per investment unit, sector interest or innovation, company size or social criteria (rural environment, support for disability or non-discrimination based on gender, etc.).

For solar thermal energy, the social interest or innovation (35 points max) is assigned in this way:

- Underfloor or low temperature heating: 10 points.
- Sanitary or process hot water: 10 points
- Solar cold: 20 points
- Joint applications including underfloor heating: 25 points
- Joint applications or not previously contemplated: 30 points

Additionally, 5 points will be added, without exceeding the overall score of 35 points, if the installation:

- Includes a drain-back system.
- It is architecturally integrated.
- Includes a remote-control system.

In this last call and for solar thermal energy, the amount of the subsidy is set according to this table.

Installation area (m^2)	% subsidized	Max subsidy (€/m^2)
8 <= S <= 20	40%	300
20 < S <= 70	40%	260
S > 70	40%	230

Additionally, a number of conditions must be met in order to apply for the grant:

- Proof of legal title to the dwelling in which the equipment to be replaced is located.
- Be registered in Castilla y León and its ownership must not be transferred before five years.
- Be on track with regard to compliance with tax obligations, reimbursement of subsidies and social security.

- The equipment to be installed, which is the subject of the aid, will be new and final destination their installation within dwellings located in the territory of the Community of Castilla y León.
- The installation of the equipment must be carried out by a company that is registered in this program that must comply with certain legal requirements, being registration free of charge.

In Castilla y León we consider that investment subsidies are embedded in our energy policies along with development of communication campaigns, demonstration installation implementation, support for the training of professionals, etc.

This subsidy program has two objectives:

- to increase the number of renewable installations through financial support to a potential user in the face of the decision to purchase, or not, a renewable installation.
- to modify some market characteristics incentivizing certain types of projects over others.

This is the reason which in the previous case of solar thermal, a specific incentive is introduced for architectural integration.

3.22.3 Supporting policy instruments

3.22.3.1 Monitoring, target achievement

The Ministry of Economic Affairs, Employment and Finance, the Court of Auditors, the Chamber of Auditors and the General Intervention Office may carry out the necessary checks on the destination and application of the grants awarded. They may also carry out any necessary visits to the facilities of the Energy Foundation, which shall be obliged to cooperate in order to facilitate these activities.

The beneficiaries of the aid are subject to the financial control of the Regional General Intervention and to the audit of the Chamber of Auditors and other competent bodies. As a result, the control regime for the grant files of public sector foundations is permitted. The beneficiaries of the aid are also subject to monitoring and verification by the Directorate-General for European Affairs and Cooperation with the State and the competent bodies of the European Union.

3.22.3.2 Challenges/difficulties experienced; lessons learned

The development of an investment aid programme means to deal with different opposing interests.

- The bureaucracy is more interested in complying with formal aspects than in technical or economic reasons.
- Installers sometimes have a short-term vision and do not fully understand the importance of a full satisfied consumer .
- The beneficiaries do not understand the public control procedures and especially their deadlines.

In some cases, the grant is a disincentive to seek more efficient and cheaper facilities.

These elements, among others, have had to be managed throughout this period. While it is true that the "good guys" have not always completely won, it is no less true that, honestly, an acceptable "compromise solution" has been reached to all these interests.

3.22.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Regional renewable energy subsidies programs, SP Nº 1		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGHT**	**WEAKNESS**
	• Acceptance to include technical-economic criteria in the subsidy regulations. • Sufficient funding. • A highly qualified, motivated, stable team of professionals in regional administration, as well as knowledgeable of the market and administrative procedures. • Have managed the grant program in collaboration with registered installers. • Very serious internal administrative and budgetary procedures that make it very difficult for funds to be wasted.	• Changing administrative rules. • Sometimes an overvaluation of formal aspects. • Not to have dedicated in some moments more resources to the direct communication with the potential beneficiary. • The formal difficulty in being able to include energy services companies (ESCOS) in the program. • The fact that legally a subsidy received for tax purposes is an income and on which the income tax is applied • Not having continued with the involvement of private financial entities in financing the part of the investment not provided by the grant.
External origin	**OPPORTUNITY**	**THREATS**
	• Installers' interest in selling their renewable equipment. • The growing interest of the population to consider the renewable alternative in their investment options. • Mistrust of potential recipients that the grant money will finally come. • The professionalization of installers in administrative procedures. • Increased concern of consumers for the care of the environment. • Support, promotion and dissemination of the sector by energy associations • Projected growth in both production and consumption of renewable energy • Technological development, which improves supply and value for money. • Increasing examples of good practice and	• Poor knowledge of renewable energy and its benefits by potential beneficiaries. • Market fragmentation, presenting disaggregated offers in terms of prices, technical performances, etc. • Strong competition in the traditional heating sector. RES / non-RES. • Stagnation of the construction sector and associated enterprises. • Word of mouth of bad experiences and skepticism. • Excessively long permit processing and authorizations periods • Some very rare attempt at deception by installers or beneficiaries. • The misunderstanding of the beneficiaries of the administrative processes both due to the deadlines and the requested

	business models	documentation. • The reluctance and inertia of some installers to incorporate some of the improvements in the projects encouraged in the calls.

Note: The SWOT analysis has been carried out from the point of view of the subsidy program and in relation to the two objectives presented (increasing the number of facilities and modifying some characteristics of the market).

3.22.4.1 Effectiveness of the campaign, measures not covered at all

Regarding the effectiveness of the campaign and considering the period in which it has been in one way or another, two periods can be analyzed

- From the mid-1990s to the beginning of the present decade, most of the renewable installations implemented were the result of this program.

  In this period, the number and quality of installers was reinforced and, in comparison with other Spanish regions, we obtained a leadership position above that which theoretically would correspond to us due to solar resources and demographics.

  In this period the most demanded technologies were solar thermal and isolated photovoltaic for small demands.

- In the following period, as a result of budget cuts, the grant program was interrupted. However, there was a change in the market as a consequence of the mandatory regulations, the drop in prices of the facilities and the increase in the confidence of potential users. Thus, renewable equipment continued to be installed without the subsidy program, although possibly in smaller volumes.

  In this period, this leadership has been maintained, the number of installation companies has increased remarkably, reaching a very high degree of average user satisfaction.

  According to technologies, the greatest demand in this period corresponded to biomass, with photovoltaic in agricultural uses standing out and geothermal systems beginning to have some importance, all to the detriment of solar thermal energy, currently in a very marginal position.

This program has incorporated almost all the possible elements of the market, minimum technical specifications have been made, agreements with private financial entities, information and training initiatives to the point of publishing almost a dozen manuals on solar energy, it have been included energy services companies, etc.

Everything that has occurred us as a tool to a better achievement of the objectives has been implemented in the program or parallel to it. However, it would have been very interesting to have given greater continuity in time or to have developed some of these actions more.

A limitation of this program is that it is mainly focused to medium and small projects (most of the demand) not attending to large ones. So, in some times the industry has been out of the call, although its interest in renewable facilities has been frankly scarce until very recently.

3.22.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

3.22.5.1 Transferability

In these paragraphs will be presented the challenges to be overcome, the nowadays circumstances of our renewable market, for finally to select which elements of the described subsidy program could work in the REPLACE project in our region.

In relation to the challenges, these are basically focused on having properly implemented tools that:

- facilitate the work of suppliers of renewable goods or services from installers to manufacturers / importers, through engineering companies or private financial entities.
- incentivize the potential consumer to purchase a renewable installation, duly informed and, where appropriate, financed.

The change that occurs is not to set a goal in terms of CO_2 or installed power because that will depend on the evolution in the coming years of the energy market, if not in terms of removing any obstacle for potential owners to decide on a renewable alternative.

Related to the circumstances of the thermal market in Castilla y León, this could be based mainly on three premises:

- A potential consumer can almost freely change an old thermal system for the new one that seems it more appropriate
- The market is clearly segmented. Thus, residents in single-family homes will consider different criteria than the owners of an apartment, that will vary depending on whether or not their building has a centralized system.
- The first barrier to overcome could not be the financing, but also the communication.

Taking into account the above, the following elements of the previously presented grant program could be considered in the development of the REPLACE project in our region.

- The mere existence of an aid program maintained over time.
- The foreseeable continuity in the future of this aid.
- The differentiated work between EREN and DGEM in the regional administration
- The awareness of some users partially about renewable technologies and against fossil fuels.
- The awareness of the regional administration in the renewable thermal market to the extent that nowadays we are developing a specific strategy in this field.
- The foreseeable decrease in equipment prices.
- The large number of already implemented facilities that serve as examples for potential buyers.
- The historically established communication channels with the stakeholders, especially installers.
- The “more than enough” renewable energy resources to supply internal demand.
- The regional cold climate

- The sufficiently developed companies to install any renewable system successfully specially in the regonal cities that could supply perfectly the rural areas.

3.22.5.2 Synergy potential for cooperation at the municipal and regional level

About the elements of Castilla y Léon renewable subsidies program that can be adapted to do so to fit local circumstances, it could include the mainly following.

- The awareness of the regional administration maintining specialised work teams.
- The communication channels with the stakeholders, especially installers trying to get an enough strong grouop of renewable suppliers (installers, pelets sellers, etc.)
- To develop a spread portfolio of demonstrative installations.

As additional necessary elements to achieve a better impact, it could include the following:

- Strengthen the feed - back with users throgh sistematic surveys that can be done by e-mail or online questionnaires, telephone or face-to-face interviews of target group representatives at appropriate occasions
- Strengthen the flexibility in the implementation of measures that depends on the regional administration, specially those that depends of advertising.
- Strendthen the communication about the benefits of RENOVE program: greater safety for people, energy efficiency and, above all, environmental protection, among others
- Strengthen the national manufacturing of equipment and components.
- Strengthen the awareness of environmental protection, as well as encouraging the use of local products, as is the case in the Community of Castilla y León, where wood pellets from the region itself are used for biomass boilers.
- Strengthen the trust of potential buyers in renewable sellers and installers.

4 | Campaigns in European regions outside project partner countries

4.1 Campaign “Fyr din gamle brændeovn” (Fire your old wood-fired oven), DK

4.1.1 Description of action, actors, outreach, and targets of action

In Denmark, presently there are some 700,000 domestic stoves and fireplaces, of which approximately 200,000 date from before 1995. A replacement campaign for old wood stoves is presently (May 2020) still carried out, repeating an older campaign.

4.1.2 Overall concept and elements of the campaign

Between 2015 and 2016, the Danish Environment Protection Agency (Miljøstyrelsen) carried out a scrappage scheme to get rid of inefficient wood stoves. In 2019, the replacement campaign was repeated, organized once more by the Danish EPA trying to move up to 19,000 owners of old wood stoves to either modernize the stove (assumed for 90% of the stoves) or to dismiss it completely (10 %). The campaign is limited by the campaign duration until 31 December 2020, and by the budget of 42 mio. DKK (Danish Crowns – ca. 5.6 mio €) that were allocated for the action. Per replaced stove 2,000 DKK (ca. 268 €) are foreseen. The complete bonus amounts to 2,215 DKK, of which the beneficiary has to give 215 DKK to the chimney sweeper who is involved as witness that the beneficiary claim is eligible.

4.1.2.1 Preparatory activities

The need for action can be seen in the Danish activities to lower particle emissions. Denmark needed to react in order to fulfill the National Emission Ceilings (NEC) Directive.

4.1.2.2 Communication activities, on- and off-line campaign activities

To promote the action, a dedicated website was set up by a communication bureau that informed comprehensively about the conditions to benefit of the scrapping bonus. On https://braendefyringsportalen.dk/borger/fyr-din-gamle-braendeovn/ the information is prepared in a modern way. The promotion activities were accompanied by a facebook campaign.

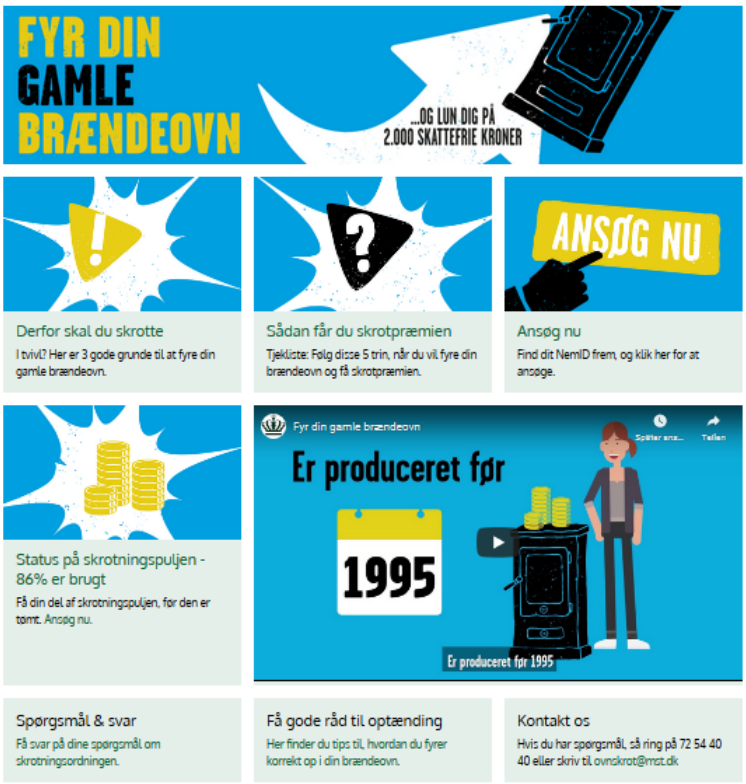


Figure 7: Screenshot from wood stove replacement campaign in Denmark (Braendefyringsportalen, 2019)

The campaign was also promoted on the website of by the Danish Environment Protection Agency (https://mst.dk/service/nyheder/nyhedsarkiv/2019/feb/fra-i-dag-kan-du-faa-2000-kr-for-din-gamle-braendeovn/) in the beginning of the action in 2019. In addition, interested citizens or involved chimney sweepers had the chance to contact the EPA via voice mail (to the local number 72 54 40 40) to claim their interest or clarify .

An informative video was provided on the video platform Youtube as can be seen in Figure 8 below (https://www.youtube.com/watch?v=EbCiPUvpBD0&feature=youtu.be)

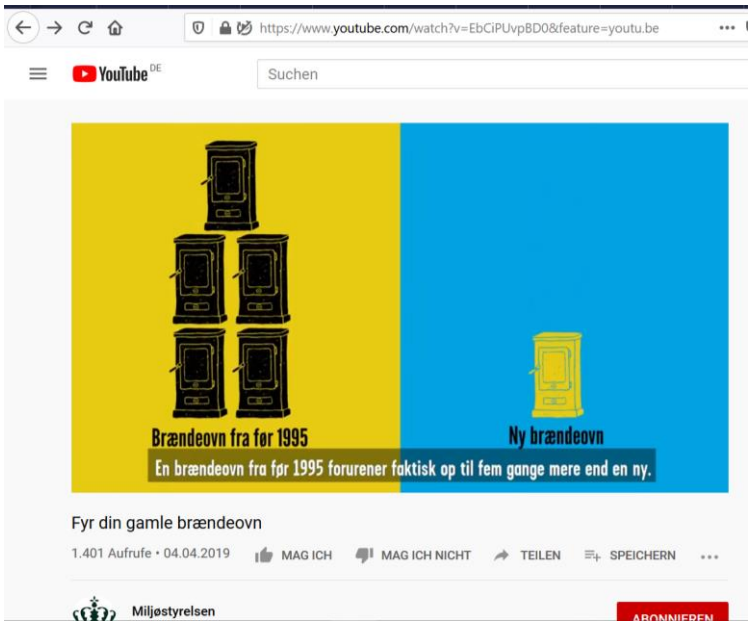


Figure 8: Screenshot of the campaign video

4.1.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

The national campaign is embedded in activities that started already in 2008, when the Danish Ministry of the Environment issued a Statutory Order concerning wood burning stoves, boilers and similar heating systems. It stated the permitted emission levels of particulate matter, carbon monoxide and hydrocarbons from wood burners. Since 2008, these emission limits were further stepwise further strengthened.

4.1.3 Supporting policy instruments

The concrete supporting policy instrument is the new revised statutory order for scrapping old wood stoves (https://www.retsinformation.dk/eli/lta/2019/73) which has entered into force on 27. April 2020. Thus, to support the shift to cleaner wood-burning stoves, the campaign “Fire your old wood-fired oven” fits directly into the political scheme in Denmark.

4.1.3.1 Monitoring, target achievement

3 preconditions need to be fulfilled and need to be supervised by chimney sweepers who have to confirm that the oven is **old enough** (elder than from 1995), was **installed at the premise before 1 December 2018, and** has been scrapped or replaced by a new oven, or the fireplace has been shut down/closed. Such, only eligible stoves are replaced.

The target to be achieved was the 100% use of the available budget.

4.1.3.2 Challenges/difficulties experienced, lessons learned

The main challenge in the Danish campaign were technical difficulties with the IT system (online applications for the bonus broke down). These difficulties could be solved, yet have turned out to be of great importance for the campaign’s success.

There was also critics about wasting public money on people who had in mind to replace the oven also without the bonus. Although this argument can be regarded as true, the change to a more sustainable oven was at least accelerated by the campaign.

In Denmark, the Nordic Ecolabel certificates ovens high standards in terms of low emissions (https://www.nordic-ecolabel.org/). In the campaign it was not mandatory to select such oven (due to political disagreements) when participating in the campaign, thus the most sustainable replacement could not be achieved. It turned out, that despite the possibility to select another, maybe cheaper oven, the majority of new ovens had the Nordic Ecolabel.

4.1.3.3 Effectiveness of the campaign, measures not covered at all

The status quo of the remaining budget can also be revised online. On 20 May 2020, already 87 % of the foreseen budget was used for the campaign's purpose, which shows that the campaign is successful as the complete budget will be used (https://braendefyringsportalen.dk/borger/fyr-din-gamle-braendeovn/skrot-din-gamle-braendeovn/status-paa-skrotningspuljen/).

4.1.4 Transferability of (elements of) the campaign to REPLACE campaigns in the target regions

4.1.4.1 Transferability

In Denmark, very good framework conditions could be found for this campaign. The financial background in the country is robust, thus setting up a dedicated budget was possible. Danish people also seem to be open for sustainability issues, so the campaign was widely accepted. If a bonus can be made available in a target region, then such a campaign should be transferable in regions that also have problems with high particle emissions due to the use of ineeficient wood stoves.

As mentioned, the main challenge to be overcome in Denmark was a stable IT system for the campaign. This potential challenge needs to be kept in mind when a big campaign shal be organized.

References:

Braendefyringsportalen, 2019, Fyr din gamle brændeovn. Available: https://braendefyringsportalen.dk/borger/fyr-din-gamle-braendeovn/ (Accessed: 15 May 2020).

4.2 Campaign "Transition Town Marlow's Solar 100 Project", UK

4.2.1 Description of action, actors, outreach and targets of action

Transition Town Marlow's Solar 100 Project[9] was in the beginning initiated by two individuals that wanted to contribute and help to mitigate climate change. In the beginning the "movement" Transition Town Marlow was designed with the help of the community of Marlow. This initiated the project Town Marlow's Solar 100. The project started in 2010 and was also supported by local businesses Good Energy (renewable energy provider helped run and promote the project) and Freesource Energy (installer for renewable energy products). Main goal of the project was to set an example and encourage others to join the replacement campaigns.

4.2.2 Overall concept and elements of the campaign

The residents of Marlow connected (via online register or email) where they needed to fill out the specifications form. Overall concept was designed as a collective purchase ant the installer was chosen with the help of priorly formed Buying group. When the installer and the individual household formed a contract, in the beginning the installer was paid in instalments and in the end 50 % of the remaining payment - when the system was up and running. The collective buy was able to get 15 % discount, for the best negotiated price (this was conditioned by the number of included households).

4.2.2.1 Preparatory activities

The hole project was organised in a smaller scale, but it provided with enough structure to perform if efficiently. The application was held via a web page where households could apply for solar panels. The education of the household at that time was also demanding, as the hole process of installation was not so well known. This step was crucial and most important in order to attract households in that area. The initiative was co-organised by an "community insider" and this is important when addressing a local community (something that they know, something that the can connect with easily). The process always has to be quick and short.

4.2.2.2 Communication activities, on- and off-line campaign activities

Communication was held via online page (email, online register form, wikisolar[10]) and also via video clips in the local news[11] and presentations[12] in the community.

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[9] Case study Town Marlow's Solar 100 Project https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/31881/12-593-guide-for-community-buying-groups.pdf

[10] Wiki solar http://wikisolar.editme.com/

[11] Video: https://www.youtube.com/watch?v=uGZ1gO2PQKs

4.2.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

Overall campaign concept was established on the foundation of the group by, where the households connected in one big group. This enabled them to get bargaining power in order to get rebates and discounts for the installations. Households (users) of solar panels were being paid from the government for producing low carbon electricity (scheme feeds in tariffs)

4.2.3 Supporting policy instruments

The main supportive instrument in UK for this project was at that time a scheme “feeds and tarrifs”, where the government offered to pay the households for creating low carbon electricity.

4.2.3.1 Monitoring, target achievement

The target region in this project was the city of Marlow where the project attracted households in the neighbourhood. The main goal we to set an example, for other households to participate in replace campaigns.

4.2.3.2 Challenges/difficulties experienced, lessons learned

Challenges were mostly related to connecting the community as there was a general disinterest for the mater. The project was initiated in the 2010, the education and the connection with the households was essential in order to interest the households to participate in the group purchases.

4.2.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 21: SWOT analysis of replacement campaign action UK

Replacement campaign action UK (label the examples by adding country code and number)		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGHT**	**WEAKNESS**
	Personal strength of individuals to persist to organise and carry it out to the end.	*Project oriented in one community – people probably knew each other (trust is easier to establish this way).* *Hard to exclude possible personal interests.*
rnal orig	**OPPORTUNITY**	**THREATS**
	Good foundation for other projects in other	*Partnership with other organisation, how to*

[12]Presentation: https://www.slideshare.net/Coffeemate49/transition-town-marlows-solar-100-project

	regions. Easy business model.	*stay undisputed and impartial.* *Negotiation strength of smaller scale collective buy.* *Big role of the partners, how is this relationship treated in the project.*

4.2.4.1 Effectiveness of the campaign, measures not covered at all

The effect of this campaign was more or less on the small scale, but it made a good example how it can be done in other regions. It uses easy business model that is easily transformed into other regions with different conditions.

4.2.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

4.2.5.1 Transferability

The project itself is not directly transferable to REPLACE but it offers a good insight on how the collective buy can be initiated and maintained. We can learn from it and develop the REPLACE campaigns even further (on a larger scale).

4.3 Campaign „Chci výhodnější energie“ („We want a better energy deal“), CZ

4.3.1 Description of action, actors, outreach and targets of action

The campaign „Chci výhodnější energie“ („We want a better energy deal“)[13] was held by the consumer organisation in Czech Republic. Main focus of the campaign was collective replacement of energy supplier. The campaign was held in 2016 where they state to reach the highest number of applied consumers and lowest prices of electricity reached (till that campaign). Their main focus was to enable the consumers to switch the provider easy and fast with no hidden costs. The reason behind this - no hidden cost, was the nature of presented prices of different energy providers. The information’s about the prices were scares and were presented in a way that they were hard to compare. Also in some previous actions that were held by municipalities or commercial companies were not well accepted with the consumers. Reason behind is that the people did not trust the

[13]Campaign „Chci výhodnější energie“ („We want a better energy deal“): https://www.beuc.eu/blog/the-biggest-ever-collective-switching-campaign-for-energy-in-the-czech-republic/

source and were in doubt about their real intentions. The campaign also exposes the fact, that the switch must be easy to implement by the users. Good results of the campaign in the Czech Republic has led to more campaigns of such type (2017, 2018).

4.3.2 Overall concept and elements of the campaign

Overall concept was evolved around the collective switch of the energy supplier. The main elements of the campaign were:

- non-binding application – consumers that applied, if not happy with the price were not obligated to switch the energy provider.
- assuring trust with the consumers – they provided the "dTest" with the help of independent guarantor for the auction held by the Consumer organisation.

4.3.2.1 Preparatory activities

The campaign was a big hit among the consumers as the Consumer organisation have carried out the focus group to understand the consumer. Ad this has proven that the consumers are not fond of door to door selling and selling over the telephone. From earlier campaigns they have learned that the key to a success is to make a quality and trustworthy connection with the consumers. And be straight forward with the information given to consumers (no hidden tricks).

4.3.2.2 Communication activities, on- and off-line campaign activities

The process of the collective replacement campaign was well structured and easy to understand. Registration was held via online application with the option to get additional information about the campaign via email web page (most frequently asked question) or through call centre.

4.3.2.3 Overall campaign concept – description of policy measures and embedding in existing structures

The overall concept consisted of four steps[14]:

- registration of the consumers,
- Consumer organisation picks the best supplier,
- consumer get the offer,
- in the end the consumer makes a decision about whether or not to make the switch.

[14] Four steps of the campaign: https://www.chcivyhodnejsienergie.cz/

4.3.3 Supporting policy instruments

4.3.3.1 Monitoring, target achievement

A survey was conducted in the end in order to see if the consumers were pleased with the result and with the hole process. The results were positive and confirmed their main objectives: keep the application simple, share all the relevant information (with no hidden costs) and build trust with the consumers.

4.3.3.2 Challenges/difficulties experienced, lessons learned

The challenges of gaining consumers trust was tackled nicely. Through the campaign the Consumer organisation was nicely connected with the consumers. They also incorporated "dTest" in order to prove the best pick for the switch. The lesson learned is to find the way to really connect to the people, oppose to door to door selling or telemarketing.

4.3.4 SWOT of the measures and instruments with regard of the aims of the campaign/action

Table 1: SWOT analysis of replacement campaign action CZ

Replacement campaign action CZ (label the examples by adding country code and number)		
	Helpful to achieving the objective	*Harmful to achieving the objective*
Internal origin	**STRENGHT**	**WEAKNESS**
	Customer organisation established trust with the consumers (dTest and communication)	*Maintaining the unbiasedness for every collective campaign.*
External origin	**OPPORTUNITY**	**THREATS**
	Consumers always want to have the best deal, with minimum effort.	*The energy suppliers refuse to participate if they have a feeling that they are being ripped off.*

4.3.4.1 Effectiveness of the campaign, measures not covered at all

The campaign was effective (two more followed after the first one) and well received by the consumers. The consumers' satisfaction in the campaign was monitored through the consumer survey at the end of the process. Easy application process and efficient information turned out to be a good strategy.

4.3.5 Transferability of (elements of) the campaign to the envisaged REPLACE campaign in the target region

4.3.5.1 Transferability

The process can be adapted to the REPLACE campaign to some extent. What has been proven in this campaign is that, it is important how we establish contact with the consumers (built on trust) and the simplicity of the whole process (easy to understand and easy to use).

4.4 Various countries – ban of oil heating

Several countries worldwide have started already the most powerful campaign to replace oil or gas heated boilers, nationwide bans on the use of oil or gas for heating.

Examples for the implementation of such bans or plans to do so can be found among other European countries in Norway, Denmark, Germany and in Belgium.

Norway: the Norwegian government has decided in June 2018 to forbide the use of oil and paraffin to heat buildings from 2020 on. This ban on oil heating shall save emissions of 340,000 t CO_2 per year until 2035 (in 2015, the emissions coming from fossil fuel or paraffin fired boilers amounted to 739,000 t CO_2). The recommended alternatives to the fossile fuels include heat pumps, electricity from the country's hydroelectric grid, district heating, biofuels and wood chips or pellet boilers (Regjeringen, 2020). The decision was put into law (law name: Forskrift om forbud mot bruk av mineralolje til oppvarming av bygninger) and has come into force in 2018 (Lovdata, 2020).

Denmark: in the last years, Denmark has tried to tackle the problem of inefficient and CO_2 intensive heating systems. There was some sort of subsidy to replace old oil boilers - a scrapping premium. This premium was a part of the energy efficiency obligation of the energy companies who until 2020 could buy saved kWhs for 20-40 øre (~3-6 €c) each. The support would thus depend on the efficiency of the old and new appliances and the substitute did not have to be renewable.

On top of this a reduced tax on electricity for heating would be applied for consumption above 4,000 kWh per year if the substitute would be electric and, furthermore, up to 2,400 € of the costs for the installers invoice can be deducted from the annual income, entailing a reduced income tax.

The new and ambitious climate strategy (2019) aims at 70 % GHG reduction by 2030, phasing out of the remaining 80 - 100,000 oil boilers as well as the 375 - 400,000 natural gas fired boilers play an important role. However, there has not yet been made an action plan to implement the strategy. It is likely that drivers will include cheaper alternatives, for instance further reduction in electricity for heating. Many parties outside the Parliament currently call for action in this field as a post-covid restart (Hansen, 2020). According the Danish climate law, Denmark shall be independent of fossil fuels by 2050, following the phase-out of fossil fuels which started in 2015 (Danish Energy Agency, 2020).

Germany: Since 2 January 2020, based on the market incentive program "Measures to promote the use of renewables in the heating market", in Germany a replacement premium is available if oil heating systems will be replaced by a (at least partly) renewable heating source. Depending on the heating source which replaces the old oil heating system, up to 45 % of the costs will be funded (BAFA, 2020). In addition to this program, in Germany a so-called Gebäudeenergiegesetz (GEG – building energy regulation) is discussed in the political process. In a draft verision of the law, provided by the German federal government, a possible prohibition of oil heating systems from 2026

on is discussed (BMWi, 2019, Gebäudeenergiegesetz (GEG). (Online) Available: https://www.bmwi.de/Redaktion/DE/Downloads/Gesetz/gesetz-zur-vereinheitlichung-des-energieeinsparrechts-fuer-gebaeude.pdf?__blob=publicationFile&v=8 (23.01.2020)..

Belgium: in Belgium, a national 'energy transition' plan for 2050 is provided by the Belgian federal and regional energy agreement, which includes a ban on the sale of heating oil fuelled boilers as of 2035. In Brussels, this rule shall already be applied as of 2025 (Energuide, 2020).

5 | References

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Figures

Tables