



Actions to Mitigate Energy Poverty
in the Private Rented Sector

DELIVERABLE 3.1

Working Document with
guidelines on setting up
policies according to best
practices and country specific
circumstances - DRAFT

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1. EXECUTIVE SUMMARY

The aim of the current deliverable entitled “Working Document with guidelines on setting up policies according to best practices and country specific circumstances” is to analytically present all of the implemented activities for the effective design of the selected ten pilot policies within the framework of ENPOR according to the specific needs of energy poor households in the private-rented sector of the involved countries.

A structured approach was applied consisting of three steps in order to ensure the effective re-design of the targeted pilot policies within the framework of the ENPOR project. The main characteristic of the applied approach was the conduction of a co-creation procedure with the actual involvement of all of the crucial stakeholders in regards to the alleviation of energy poverty in the private-rented sector. According to the proposed methodological approach, which was developed within the framework of D4.1 “Stakeholder Engagement Strategy”, the co-design process is based on the conduction of three REACT group meetings. Moreover, the conduction of two Target group meeting was envisaged so as to ensure that all stakeholder will have the opportunity to express their perspectives and ideas.

The application of the developed methodological approach for the co-design of the pilot policies within the framework of ENPOR project led to considerable policy improvements, taking into account the national characteristics of the involved countries.

All of the performed activities within the framework of the conducted REACT group and Target group meetings are described analytically for each pilot policy separately in a homogeneous format. Specifically, information is provided about the organized meeting, the list of stakeholders (invited and participated), the agenda, the objectives, the main discussed issues for each objective, the main conclusions and the open issues and preliminary arrangements for the next meeting. Finally, the final proposal for the re-design of each pilot policy was formulated taking into account the outcomes of the organized REACT group and Target group meetings.

Summarizing, all the targeted countries implemented the proposed co-design process successfully according to the developed methodological approach combining both REACT group and Target group meetings. Nevertheless, alternative formats were selected in a few countries arranging lower number of meetings or applying a different sequence of the meetings according to the needs of the public authorities, which were responsible for the administration of the pilot policies.

In the final chapter, an overview of the organized REACT group and Target group meetings as well as the most important policy improvements are outlined for each pilot policy separately.

Generally, the application of the developed methodological approach for the co-design of the pilot policies led to considerable policy improvements for all the targeted cases. Furthermore, various policy recommendations were elicited both for the targeted pilot policies and for the alleviation of energy poverty generally.

2. INTRODUCTION

The aim of the current deliverable entitled “Working Document with guidelines on setting up policies according to best practices and country specific circumstances” is to present all the implemented activities for the effective design of the selected ten pilot policies within the framework of the ENPOR project according to the specific needs of energy poor households in the private-rented sector (PRS) of the involved countries.

The pilot policies, which were re-designed within the framework of ENPOR, are presented in Table 1.

Table 1: Overview of examined pilot policies within ENPOR project.

Country	Name of Scheme
Austria (AT)	Low-threshold, target group-specific consulting (training, soft measure)
Austria (AT)	Financial support scheme for thermal refurbishment measures for low-income households
Germany (DE)	Heating related energy advice (training and information)
Germany (DE)	Pre-paid metering EnergieRevolve (training and information)
Estonia (EE)	National reconstruction grant (grant for renovation)
Greece (GR)	Energy Efficiency Obligation Scheme (EEOs)
Greece (GR)	Energy upgrade of buildings (grant for renovation)
Croatia (HR)	National Programme for Renovation of Buildings (grant for renovation)
Italy (IT)	Training and Information Campaign (training and information)
Nederland (NL)	Energy Box (programme support)

A structured approach was applied for ensuring the effective re-design of the targeted pilot policies. More specifically, the implemented approach consisted of the following three steps:

- Step 1: Elaboration of initial proposal by ENPOR partners:** An initial proposal was elaborated by ENPOR partners including the requirements and the guidance on integrating PRS policies in each country’s policy and financing framework. The formulation of the initial proposal was accomplished taking into account various parameters, such as the priorities and needs of energy poor households and property owners, potential legal or market-related obstacles, gender issues and the implementation of incumbent social and other policies in each country, ensuring the proposal of consistent policy packages to tackle the multiple dimensions of energy poverty.
- Step 2: Co-creation with the REACT groups, ensuring realistic design and buy-in for both property owners and tenants:** The targeted pilot policies were discussed, consulted and adapted with the national REACT groups taking into consideration both the findings of the previous step and the analysis of the best practices, structural factors and conditions of energy poverty policies as resulted by the ENPOR project. In the co-creation phase, the initial proposal and guidelines prepared in the previous step was improved and tailored to the actual needs, priorities and expectations of the REACT groups so as to result in more effective policies for the alleviation of the energy poverty.

- **Step 3: Finalization of the design elements, setting in place the necessary procedures:** The design of the ENPOR policies was finalized following the completion of the required modifications, and the proposals from the REACT groups.

3. METHODOLOGY FOR CO-CREATION

The methodological approach, which was developed within the framework of D4.1 “Stakeholder Engagement Strategy”, was applied in order to re-design the targeted pilot programmes through a co-creation procedure.

Co-creation can be described as the involvement of citizens in the initiation and/or the design of public services to develop beneficial outcomes. The co-creation process includes essential principles such as a the systems perspective (assuming emergence, local adaptation, and nonlinearity), the framing of research as a creative enterprise with human experience at its core, and an emphasis on process (the framing of the policy/programme, the nature of relationships, and governance and facilitation arrangements, especially the style of leadership and how conflict is managed). The co-creation and implementation of policies that benefit energy poor tenants in the PRS is the ultimate objective of ENPOR project.

According to the proposed methodological approach, the co-design process is based on the conduction of three **REACT group meetings**. A key input to this process is the perspective of energy poor tenants (and landlords). While both groups’ interests should be represented in the meetings by representatives of tenant/landlord associations, charitable organisations or similar, direct exchange with members of the target group is deemed essential to ensure the development of practical and targeted policies. Dealing with a sensitive and personal issue, on which energy poor tenants may not be willing to talk about in a high-level stakeholder setting, ENPOR thus offers an alternative tiered approach to organize the inclusion of target group perspectives and ideas. Instead of having energy poor tenants directly participate in the REACT group meetings, separate formats should be implemented in between REACT group meetings to inform the policy co-creation (**Target group meetings**) ensuring that the design of the policies will be fulfilled according to the needs of the group they represent. The process is visualised in Figure 1.

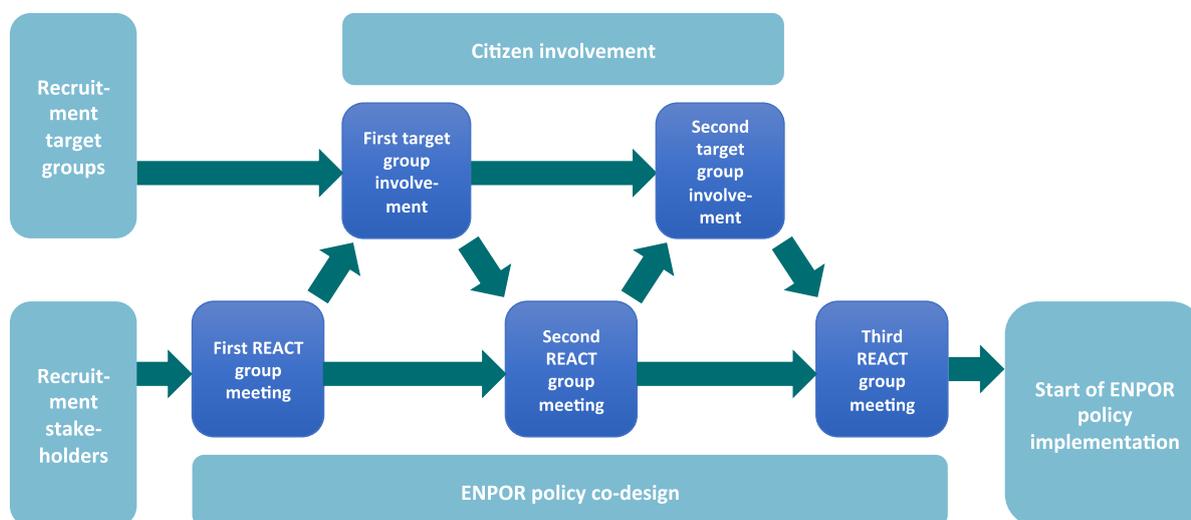


Figure 1: Visualization of ENPOR policy co-design process.

According to the proposed methodology, the **first REACT group meeting** can serve as a constituting session, in which the REACT group members should get to know each other and should be introduced to the project setup and objectives. Limited content should be provided by ENPOR partners on the national energy poverty framework and (where sensible) results from the analysis on energy poverty in the PRS which should be conducted within ENPOR project. ENPOR partners should provide a brief analysis of the selected policies to be further developed, including their linkages to social and other relevant policy, and highlight the main challenges to be addressed by the co-creation. Moreover, the participants should be presented an initial mapping of the main elements, which - according to ENPOR partners - must be adapted. Further meeting targets relate to the identification of different (and possibly conflicting) stakeholder interests, expectations and perspectives, and the definition of a joint vision of the co-creation target. The collection of stakeholder perspectives should both serve to update the stakeholder analysis guiding the communication strategy as well as inform the further policy improvement co-design process. At the end of the meeting, participants should have a clear understanding of the general objective, the process towards that objective and the expectations of the ENPOR project regarding their contributions (such as engagement of target groups, provision of monitoring data, dissemination of results etc).

In a second step, the collection of energy poor tenants' perspectives should be implemented in the **first Target group meeting** to identify their needs and practical challenges vis-à-vis the ENPOR policies to be further developed. Depending on the national context, the identified relevant sub-groups and pre-existing channels for outreach, the most suitable method/format for data collection may vary. Possible ways of capturing qualitative information are workshops, focus groups or bilateral interviews. Considering the current pandemic situation, probably most of these activities might not be done in person but online or via telephone. Surveys are also an option (or an add-on) in case of direct or indirect access to contact information (such as addresses, email addresses). Within this step, ENPOR partners should carefully evaluate sub-group specific needs and challenges, which may be multidimensional and thus require an equally multifaceted approach to address them. Accordingly, the analysis could well point to the need for going beyond improving the delivery of a particular benefit (such as behavioural advice) and to (additionally) reflect on ways to (better) integrate different services/benefits within a targeted policy package.

The **second REACT group meeting** should start off the actual co-design process. Within this meeting, stakeholders should be presented different content based on the performed analyses within other work packages. Leading up to an initial policy proposal, ENPOR partners should present European best practice regarding the delivery of the services/benefits in question, insights on structural factors impacting energy poverty in the PRS and tenant/landlord perspectives collected in the previous step to be considered within the policy design. Following this, the initial policy proposal informed by these insights should be presented and discussed. To this end, the group should provide feedback and highlight potential flaws in the design and barriers for its implementation as well as possible solutions to overcome them. To structure this process, ENPOR partners should categorise the identified barriers with regard to their type (such as regulatory, economic, social, technical), possible solutions, and the actors to be involved to overcome them (insofar applicable). In case there are several solutions for a distinct issue, suitable tools (such as SWOT analysis, decision tree) should be employed to identify the best approach. Particular consideration should be given here to gender-related differences with regard to the perception and/or utilisation of policy related benefits. An additional aspect to be discussed in the meeting is the monitoring framework, including minimum data requirements as well as the methods, timeline and responsibilities for their collection. Finally, the

design components of the further developed ENPOR policies should be agreed upon by all stakeholders and be ready for presentation to the target group for final feedback.

To ensure its practicality and utility to match the target group needs, the **second Target group meeting** should be organised in order to collect feedback from energy poor tenants (and landlords) on the further developed ENPOR policy proposal. To this end, the proposal and its inherent steps of services/benefits delivery should be described to the target group(s) by ENPOR partners within a dedicated session (either within another workshop/focus group meeting or a second round of bilateral interviews). Subsequently, tenants and/or landlords should be asked to point out any remaining barriers for them to benefit from the proposed policy or perceived mismatch between the provided benefits and their needs. Based on this feedback, possible practical solutions to further improve the policy utility should be discussed and documented for the following REACT group meeting.

The **third REACT group meeting** should aim to finalise the policy design process based on the tenants' feedback and to prepare the policy implementation and its monitoring. In case there are several (mutually exclusive) adaptation options on the table, the group should decide which option provides the greatest benefit to a previously defined target group and/or is considered to maximise the overall policy impact. Furthermore, the mode and timeline for policy monitoring should be defined while including milestones, after which the accompanying policy delivery and impact evaluation should inform potential adjustments. If necessary, feasible adjustments should be discussed and decided at an early REACT group meeting in the second phase of co-creation to enable timely and effective delivery of benefits within the project duration.

It should be noted that the proposed methodological approach can be modified taking into consideration the national characteristics and peculiarities of the examined countries ensuring in any case that the planned impacts of the ENPOR projects in regards to the alleviation of energy poverty in PRS will be achieved.

Finally all performed activities within the framework of the conducted REACT group and Target group meetings were described analytically using the template, which is presented in Annex. According to the developed template, specific information was provided for each meeting separately about the organizational issues, the list of stakeholders (invited and participated), the agenda, the objectives, the main discussed issues for each objective, the main conclusions and the open issues and preliminary arrangements for the next meeting.

4. LOW-THRESHOLD, TARGET GROUP-SPECIFIC CONSULTING (TRAINING, SOFT MEASURE) - AT

4.1 Description of the pilot policy/measure

In Austria, various support services are in place to help low-income households reduce their energy consumption and related costs as well as to make their energy usage more sustainable. These services range from on-site consultations to various information materials. However, the existing information and support formats are often not prepared in a suitable form, as this target group often does not have the time, resources and educational background to deal with sophisticated tools and detailed materials, while energy poor households are not usually specifically targeted by these services either. Therefore, co-designing and implementing measures that benefit energy-poor tenants in the PRS, and in Austria in this case, is the core of the ENPOR project and warrants this behavioural change intervention.

As part of such a co-design process, new information and counselling materials for energy poor households are being developed within the project by the Austrian Energy Agency, in cooperation with DIE UMWELTBERATUNG who have been providing energy advice to energy poor households in Vienna for many years. However, these materials are intended to stand out from previous offers at this level by placing a clear focus on figurative language and thus offering a clear advantage for this hard-to-reach target group by conveying information with as few words as possible and a clear focus on illustrations and pictograms. This makes it easier to overcome linguistic hurdles or hurdles resulting from a lack of background knowledge.

Furthermore, the direct involvement of energy poor tenants (and their landlords) in ENPOR will be ensured through repeated home visits and on-site consultations by energy advisors from DIE UMWELTBERATUNG. This involvement is crucial to ensure the development of targeted interventions that meet these citizen's needs and challenges. The developed materials will be tested in a pilot phase directly in the counselling work in the course of about 50 counselling sessions for energy-poor households in 2021 in Vienna, as it is the Austrian province with the highest proportion of people at risk of poverty. This will enable an evaluation process to ensure that the contents developed are clear, comprehensible and also of a relevant nature for affected households.

4.2 Challenges and barriers

An important challenge is to ensure that the materials developed are actually adopted by energy poor households, i.e. that they truly reflect their needs and contain information that is relevant to them. At the same time, the focus on visualisation must also ensure that the information contained is really clear and comprehensible.

Another challenge is the acceptance of the materials by suitable multipliers, as direct transmission to households is not possible. There is usually always a need for someone in the intermediary role (such as energy advisors, but also social aid organisations, etc.) to use and pass on these materials for assistance. It is therefore necessary to get them on board as well and ensure that there is also a use beyond the project. This can also include landlords, who also play a relevant role, especially for the ENPOR project.

4.3 Co-design process

The development of the materials is a continuous co-design process between the Austrian Energy Agency and DIE UMWELTBERATUNG. The content of the new information and counselling materials is based on existing information sheets from DIE UMWELTBERATUNG, which already uses them for its counselling services. However, these are quite text-intensive and therefore not always suitable for our target group(s). Within the framework of the project, these were revised by the co-design process and slimmed down to the most relevant content, in order to then be brought into the targeted form by professional graphics & design.

In order to meet the identified challenges, the materials will be tested in the advisory service of DIE UMWELTBERATUNG after their completion. This ensures that households actually affected by energy poverty can also give their input on the materials. In the 50 test consultations with the materials, it is planned to test them for their comprehensibility, the relevance of the contents, i.e. whether something should be removed or added, and whether the households actually see a contribution to alleviating their problems at least somewhat.

Once the materials are finalised, feedback on them is sought not only from energy poor households, but also from relevant stakeholders. For this purpose, both the Austrian Energy Agency and DIE UMWELTBERATUNG will use their extensive network of contacts. People from different types of organisations (ministries, local authorities responsible for energy and social affairs, social aid organisations, energy consultancies, energy suppliers) with a relation to energy poverty, both on the implementation and on the (political) planning level, will be consulted in order to also take their input into account in the elaboration of the materials.

The new information and advisory materials will then be revised and finalised based on feedback from households and stakeholders.

1st REACT group meeting

Meeting information (date, place, means of conduction, etc.)

The first REACT group meeting was held in the form of an online meeting on 01.03.2021.

List of stakeholders (invited and participated)

This online meeting on the topic of energy poverty, organized by the Austrian Federal Ministry for Climate Protection, Environment, Energy, Mobility, Innovation and Technology, was held for important stakeholders in this field in Austria, in which the Austrian Energy Agency also participated on behalf of the ENPOR consortium. It also served as the first REACT group meeting in Austria.

The organizations, which participated in the first REACT group, are presented in Table 2.

Table 2: Overview of the participated organizations in the 1st REACT group in Austria

Participated organizations
Federal Ministry for Climate Protection, Environment, Energy, Mobility, Innovation and Technology (<i>3 persons</i>)
Federal Ministry of Social Affairs, Health, Care and Consumer Protection (<i>3 persons</i>)
Chamber of Labour (<i>2 persons</i>)

Participated organizations
Caritas (2 persons)
Federal Environment Agency (2 persons)
Institute for Real Estate Building and Living (2 persons)
E-Control (2 persons)
ENPOR consortium (2 persons)

Finally, 16 participants participated representing 8 different organizations.

It should be noted that the participated stakeholders provide a well-balanced representation of the most crucial actors for the alleviation of energy poverty in the rented sector in Austria through the selected pilot measures within the framework of the ENPOR project.

Agenda

13:30-13:40: Welcome: presentation of the aim of the meeting

13:40-14:20: ENPOR project: presentation and discussion

14:20-14:40: Energy Poverty Roadmap: presentation and discussion of the current state

14:40-15:00: Renovation wave - aspects of energy poverty

15:00-15:20: Update on the current work on the definition of energy poverty in Austria and on the drafting of the new Energy Efficiency Act

15:20-15:30: Sum-up and agreement on the next steps

Objectives

The first REACT group focused on the fulfilment of the following objectives:

Objective 1: Inform about and discuss current measures to combat energy poverty in Austria

Objective 2: Presentation of the ENPOR project and the planned measures in Austria

Main discussed issues for each objective

Objective 1: Inform about and discuss current measures to combat energy poverty in Austria

The focus of the discussion was on the Roadmap for Energy Poverty in Austria, which was being worked on. An important point of the discussions revolved around the still pending official definition of energy poverty in Austria, which is also to become part of the roadmap. While several possible definitions, both political and academic, have been developed in the past, none has yet been officially adopted. In any case, this roadmap will be an important basis for deciding on further measures to combat energy poverty in Austria.

In preparation for this REACT group meeting, the Austrian Energy Agency also participated in an interview on 25.02.2021 on the topic of energy poverty, which was conducted by the organizations responsible for writing the roadmap. Topics such as already existing instruments for combating energy poverty and their effectiveness, existing actors who could make a contribution and also the social accuracy were discussed. These results of all conducted interviews will also be included in the Roadmap for Energy Poverty in Austria.

Objective 2: Presentation of the ENPOR project and the planned measures in Austria

Another important core point of the meeting was the presentation of the ENPOR project by the Austrian Energy Agency. The objectives of the project and the concrete ideas for its implementation in Austria were presented. It was also discussed how similar measures could possibly be implemented nationwide and what important experiences could be taken from them that could be relevant for other activities in this field.

In any case, a particularly important point that was brought up is a necessary target group-specific approach to reach affected households, which is also the focus of the new materials developed. A frequently identified problem is that energy poor people are not even aware of what support services are available to them at all and what opportunities they already have to take small but inexpensive steps themselves to improve their situation. This is an issue that needs to be addressed by policy-makers in the coming years and will thus depend on the support of appropriate stakeholders and projects.

On 15.03.2021, another REACT group meeting took place on a smaller scale between the ENPOR team of the Austrian Energy Agency and experts from the Austrian Chamber of Labour to further discuss the topic of energy poverty based on the first REACT group meeting.

Existing challenges in the support of affected households, especially in the PRS, were discussed. For example, there is the problem of the difference between subject (individual people) and object (housing) support and the question of which means are better suited and can be implemented. Currently in Austria, object support is predominant, but suitable subject support could also help to support energy poor households in the PRS. Another topic in this context was split incentives, but possible solutions for this problem are very complex in the current funding system in Austria and so requires a longer development process. In principle, subject subsidies are a possibility to address this issue and to at least provide financial support for people in the PRS to improve their living situation as far as this is possible within their own framework. However, such measures will not suffice, as it is important to involve the landlords as well. The discussion showed that legal hurdles can still be an obstacle in this regard and that legal reforms in tenancy law and related legislation might also be required to result in a sustainable improvement. The content discussed during the meeting served and will continue to serve as input for future REACT group meetings, for example meetings with the Ministry of Climate Protection.

Conclusions

The various stakeholders agreed that more concrete measures need to be taken in Austria to support energy poor households. However, the appropriate foundation to really reach affected households still needs to be created, also in the PRS, as subsidies for support will be available. Therefore, the planned measures of ENPOR project in Austria met with great interest.

1st Target group meeting

On 15.03.2021, another Target group meeting took place between the ENPOR team of the Austrian Energy Agency and experts from the Austrian Chamber of Labour on the topic of energy poverty.

The challenges, which were identified in the first REACT group in regards to the support of affected households especially in the PRS, were discussed extensively.

2nd REACT group meeting

For the development of the new materials, a separate approach was chosen for the implementation of further REACT group meetings. At the beginning of the work process, the Austrian Energy Agency organised preparatory meetings with DIE UMWELTBERATUNG on 21.12.2020 and 22.01.2021 in order to jointly agree on the procedure and to concretise what the end product of this development process should look like. A clear and shared vision of the desired result should enable targeted cooperation. During these meetings, it was discussed to what extent DIE UMWELTBERATUNG could support the development and what a test process after the completion of the new information material could look like in the active advisory service of DIE UMWELTBERATUNG in order to receive direct feedback from low-energy households. In this context, DIE UMWELTBERATUNG takes on the role of a mediator who represents a link from the project to energy-poor households and thus enables their actual involvement.

For the further collaboration, regular exchange through online meetings, supplemented by email and telephone conversations, was implemented between the Austrian Energy Agency and DIE UMWELTBERATUNG as smaller REACT group for the development of the new materials.

A comprehensive exchange took place on 26.4.2021, 10.5.2021 and 18.5.2021 in the form of joint smaller workshops, in which the previous information sheets from DIE UMWELTBERATUNG were evaluated. The ENPOR team discussed the individual contents with experienced energy advisors from DIE UMWELTBERATUNG and also talked about the experiences they had made during energy advice sessions with socially disadvantaged households. This was to ensure that the newly developed materials were not "overloaded" and that they really provided relevant information for the target group. Therefore, relevant information, of which those that are too technical or not so relevant for energy poor households, were recorded and evaluated separately during the meetings but also during the preparation and follow-up of the meetings by the Austrian Energy Agency. The approach of organising the process as an independent small REACT group helped to establish a continuous contact and a good working basis between the involved parties. On this basis, the concepts for three new information leaflets with a focus on visual language were jointly developed for the following three topic blocks:

- Saving electricity in the household
- Saving water in the household
- Energy saving tips for each season (divided into summer and winter tips)

The further elaboration and design of the new information leaflets will now be carried out by the Austrian Energy Agency in close coordination with commissioned professional graphic designers. After the completion of the first elaborated version, it will be communicated to other relevant stakeholders as described above. This new feedback loop will then represent a further part of the Austrian process with the then expanded REACT group.

4.4 Final proposal for policy improvements

The targeted pilot programme in Austria will be conducted utilizing the new information leaflets, which will be developed by the Austrian Energy Agency in close cooperation with commissioned professional graphic designers.

5. THERMAL RENOVATION MEASURES FOR ENERGY POVERTY (GRANT FOR RENOVATION) - AT

5.1 Description of the pilot policy/measure

A support volume of 100 million € in 2021 and 2022 as part of the comprehensive renovation offensive currently being implemented by the Austrian government is intended to enable low-income households to cope with additional burdens arising from the implementation of renovation investments in the building sector eligible for funding under support programmes, thus reducing investment barriers in this segment of the population.

The European Union's Recovery and Resilience Facility will also make additional funds available, part of which will be used specifically to support energy poor households in Austria. The exact form of this is currently still being determined.

However, the Austrian Energy Agency is currently in consultation with the Ministry for Climate Protection to determine what contribution the ENPOR project could make to support these new offers and to possibly enable a targeted focus on the PRS. This will then be designed and implemented as a further process with its own smaller REACT group, with the Ministry as the central contact.

5.2 Challenges and barriers

Identifying energy poor households is still a challenge, especially since there is still no official definition for them in Austria. Furthermore, there is currently no focus on tenants in the current version of the policy.

Currently the envisaged programme is aiming at low-income households in general. ENPOR can provide assistance in targeting energy poor households specifically and supporting the uptake in the target region of Vienna. The ENPOR project will develop strategies in the REACT group to also engage landlords directly and motivate them to use this offer or to pass it on to their tenants.

5.3 Co-design process

The developed methodological approach within the framework of ENPOR will be applied foreseeing the conduction of smaller REACT groups, with the Ministry for Climate Protection as the central contact.

1st REACT group meeting

On 05.08.2021, a meeting of the Austrian ENPOR team took place with two members of the cabinet of the Austrian Minister for Climate Protection, Environment, Energy, Mobility, Innovation and Technology, who are responsible for all activities related to energy poverty in the Ministry. The purpose of this meeting was to briefly introduce ENPOR project to them and to have a first exchange about where the project could support concrete measures of the ministry. For example, the

establishment of an online platform for energy poverty in Austria is planned, for which the project could provide contributions. However, more precise details on this platform still have to be decided at the ministerial level before concrete activities could be planned. Since the focus of the project is on the PRS, it was agreed during the meeting that the two cabinet members will consult with their colleagues in the ministry departments that have a thematic relation to energy poverty to determine what input from the project could be valuable to them and what measures can be jointly implemented to alleviate energy poverty in this area. To this end, there will be further coordination and ongoing communication in the future.

5.4 Final proposal for policy improvements

The final proposal for the suggested improvements of the targeted pilot policy will be finalised after the completion of the co-design process and the organization of all REACT group meetings.

6. HEATING RELATED ENERGY ADVICE (TRAINING AND INFORMATION) - DE

6.1 Description of the pilot policy/measure

The German Federal Government financially supports non-state actors to provide energy saving advice to low-income households. The most prominent is the “StromSparCheck” (Electricity Saving Check) project administered by Caritas in cooperation with the Federal Association of Energy and Climate Protection Agencies in Germany, in which the long-term unemployed are trained to provide energy saving advice and low-cost technical devices free of charge to welfare recipients and low-income households. While the German Government fully covers the heating expenditure of welfare recipients, these need to cover electricity costs from a capped budget for overall living expenditure. Accordingly, the project mostly focuses on electricity savings, but has started to extend its activities to heating related advice in some locations. Public relations and advertising of the services involve local Job Centres and various other municipal and civil society organisations to reach the relevant target groups.

The aim of ENPOR is to further develop the existing approach of heating related energy advice to increase heat savings and comfort levels and to broaden the evidence base of what works. To this end, innovative approaches to (more effectively) convey energy advice or achieve savings by means of new tools and low-cost technical measures will be developed, tested and evaluated. A particular challenge here is the lack of immediate financial incentives for the majority of consulted households (90%) due to the above-mentioned state coverage of heating costs. Accordingly, measures need to target intrinsic motivations and/or focus on comfort or health improvements related to avoidance of draught or mould.

6.2 Challenges and barriers

The StromSparCheck and its focus on electricity savings is at the centre of communication and counselling. Heating advice is then provided based on a needs assessment in the context of the StromSparCheck consultation. However, currently this assessment is not (yet) implemented as a standard procedure but is initiated only in response to an explicit request by the household or evident issues related to improper heating/ventilation behaviour (such as mould formation, disproportionately high room temperatures, draught, furniture blocking radiators etc.). Moreover, heating energy bills as a basis for identifying saving potentials (and as a means for impact monitoring) are often not available. In many instances there is no information on whether there is a potential for heating energy savings, improved comfort or health protection in the household in question or not. Furthermore, even when heating consultations have been carried out, monitoring of whether the advised measures have been implemented and were effective so far has not been consistently implemented. Accordingly, there is potential for optimisation, both for identifying the need for advice and for evaluating its effectiveness.

The identified challenges and barriers for the further development and implementation can be summarized in:

1. The lack of data for monitoring/evaluation purposes.
2. The achievement of sustained behavioural changes against the backdrop of no financial

- incentives (welfare recipients) and possible loss of information during the consultation.
3. Reaching tenants (during the pandemic) and the differentiation of approaches between low-income households and welfare recipients.

6.3 Co-design process

As a preparatory step, the project team, consisting of Wuppertal Institute, Caritas Düsseldorf and Röthele Energie- und Bauberatung, analysed the current process and practice of the measure and identified the most relevant challenges for its successful implementation as a draft starting point for improvement. Based on this assessment, the team identified potential solutions to address these challenges. The stakeholders to be involved in the REACT groups were chosen according to this analysis. Among all actors, especially the representatives from the municipality of Düsseldorf, the local utility as well as social and charitable organisations were identified as stakeholders with the highest interest and strongest power and influence.

The co-design process was then implemented within two REACT group meetings as well as frequent exchanges with the implementing partner Caritas and the energy advisors as representatives of the target group.

1st REACT Group meeting

Meeting information (date, place, means of conduction, etc.)

The first REACT group meeting was conducted via videoconference on 01.06.2021.

List of stakeholders (invited and participated)

Stakeholders from 13 different organizations were invited, taking into consideration the outcomes of the conducted mapping of the relevant stakeholders.

The organizations, which participated in the first REACT group, are presented in Table 3.

Table 3: Overview of the participated and not participated organizations in the 1st REACT group in Germany.

Participated organizations	Non-participated organizations
Social Welfare Office Düsseldorf (Amt für Soziales Düsseldorf - Schuldner- und Insolvenzberatung - 50/1) (1 person) Public Utility Working Group for the Economical Use of Energy and Water (Arbeitsgemeinschaft für sparsame Energie- und Wasserverwendung (ASEW) im Verband kommunaler Unternehmen (VKU)) (1 person) German Caritas Association e.V. (Deutscher Caritasverband e.V.) (2 persons) Caritas Energy Saving Service, Caritas Association Düsseldorf e.V. (Caritas Energiesparservice Caritasverband Düsseldorf e.V.) (2 persons) EnergieRevolte GmbH (1 person)	N/A

Participated organizations	Non-participated organizations
Institute for Social-ecological Research (Institut für sozial-ökologische Forschung (ISOE)) (1 person) Job Centre Düsseldorf (1 person) Düsseldorf Tenants' association (Mieterverein Düsseldorf) (1 person) Röthele Energie- und Bauberatung (1 person) Düsseldorf public utility company (Stadtwerke Düsseldorf AG) (1 person) Düsseldorf Municipal Housing association (SWD Städtische Wohnungsgesellschaft Düsseldorf mbH & Co. KG) (1 person) Environmental Office Düsseldorf (Umweltamt Düsseldorf) (1 person) Consumer association NRW (Verbraucherzentrale NRW e.V.) (3 persons) ENPOR consortium (3 persons)	

Finally, 20 participants participated representing 13 different organizations.

The participating stakeholders provide a well-balanced representation of the most crucial actors for the alleviation of the energy poverty in the PRS in Germany through the selected pilot measures within the framework of the ENPOR project.

Agenda

13:00-13:15: Welcome, self-introduction and brief statements by participants

13:15-13:30: Presentation of ENPOR project and main objectives of the 1st REACT group

13:30-13:50: Presentation of the current Heating Advice CARITAS - analysis and challenges

13:55-14:05: Co-Creation: Purpose and concrete questions

14:15-15:15: Discussion in small working groups, feedback, identification of new ideas

15:25-15:50: Presentation of discussion results

15:50-16:00: Sum-up and agreement on the next steps

Objectives

The first REACT group focused on the achievement of the following objectives:

Objective 1: Common understanding of the Caritas Heating advice, its targets and challenges

Objective 2: Discussion about possible approaches and further development of ideas/identification of cooperation possibilities

Objective 3: Focusing the further development and defining the further roadmap

Main discussed issues for each objective

Objective 1: Common understanding of the Caritas Heating advice, its targets and challenges

The project team first elaborated on the relevance of addressing energy poverty as a central building block for a just and socially accepted energy transition and presented ENPOR's integrative approach of combining scientific analysis and co-creational processes in REACT groups, with the different activities interlocking and informing each other. The project partner Caritas then described the Caritas Heating advice service, its implementing procedures and its achievements. With regard to target group outreach, it was pointed out that advertising of the service via the social assistance approval notice is not feasible within the project as their design is uniformly defined on a federal level. The conflict between achieving heat energy savings and increased risks of mould formation was shortly discussed and the Caritas team confirmed sensitivity for the topic within the counselling.

Objective 2: Discussion about possible approaches and further development of ideas/identification of cooperation possibilities

The current heating advice is functioning well, but several challenges exist and the service can still be extended and optimised. Three areas were presented to the REACT group as potential fields of action for the development of measures to further optimise the heating advice:

(1) Improving the database:

Lead questions: How can the data basis for identifying savings potentials and for impact monitoring be improved? Who or what is required for this?

The following issues were identified and discussed as main challenges: Heating bills are not available/cannot be found, there is no or incorrect transfer of information, households are not interested, and issues of data protection.

The following approaches were discussed as possible ideas: Use of new instruments for data collection (such as surveys, data logger, thermohydrometers, laser altimetry), cooperation with other actors to facilitate access, the use of other sources of information (such as energy performance certificates), heating costs from approval notice, recording of heating technology/control or approval agreements.

(2) Increasing the effectiveness of heating advice

Lead questions: How can the effectiveness of heating related counselling be increased with regard to the sustained implementation of counselling contents? Who or what is required for this?

The following issues were identified and discussed as main challenges: resistance in the households to behavioural change, overloading the households with information, the lack of financial incentives for households to save heat energy, the limited scope for action by households and low savings effects through behavioural change, and lastly the lack of timely impact monitoring.

The following approaches were discussed as possible ideas: Target group-specific and more individualized consulting, innovative consulting approaches (gamification, nudging), visualization of heating behaviour, increased cooperation or involvement of landlords, shortening the period for impact monitoring and provision of incentives for the implementation of measures by social welfare office / job centre (if legally possible).

(3) Better target group outreach

Lead questions: Who has been insufficiently reached so far and for what reasons? What means could be used to reach these groups more effectively? What is needed to achieve this? What opportunities

for cooperation exist?

The following issues were identified and discussed as main challenges: Lack of interest and/or time on the part of certain households, access to specific groups (such as non-institutionalized groups), fundamental distrust and rejection of government or government-funded offerings, multiple problems situations of household, language barriers and personnel capacities on the consultant side.

The following approaches were discussed as possible ideas: Cooperation with other actors (housing associations, public utilities, civil society organizations), target group-specific approach (regarding contents, formats, communication channels), training of questioning or transition techniques and targeted questioning on heating topics before the actual counselling.

Objective 3: Focusing the further development and defining the further roadmap

The discussion in smaller working groups aimed at completing the findings and prioritizing potential measures and solutions:

Regarding the improvement of the data basis, the REACT group discussion pointed to the following solutions to be the most promising solutions: the recording of heating costs from the notice of approval and comparative calculation from the property (number of units, costs), the use of thermohydrometers/data loggers and finally the more consistent implementation of a third household visit.

Regarding an increased effectiveness of heating advice, the most promising solutions identified were: increased use of visual aids (such as digital thermohydrometers/(evaluation of) data loggers), activation through gamification/incentives (such as the online info game “Stecky”), motivation via health benefits and proactive dispensing of immediate aids (if needed).

For the better target group outreach, approaches like appealing to younger people through apps and further co-operations with target group specific organisations were stated. Reaching out to migrants was not considered to be a particular problem.

Conclusions

In the follow-up of the REACT Group meeting, the project team together with colleagues from the Caritas Heating advice had to conclude which proposals for the adaptation of the selected pilot measure(s) that were broadly discussed with the stakeholders, should be at the center of further development. Based on the discussions within and after the meeting, the team decided to focus its efforts on measures to improve the data base and the effectiveness of the overall heating advice.

Open issues and preliminary arrangements for the next meeting

The second REACT group was scheduled after the summer break in August/September 2021. Before this meeting, it was agreed within the project team that WI members will lead group interviews with the advisors at Caritas in order to collect further feedback and validate the practicability of the discussed solutions from the perspective of both, advisors and targeted households.

After the REACT group meeting, a survey was sent out to the participants to evaluate the event and improve the design of future meetings.

1st and 2nd Target group involvement

In order to integrate the target group perspective, the project team decided to consult with energy advisors within the StromSparCheck. Having been recruited as long-term unemployed and thus possibly former or even current members of the target group, they were considered well suited to reflect the perspectives of the actual target group. A brief questionnaire was developed and, at the end of June 2021, two focus groups were conducted via video conference. The objective of the groups was to gain a better understanding of the consulting practice and to integrate their experiences and opinions on the approaches that had been identified in the REACT group meeting regarding the lacking data, the effectiveness of the consulting and the outreach to certain target groups.

Another target group meeting took place at the end of August 2021. The WI project team members accompanied two energy consultancy household visits, in order to develop a sense of the actual counselling practice and of what measures can be implemented in such a context and with a target group that might suffer from multiple problems.

2nd REACT group meeting

Meeting information (date, place, means of conduction, etc.)

The second REACT group meeting was conducted via videoconference on 03.09.2021.

List of stakeholders (invited and participated)

Again, stakeholders from 13 different organizations had been invited. The date had been set by appointment request. The organizations, which participated in the second REACT group, are presented in Table 4.

Table 4: Overview of the participated and not participated organizations in the 2nd REACT group in Germany.

Participated organizations	Non-participated organizations
German Caritas Association e.V. (Deutscher Caritasverband e.V.) (1 person)	Social Welfare Office Düsseldorf (Amt für Soziales Düsseldorf – Schuldner- und Insolvenzberatung -50/1)
Caritas Energy Saving Service, Caritas Association Düsseldorf e.V. (Caritas Energiesparservice Caritasverband Düsseldorf e.V.) (2 persons)	Institute for Social-ecological Research (Institut für sozial-ökologische Forschung (ISOE))
EnergieRevolte GmbH (1 person)	Tenants` Association Düsseldorf (Mieterverein Düsseldorf)
Job Center Düsseldorf (1 person)	Düsseldorf public utility company (Stadtwerke Düsseldorf)
Röthele Energie- und Bauberatung (1 person)	Public Utility Working Group for the Economical Use of Energy and Water (ASEW) (Arbeitsgemeinschaft für sparsame Energie- und Wasserverwendung (ASEW))
Düsseldorf Municipal Housing association (SWD Städtische Wohnungsgesellschaft Düsseldorf mbH & Co. KG) (1 person)	
Environmental Office Düsseldorf (Umweltamt Düsseldorf) (2 persons)	
Consumer association NRW (Verbraucherzentrale NRW e.V.) (1 person)	
ENPOR consortium (2 persons)	

12 stakeholders participated in the second REACT group meeting, representing 9 different

organizations. Unfortunately, representatives from the Social Welfare Office Düsseldorf, the Institute for Social-ecological Research, the Tenants` Association Düsseldorf, the Düsseldorf public utility company and the Working Group for the Economical Use of Energy and Water who had joined in the first meeting could not realize the second meeting due to overlapping dates or vacation.

Agenda

09:00-09:05: Welcome

09:05-09:10: Review of the 1st REACT group

09:10-09:30: Process of further development: Summary, Feedback from energy advisors, Consultancy statistics

09:30-09:45: Presentation of suggested measures: Consultancy entry, visual media package ventilation / heating, further immediate aid devices

09:45-10:45: Discussion and Feedback on the approaches presented, opportunities for cooperation, further suggestions

10:45-11:00: Outlook and next steps

11:00: Ending

Objectives

The second REACT group focused on the achievement of the following objectives:

Objective 1: Presentation of the developed measures

Objective 2: Collecting feedback from stakeholders

Objective 3: Identification of cooperation opportunities

Objective 4: Inclusion of further suggestions

Main discussed issues for each objective

Objective 1: Presentation of the developed measures

After a brief review and presentation of statistics on the current consultancy, the project team presented three ideas how to improve and further develop the current heating advice.

- (1) As a first measure it was suggested to add a question on comfort perception to the data record form (inventory) that is used at the first household visit and thus to reverse the communication order from "state of the flat, then perception of comfort" to "perception of comfort, then identification of possible reasons".
- (2) A second measure to be discussed was a media package on heating and ventilation, including a ventilation graphic, a graphic recording sheet ("ventilation diary") and action-oriented visual reminders. It was assumed that the use of visual aids and individual data recording could support conveying information, strengthen awareness and the sustained application of counselling content. Furthermore, within the communication, an increased focus on health hazards of insufficient ventilation/heating was proposed to raise interest for the topic in the absence of financial incentives.
- (3) A third measure was the distribution of other low-cost technical aids like a shower alarm

clock or a radiator bleed key, supporting clients to help themselves.

Objective 2: Collection of feedback from stakeholders

Within the three areas that were identified as potential fields of action in the first REACT group meeting, the stakeholders provided feedback on the presented measures to optimise the heating advice:

(1) Adding a question of comfort perception into the inventory:

This suggestion was positively evaluated by all participants. No further adaptation was mentioned.

(2) Media package on heating and ventilation, including a ventilation graphic, a graphic recording sheet and action-oriented reminders

Including the topic of health and indoor pollutants into the energy counselling in order to increase incentives and motivation among energy poor households, the stakeholders were sceptical: they pointed to the contradictory messages: underlying message of living in a polluted environment rather supports the permanent but energy inefficient ventilation. A pragmatic link to mould, establishing simple habits would be sufficient.

By contrast, using action-oriented media was considered as valuable. Preferences of the presented material, comments regarding the practical handling and respective suggestions for improvements of the presented design and concepts were vividly discussed.

(3) Further low-cost technical aids like a shower alarm clock or a heating key

Again, in an engaged discussion, the stakeholders commented on both proposals, voting for analogue, non-electric versions of shower alarm clocks or pointing to liability issues in case of incorrect handling of the radiator bleed key.

Objective 3: Identification of further cooperation opportunities

The REACT group members shared their good practice experience and identified the following opportunities for cooperation:

Job centres and social welfare offices cannot force clients to join an energy consultancy, however they may inform their clients and recommend the energy advice offers of the Caritas. It was recommended to seek a respective cooperation.

To date, the acquisition of clients for the Caritas heating advice was often implemented through information booths at the Job centre, addressing persons that were lingering there, seeking for an appointment regarding a possible occupation. However, due to changing processes in the customer service as a consequence of the COVID pandemic, it was suggested that the Job centre and Caritas will lead bilateral talks on how to present the offers of the Caritas heating advice on the digital platform that is used by the Job centre for the customer service or to find other ways of cooperation.

Housing associations are willing to include information on the Caritas electricity and heating advice in their tenant's magazine or adding respective information when sending out their bills to the tenants.

Many households do not have their heating cost bills. The idea was discussed whether a cooperation regarding a potential data transfer for heating cost billing by related institutions could counteract the

issue of lacking data. However, this approach was regarded as sensitive and difficult due to data protection issues and personal capacities on the side of potential partner institutions.

Objective 4: Further suggestions

The REACT group also discussed ideas of using “crib mobiles” (hanging toy, moving by air) above the heater to illustrate the circulation of warm air, existing training videos with similar contents and the problem of radiators being blocked by furniture or curtains that should be emphasised and possibly documented as a possible shortage in the inventory.

Conclusions

The second REACT group meeting focused on the concrete proposals for the adaptation of the selected pilot measure. All stakeholders were engaged to give their feedback, integrating their respective perspectives and experiences which led to a very constructive and fruitful exchange. The intense and rich discussion led to further approaches to improve the developed proposals that the project team documented carefully and will consider in the further preparation and implementation of the measures.

Open issues and preliminary arrangements for the next meeting

Following the second REACT group meeting, the team will finalize the design of the media package components and define the necessary data collection steps. The implementation of the selected measures is planned for the first half of October 2021 and will first comprise an initial testing of the measures in 50 households.

6.4 Final proposal for policy improvements

As a result of the co-creation process conducted in the REACT group and Target group meetings, the following policy improvements will be implemented:

1. Integration of comfort query in data entry form: In order to link the dimension of comfort to the topic of energy efficient housing by framing it not only as a technical issue but a matter of personal well-being, a query on the comfort perception of the target household will be included at the beginning of the data record form. Facing the lack of financial incentives of efficient heating measures for the tenant, it is expected that this measure adds another source of intrinsic motivation for the individual and secure sustained behavioural changes.

2. Ventilation/heating media package, consisting of:

A) Ventilation graph: The ventilation graph schematically shows the air circulation of four different ways of ventilation: shock ventilation, cross ventilation, tilt ventilation with door open and closed. Using this illustration of 4 rooms, with blue and red arrows for fresh and stale air, and a related evaluation system with red stars where a maximum of 5 stars shows the optimum way of ventilation, the measure is meant to improve the information transfer on impacts of different ventilation methods using visual display, which could accommodate not only target groups that have difficulties with the native language.

The graphic has been used for the training of the programme’s energy advisors, but is now planned to be handed-out to the visited energy-poor households.

B) Ventilation diary: Another element of the media package is a recording sheet with diagrams for temperatures and relative air humidity for the different ventilation methods that will be handed out to the household. The household is asked to document measured values from a thermohydrometer, before and after ventilation. Different colours in the diagrams, supported by respective emojis signal to the user where optimal and non-optimal values lie. The aim is to strengthen the understanding for the issue and interlinkage to personal well-being.

C) Visual reminders: As a last part of the media package, the policy improvement comprises transparent adhesive foils with ventilation instructions for windows and paper pendants for radiators with information on energy efficient use of heat controllers. Placing these reminders at proximity to the action they aim to inform shall support the sustained implementation of advised heating and ventilation behaviour.

3. Shower alarm clock: Lastly, an hour glass serving as a shower alarm clock shall be part of the immediate aids for the consulted households. Using a non-electric device, with a strapping, is expected to ensure a long-lasting application and support energy-efficient behaviour.

7. PRE-PAID METERING ENERGIEREVOLTE (TRAINING AND INFORMATION) - DE

7.1 Description of the pilot policy/measure

EnergieRevolve is a subsidiary of Stadtwerke Düren, a municipal utility in the West-German state of North Rine Westphalia. Their customers are offered an innovative model of pre-paid metering and free switch from existing electricity provider to a digital prepaid meter that can be monitored by customers and charged just-in-time via a smartphone app or online interface, allowing to better control their electricity consumption and electricity bills. The App allows to track the customers' electricity consumption: Consumption information is transmitted every 15 minutes. About 1,200 customers are using the app currently, not only in North Rine Westphalia but also in other areas such as Berlin and Frankfurt, including a high proportion of low-income and energy poor households. Within ENPOR, the app will be further developed to provide additional utility to customers in terms of improving knowledge transfer about drivers and possible means to reduce unnecessary electricity consumption. In doing so, a close exchange with the target group (i.e., the app users) is envisioned, which will be achieved by implementing regular feedback loops within the co-design process.

7.2 Challenges and barriers

The main challenge identified for the further development of the app relates to how to best include additional functions that effectively support energy poor households to better manage their energy consumption/spending, without incentivizing underconsumption. Also, while there are a range of options on the table, their implementation in terms of scope and time is predicated on the annual company budget.

7.3 Co-design process

1st Target group involvement

As a first step of the co-design process, an online survey was designed and conducted among the current app users in order to gain insights regarding their user behaviour, current effects of the app regarding knowledge transfer, behavioural adjustments and (estimated) cost savings, general assessment of the app and its functions and feedback on possible options to further develop the app. The latter ideas had been developed in bilateral exchange between EnergieRevolve and WI and amended with an additional proposal from a REACT group member. Of the 600 contacted users, 118 participated in the survey, of which 104 users completed it, providing a sound information base for a targeted further development of the app. In addition, the survey results will serve as a baseline to evaluate the impact of the further developed app regarding the formulated co-design targets.

1st REACT group meeting

Meeting information (date, place, means of conduction, etc.)

The first REACT group meeting was conducted via videoconference on 29.09.2021.

List of stakeholders (invited and participated)

Stakeholders from 13 different organizations were invited taking into consideration the outcomes of the conducted mapping of the relevant stakeholders.

The organizations which participated in the first REACT group are presented in Table 5.

Table 5: Overview of the participated and not participated organizations in the 1st REACT group in Germany.

Participated organizations	Non-participated organizations
Caritas Energy Saving Service, Caritas Association Düsseldorf e.V. (Caritas Energiesparservice Caritasverband Düsseldorf e.V.) (1 person) EnergieRevolve GmbH (1 person) co2online gGmbH (1 person) EnergieRevolve (2 persons) Public utility of Düren (Stadtwerke Düren) (1 person) Consumer association NRW (Verbraucherzentrale NRW e.V.) (2 persons) Chair of Textlinguistics and Technical Communication, RWTH Aachen (Lehrstuhl für Textlinguistik und Technikkommunikation, RWTH Aachen) (1 person) ENPOR consortium (2 persons)	Wuppertal Institute for Climate, Environment and Energy (Wuppertal Institut für Klima, Umwelt, Energie gGmbH) (1 person) ZEW – Leibniz Centre for European Economic Research (ZEW – Leibniz-Zentrum für Europäische Wirtschaftsforschung) (1 person)

Finally, 10 participants participated representing 8 different organizations.

The participating stakeholders combine pertinent knowledge in terms of technical requirements of digital information transfer, household needs and content to be included in the app.

Agenda

09:00-09:10: Welcome, self-introduction and brief statements by participants

09:10-09:20: Presentation of ENPOR project and main objectives of the 1st REACT group

09:20-09:30: Presentation of the EnergieRevolve app – basic information and current design

09:30-09:40: Co-Creation: Background and possible options for the further development

09:40-10:00: Presentation of the user survey results

10:10-11:10: Co-creation: discussion, feedback on the presented options and identification of new ideas

11:20-11:30: Sum-up and agreement on the next steps

11:30: Ending

Objectives

The first REACT group focused on the achievement of the following objectives:

Objective 1: Common understanding of the EnergieRevolve approach, the app and the co-design targets

Objective 2: Discussion about possible approaches and further development of ideas / identification of cooperation possibilities

Objective 3: Focusing the further development and defining the further roadmap

Main discussed issues for each objective

Due to unforeseen technical issues limiting the available time for discussion, the objective will be further pursued in the following REACT group meeting.

7.4 Conclusions

Due to unforeseen technical issues limiting the available time for discussion, the objective will be further pursued in the following REACT group meeting.

7.5 Final proposal for policy improvements

The final proposal for the suggested improvements of the targeted pilot programme will be finalised after the completion of the co-design process.

8. NATIONAL RECONSTRUCTION GRANT (GRANT FOR RENOVATION) - EE

8.1 Description of the pilot policy/measure

The Estonian national retrofitting grant was established in 2010 as a public initiative under the Estonian financial institution: KredEx. It was established as a temporary measure for supporting the ‘invisible hand’ of the liberal retrofitting economy of a fully privatised Estonian housing market.

During the initial support period, the instrument was proven to be useful and it was prolonged in 2014. In 2019 some adjustments for its focus and its function were performed and it was prolonged for a second time. Within the first 10 years of its operation, the grant helped to renovate 1114 buildings that will reduce emissions by 140,000 tons of CO₂. It has been considered to be a good example as a public initiative at the EU level. At the same time, this grant has important shortcomings that should (and partially have been) addressed for being a well-balanced public policy.

8.2 Challenges and barriers

Shortcomings of the Estonian national retrofitting grant can be divided into three categories:

1. Financial shortcomings, such as heavy reliance on the financial capacity of the building associations and by this, the owners.
2. Administrative shortcomings, such as the lack of stability.
3. Technical shortcomings, such as the support of only partial renovations with limited effect on efficiency.

8.3 Co-design process

For co-design process three REACT group meeting were organised in spring 2021 with the participation of co-owners association, energy agencies, local policymakers, regional policymakers, national policymakers, utilities and banks.

REACT group meetings

Meeting information (date, place, means of conduction, etc.)

The spring session REACT group meetings were conducted via teleconference on 25.03.21, 12.05.21, and 11.06.21.

List of stakeholders (invited and participated)

Stakeholders from 54 different organizations were invited taking into consideration the outcomes of the conducted mapping of the relevant stakeholders.

The organizations, which participated in REACT group meetings, are presented in Table 6.

Table 6: Overview of the participated and not participated organizations in REACT group meetings in Estonia.

Participated organizations	25.03.21	12.06.21	11.06.21	Non-participated organizations
The Estonian Union of Co-operative Housing Associations	2	1		Union of Co-operative Housing Associations of Tartu
Tartu Municipality	1			Estonian Homeowners Association
Telia	2	2		Food Bank
AG Õigusbüroo	1			Energy Agency of Tallinn
Tartu City Government	5	4	2	Energy Agency of Saaremaa
Kvatro	1	1	1	Luunja Municipality
Kredex	2	1	1	Kambja Municipality
Swedbank	1		1	Nõo Municipality
Tartu Regional Energy Agency	5	3	5	Elva Municipality
Ministry of Economic Affairs and Communication	2	1	2	Ministry of Finance
Coop bank	1			Annelinna society
Fortum Tartu	1			Karlova society
SEB bank	1	1		Tartu Association of the Sustainable Renovation Information Center
Tallinn City Government	1			Supilinna society
Balti Vara Ehitus	1			Elektrilevi
Kinnisvarakool	1			Eesti Gaas
ENPOR consortium - TREA	2	2	2	Tartu Veevärk
				Ropka Dwelling
				Tartu Housing management
				University of Tartu
				Student Union
				Estonian University of Life Sciences Student Union
				Estonian Aviation Academy Student Union
				Estonian Student Association
				Domus real estate
				Tõnisson real estate
				Arco real estate
				Ober-Haus real estate
				Kaanon real estate
				Villaare real estate
				Vallikraavi real estate

Participated organizations	25.03.21	12.06.21	11.06.21	Non-participated organizations
				Ehitustrust Merko ehitus Decol Auricu Valga City Government Citadel bank

In the first meeting there were 30 participants, representing 16 different organizations.

In the second meeting there were 16 participants, representing 8 different organizations.

In the third meeting there were 14 participants, representing 6 different organizations.

Agenda

1st Meeting, 25.03.2021

Welcome and introduction. Presentation of ENPOR project and main objectives.

Housing Roundtables as a cooperation platform for ministries and municipalities

Renovation of apartment buildings using the national grant

Lessons learned from SmartEnCity apartment building renovations project

Discussion – mapping problems

Conclusion

2nd Meeting, 12.05.2021

Welcome and conclusion of previous meeting.

Definition of renovation ability

Conclusion of mapping problems

Problem analysis

Conclusion

3rd Meeting, 11.06.2021

Welcome and conclusion of previous meeting.

Annelinna district apartment building cluster renovation demonstration project oPEN Lab

Solution analysis

Formulation of proposals

Conclusion

Objectives

The first REACT group meeting focused on presenting an overview of the current situation and mapping problems regarding the renovation:

Objective 1: Mapping problems regarding apartment building renovation.

The second REACT group meeting focused defining energy poverty and renovation ability and analyzing problems.

Objective 2: Defining energy poverty and renovation ability

Objective 3: Analyzing problems regarding apartment building renovation.

The third REACT group meeting focused on formulating proposals.

Objective 4: Formulating proposals to solve problems regarding apartment building renovation.

Main discussed issues for each objective

Objective 1: Mapping problems regarding apartment building renovation.

There are many reasons why majority of apartment building in Estonia is not renovated. Due to that there are many tenants who live in the risk of energy poverty. This problem is much bigger in rural areas than in big cities.

Main problems that were outlined in the working group:

- a) The apartment owner (AO) has interest to have as much profit from the least amount of investment. Owners are very passive about topics like renovation and improving the indoor climate. This can come from ignorance, distrust and previous bad relationships. It is very hard to reach AOs and get them to attend renovation meetings and get their permission for renovations.
- b) Management of housing association and information:
Due to the COVID pandemic, physical housing association meetings were not possible. The government added new possibilities to have online meetings during COVID, but associations generally are not aware of the new options or can't use them. In addition, elderly owners are unfamiliar with online technologies.
- c) Rapidly raising construction price:
Renovation construction prices are rapidly raised to 600-800 €/m² (from 300 €/m² in 2016) and this is a very big burden to AO. This is caused by many reasons including the lack of builders and the seasonality of state financed renovation grant.
- d) Lack of multi-building renovations of whole district:
It is difficult to manage many buildings simultaneously. They are all different and need different approaches and construction plan. It can't be granted that all buildings will receive national renovation grants at the same year as they have to submit applications separately.
- e) Partial renovation:
It is done as a quick fix up and improvement of energy efficiency. It is more affordable to AO but improves energy efficiency so little that AO won't see benefits on their utility bills.
- f) Micro communities matters:
There is a possibility for neighbouring houses to be renovated when others will renovate.
- g) Fear of borrowing money with other people from your apartment building:
This fear is common in small buildings and in countryside. In small buildings, it occurs if some AO have utility bill debts. On countryside, the triggers are emigration and social risks.
- h) AO in economic difficulties:
Renovation is quite expensive and housing associations have to take loans for a really long time, yet some AO can't afford it.

- i) The national renovation grant is not reachable for everyone and it's not constant: There are buildings that have decided to renovate and made a construction plan, but later on in the process, they do not receive the national grant. As such, they cannot begin renovations.
- j) Contribution of local municipality: Villages in countrysides, districts or cluster building renovations need help from municipalities. In the countryside, housing associations need more counselling about the entirety of the renovation process. District and cluster renovations include more than just buildings.

Objective 2: Defining energy poverty and renovation ability

- Energy poverty

The energy poverty in Estonia is related to energy purchasing poverty or inability. In the Estonian national energy and climate plan 2030, 'energy buying poor persons' related to subsistence benefit refers to the number of persons receiving subsistence benefits which is equal to the number of persons who are energy buying poor.

The most recent approach to energy poverty has been drawn up at the end of 2020, which is the European Commission's recommendation to define energy poverty in partner countries. In Estonian it says "Energy purchasing poverty is the situation where important energy services are not available to households".

There is an ongoing discussion about two different phrases, namely energy purchasing poverty and fair energy transition, but the main phrase in question is energy purchasing poverty, while fair energy transition only accompanies it.

Energy purchasing poverty focuses only on energy buying and problems related to that instead of dealing with large scale economic processes, including a fair energy transition, ensuring a good living environment, but also the issue of renewable energy communities. These all are topics of energy poverty, yet narrowing down to defining solely energy purchasing poverty will result in them being left out of discussion.

Therefore, it is crucial to highlight that energy poverty is not equal to energy purchasing poverty.

- Renovation ability/inability

Renovation inability is one sub-unit of energy poverty, but it is not one sub-unit of energy purchasing poverty. Renovation Ability could be defined as 'regardless of the economic condition of households, all residential buildings have been completely renovated into nearly zero energy buildings, have a good living environment and indoor climate'. Renovation Inability is the inability to renovate residential building into energy efficient one.

Objective 3: Analyzing problems regarding apartment building renovation.

- a. The AO has interest to have as much profit with as little investment as possible:

AO are not interested in apartment indoor climate or the resulting loan they are left with after building renovation. This is a growing trend because more apartments in Estonia are bought to rent out. In addition, there is new type of AO, namely those who buy apartments but don't use them as living spaces. These properties stay empty for the following year or two and after that, the AO sells it at a sizable profit due to growing real estate prices. This type of AO also doesn't want any extra

expenses related to their apartment. After the death of a relative, there are also many apartments left empty which stay empty, and the new owners do not want to invest there.

b. Management of housing association and information movement:

The biggest downside with online meetings is that it is difficult to have personalised discussions. In order to start building renovations, discussions are needed, which must come from face to face meetings. Unfortunately, many AO will not show up to these meetings and so starting the renovation process is impossible.

c. Rapidly raising construction price:

Renovation construction price is rapidly rising and it is not envisioned to slow down soon. If there would be a possibility to renovate many buildings together, this could decrease construction/renovation prices.

d. Few district or cluster renovations:

The biggest challenge is to submit all national grant applications at the same time, followed closely by having all the paper work ready for application according all buildings. This could work if there is i) One coordinator or project manager, ii) All buildings must be suitable for bank loan, iii) All national grant applications are submitted at the same time, and iv) Common construction procurement should be accepted by national grant regulation.

e. Partly renovation:

Renovation is not only about energy efficiency, but involves also refreshing communal areas inside of buildings. In old buildings, these areas could need emergency repair without warning. If that happens, all collected renovation money goes towards this and apartment buildings can't plan energy efficiency renovation for some time. In addition, partial renovation is sometimes done if housing associations can't get a loan from a bank, which mainly happens in small apartments (under 20 units).

f. Micro communities matters:

The idea of cluster renovations works with micro community renovations. This has been done in small villages where all of the houses are renovated, although there might only be 10 of them. It's not certain that this model can be copied to big city districts where a lot of people live together, as in city, financial capacity can be lower, which can be a problem in buildings with a high number of elderly people and tenants.

g. Fear of borrowing money with other people from your apartment building:

Before starting the renovation process, it has to be made clear how big loan payments to bank will be. It is important to ensure that after renovation, there is not more debt amongst those in the building. Housing association managements also have to be certain that after renovations, there is still enough money in their emergency fund, to avoid debt to banks and service providers.

h. Difference in renovation price:

The price of renovations is very different between different types of buildings. The price for 9 storey apartment buildings with 10,000 m² is much lower than for small wooden buildings with 4 apartments. Moreover, a problem arises for historic buildings as you can't change their visual appearance.

Renovation is a combination of many different works, as in addition to insulation, there is the retrofitting of communal areas, repair of stairwells and that of basements which are all expenses. As such, renovations with all other works can't be self-sustaining, which occurs when a bank loan is as big as the savings derived from a household's heating bills after renovation.

District heat price is also different in different areas of Estonia. If the district heat price is low, than people are not motivated to renovate their homes. This again shows the difference between energy poverty and energy purchasing poverty. Furthermore, it is important to evaluate building construction before renovation. Some buildings can be in such bad shape that there is no point to renovate them as this would be as expensive as building a new property. This is a problem mainly in small wooden houses and in the countryside.

i. People's unwillingness to renovate:

People need to understand that Soviet-era buildings need to be renovated to last and survive. Buildings must be renovated so that they are warm and efficient. The maintenance and survival of a building is one of the main arguments for renovation, in addition to environmental protection (energy saving) and improved indoor climate. Unwillingness to renovate sometimes relates to age group or ethnic group. Older people don't want to renovate because they think that they will not live long enough to reap the benefits, while in ethnic groups, it is problem if a housing association manager is against the renovation. Some ethnic group need to belong and be in agreement with all topics, thus tend to avoid disagreements, hindering the support for renovation.

Objective 4: Formulating proposals to solve problems regarding apartment building renovation.

a. There is no concept or definition to renovation ability:

Buildings where people who are not energy buying poor are living, still can't get their houses renovated.

Recommendation: To develop and adapt the concept of renovation ability to national regulations. To emphasizing the renovation ability and the opportunities for its development, which would open up new opportunities to boost the renovation of apartment buildings. There should be made as a change in the Energy Efficiency Directive wording: "...The current extent of building renovation in not enough and mostly it affects buildings, due to the fact that living people who suffer under renovation inability and who has low income..."

b. Rental apartment owners are not interested in renovation:

Today, apartment tenants are excluded from apartment building renovation processes, despite the fact that they are the actual residents of the building. Often, AO are not interested in renovation and do not participate in the housing association meeting and decision-making process, especially if the owner lives somewhere else (which is very likely).

Recommendation: To adapt apartment building renovation processes in a way that would give tenants, together with the rental apartment owners (or as theme representative), the right to have a say in decisions concerning the renovation of an apartment building.

c. Housing association online meetings are not common and result in misunderstandings, the main one of which is compiling the list of participants on different virtual communication platforms so the online meeting would be binding.

This problem does not only affect rental apartment owners, it affects all owners who own apartments

in houses where they do not live and it is difficult for them to attend housing association meetings in person. As a result, they are not interested in renovation and the resulting consequences are tenants' bad living conditions and housing association renovation inability.

Recommendation: The wider use of/practice in using communication platforms for housing association online meetings will help to overcome misunderstandings (e.g. compiling the list of participants).

d. Rapidly raising construction price raise renovation price:

The reason for this problem is the small size of the market, the limited number of builders, the seasonality of the construction works and the uneven concentration of financing in a shorter period of time. The result is an increase in household expenditure after renovation, which is an important principle.

Recommendation: To disperse renovation time, stability of public renovation grants, give priority to district or cluster renovations, and create long-term investment planning.

e. Few district or cluster renovations:

Today, a joint application is not allowed on a state renovation grant application and common construction procurement are not affordable for housing associations. The motivation to make renovations like that can be improved urban space between buildings. The difference between a district and cluster renovation is that a district renovation is one step further, thus instead of renovating a small group of buildings, it means renovating a whole village or part of a city.

Recommendation: To create a state renovation grant suitable only for cluster renovations and to create state renovation grant suitable for district renovation with simplifications for common construction procurement and support for urban space between buildings.

f. Instead of full renovation, partial renovation is still done:

Full renovation is a solution that can offer people a good living environment as well as energy savings at the same time, but partial renovation leaves the energy bills the same despite additional investments, while the living environment or indoor climate suffers. Therefore, the benefits of full renovation should be emphasized in communication with housing associations, and partial renovation should not be supported by the state.

Recommendation: To nationally support only full building renovations and to overcome the inability to create additional measures for energy poor housing associations in full renovation processes.

g. Fear of borrowing money with other people from your apartment building:

Recommendation: To start sharing experiences between housing associations, renovator to renovator style experience exchanges, the so-called neutral party by the local government, additional advice by the banks.

h. AO in economic difficulties:

AO economic difficulties can be one reason why housing association can't get loans.

Recommendation: Debt counselling should be available in every municipality, where AO or housing associations could ask for help on how to deal with debtors. To identify problematic housing association as housing association in energy poverty and find out and deal with households in energy purchasing poverty. Trying to solve their problems with local energy communities through ways

which help community to earn extra money. To involve municipalities or national training programmes in housing association management as they should know how to deal with difficult situations and people.

i. Availability of national grant

Recommendation: to provide a stable and long-term national grant, with systematic and planned financing. Financing should be provided at least 10 years ahead.

j. Support of local municipality is not enough:

Municipalities often do not see their role in the renovation process and as a result, the pace of apartment building renovation is slow and depends on the initiative of each individual housing associations.

Recommendation: Municipalities take more active roles in counselling housing associations and increasing renovation ability and to create renovation one-stop-shop in Tartu.

k. Difference in renovation price:

The price of heating costs varies from municipality to municipality and region to region. Also, the cost of renovation is constantly increasing, reaching a limit where the renovation is not self-sustaining. The price of renovation is very different between different types of buildings. As such, it would be best to disperse renovation time and stability of a public renovation grant.

Recommendation: To equalize renovation prices and avoiding price peaks.

l. People unwillingness to renovate:

Unwillingness to renovate mainly occurs in groups of the elderly and other linguistic populations.

Recommendation: To adapt information about renovation so that members speaking another language also have access to it. In addition, a counselling model suitable for this language environment should be created, which would include renovator to renovator style experiences exchange (meetings with well renovated housing associations, developers, constructors, etc.). To establish a regional energy agency for Ida-Virumaa, which would organize renovation activities in this region. Tartu Region Energy Agency can be used as an example.

m. Full renovation of historic buildings is complicated and expensive:

In the case of historic buildings, there are additional restrictions regarding urban space and milieu value or historical value, making renovation difficult and expensive. At the same time, these buildings also need renovation, which will lead to energy efficiency and an improvement in the indoor climate.

Recommendation: To support the full renovation of historic buildings.

Conclusions

The activities of the REACT group support the renovation of apartment buildings in Tartu and look for opportunities to increase the renovation ability to the level of Estonian energy sector ENMAK 2030 and Tartu Energia2030+. People involved with construction, renovation and maintenance of buildings, as well as representatives of owners and tenants, universities and other employers who care about the living environment of their employees will be invited to REACT group meeting.

8.4 Final proposal for policy improvements

A. Proposals for national regulation:

- Importance of renovation capacity in regulations and legislation

Emphasis on the renovation capacity and the opportunities for its development, which would open up new opportunities to boost the renovation of apartment buildings. Renovation capacity itself should be a priority, instead of repairing one roof or facade should improve the whole building. In addition, boosting of full renovations of historic buildings should be done.

- Increasing the capacity of the parties and participating in the renovation process

Adapting the apartment building renovation service chain in a way that would give tenants the right to have a say in decisions concerning the renovation of an apartment building together with the owner of the rental apartment (or as its representative).

Adapting information so that those speaking other languages have access to renovation information.

Making wider use of digital tools in the housing association participation process and to overcome the bottlenecks in this work process (eg compiling a list of participants during a virtual meeting).

Establishing a regional energy agency in Ida-Virumaa, which would organize renovation activities in this region. The Tartu Region Energy Agency can be used as an example.

- Adapting public grant measures to increase renovation capacity

Guaranteeing the financing of the state renovation grant for at least 10 years.

Proposing state support only for the full renovation of housing, and in order to overcome the inability to renovate, create additional measures to support housing associations in energy poverty in the process of full renovation.

Creating an application process for cluster renovation, with the necessary simplifications for joint procurement and measures to improve the capacity of associations.

Setting up the necessary application process for district building renovation, together with the simplifications needed for joint procurement, measures to improve the capacity of associations and support measures for improving the area between buildings.

B. Proposals to Tartu City Government

Implementing a major district based renovation project in Tartu to create conditions for the development and implementation of a renovation plan covering the entire district (or other urban spatial unit).

Applying for ELENA grant to support district based renovation in Annelinna.

Creating a full package renovation consulting service in Tartu.

Concluding community agreements with those organizations and associations that contribute to increasing the volume of full renovation of apartment buildings. The Community Agreement is an exciting engagement initiative initiated by the City of Tartu, which calls on organizations operating in the city to support the city's major strategic goals.

Initiating a dialogue between Tartu tenants, real estate companies and universities in order to map the problems of the rental market and prevent their negative impact.

9. ENERGY EFFICIENCY OBLIGATION SCHEME (EEOs) AND ENERGY UPGRADE OF BUILDINGS (GRANT FOR RENOVATION)– GR

9.1 Description of the pilot policy/measure

The first pilot policy in Greece is the national programme for the energy upgrade of residential buildings. The main objective of the “Energy upgrade of buildings” programme is to provide financial assistance to energy poor households to improve the energy efficiency of their housing. The respective programme has been integrated both in the National Energy and Climate Plan (2019) and in the National Action Plan for the confrontation of energy poverty in Greece (2021). In fact, it is an upgrade of the ‘Energy Savings at Home’ programme focused on energy poor households. The ‘Energy Savings at Home’ programme started in 2011 by providing financial aid to households, including low-income households, so as to replace their window frames and install shading systems, to install thermal insulation in the building envelope, including the flat roof/roof and ‘pilotis’ and to upgrade their heating and hot water system. The financial aid consists of capital subsidy and low interest loans including the subsidy of the interest rate and the coverage of the energy inspections’ cost. The programme has continued until 2021 after continuous improvements in order to enable the implementation of the most effective interventions to improve the energy efficiency of the residential buildings.

The Energy Efficiency Obligation Scheme (EEOs) constitutes the second pilot policy in Greece. The EEOs started in 2017 imposing an obligation to achieve a specific target through energy efficiency interventions. It also foresees the conduction of energy efficiency interventions to energy poor households. In addition, the EEOs will undertake an essential role in the promotion of energy efficiency generally and in the alleviation of energy poverty as outlined both within the National Energy and Climate Plan (2019) and the National Action Plan for the confrontation of energy poverty in Greece (2021).

9.2 Challenges and barriers

The most important challenges and barriers, which must be addressed during the re-design of the pilot policy/measure, include:

- Design policies and measures focused on energy poor households and not to low-income households.
- Difficulty to identify energy poor households and engage them into the planned policies and measures.
- None special provision about tenants in the existing policies and measures.
- Integrating the problem of energy poverty in the private-rented houses during the national definition of energy poverty.
- Provision of specific incentives for tenants/landlords within the framework of the national programme for the energy upgrade of residential buildings.
- Fostering the conduction of technical measures within the framework of the EEOs

additionally to the existing awareness-raising measures.

- Establishment of specialized mechanism for monitoring the triggered impacts on the alleviation of energy poverty from the implemented policies and measures.

9.3 Co-design process

The developed methodological approach within the framework of ENPOR project was applied based on the conduction of three REACT group meetings.

1st REACT group meeting

Meeting information (date, place, means of conduction, etc.)

The first REACT group meeting was conducted via teleconference on 17.03.2021.

List of stakeholders (invited and participated)

Stakeholders from 33 different organizations were invited taking into consideration the outcomes of the conducted mapping of the relevant stakeholders.

The organizations, which participated into the first REACT group, are presented in Table 7.

Table 7: Overview of the participated and not participated organizations in the 1st REACT group in Greece.

Participated organizations	Non-participated organizations
Hellenic Property Federation (POMIDA) (2 persons)	Panhellenic Association for the Protection of Tenants
Institute of Zero Energy Buildings (INZEB) (1 person)	Energy and development agencies
City Network "Sustainable City" (1 person)	Greek Green Cities Network
Ministry of Environment and Energy (1 person)	Hellenic Agency for Local Development and Local Government
EKPZO - Certified Consumer Union (1 person)	Association of Greek Regions
WWF (1 person)	Central Association of Greek Municipalities
GreenPeace (1 person)	Regulatory Authority of Energy
Public Power Corporation (1 person)	Natural Gas Greek Energy Company
Aristotle University of Thessaloniki (1 person)	Hellenic Petroleum Marketing Companies Association
National Technical University of Athens (2 persons)	Institute for Environmental Research and Sustainable Development - National Observatory of Athens
National and Capodistrian University of Athens (1 persons)	Heinrich-Böll-Stiftung
University of Western Attica (1 person)	General Consumers' Federation of Greece
Social Cooperative "Wind of Renewal" (1 person)	Technical chamber of Greece
Association of Greek Valuers (A.VA.G.) (1 person)	Operational Programme Competitiveness, Entrepreneurship and Innovation
ENPOR consortium (4 persons)	Hellenic Association of Independent Power Producers

Finally, 20 participants participated representing 13 different organizations.

It should be noted that the participated stakeholders provide a well-balanced representation of the most crucial actors for the alleviation of the energy poverty in rented sector in Greece through the selected pilot measures within the framework of ENPOR project.

Agenda

11:00-11:10: Welcome and housekeeping rules of the 1st REACT group meeting

11:10-11:30: Tour de table

11:30-11:50: Presentation of ENPOR project and main objectives of the 1st REACT group

11:50-12:50: Discussion

12:50-13:00: Sum-up and agreement on the next steps

Objectives

The first REACT group focused on the fulfilment of the following objectives:

Objective 1: Discussion about the identified barriers and drivers within D2.1 and identification of new ones for the case of Greece.

Objective 2: Discussion about the proposed policy measures within D2.1 and identification of new ones for the case of Greece.

Objective 3: Proposals for the adaptation of the selected pilot measures within ENPOR project.

Main discussed issues for each objective

Objective 1: Discussion about the identified barriers and drivers within D2.1 and identification of new ones for the case of Greece

Generally, the mapping of the existing barriers, as conducted within the framework of D2.1, can be considered as representative for the case of Greece due to the fact that many of them affect adversely the energy renovation of the buildings and subsequently the confrontation of energy poverty.

Simultaneously, the available incentives for the targeted alleviation of the energy poverty are limited, while no emphasis is given on the confrontation of the phenomenon in PRS.

A horizontal problem is the low awareness of the households about the phenomenon of energy poverty, while the low understanding about how it is feasible to be supported by the existing policy measures can be considered as an alternative obstacle. Households are unaware of the energy poverty or the triggered energy savings from the implemented energy efficiency interventions.

Moreover, it is difficult to share incentives among landlords and tenants. Theoretically, it is possible to calculate the optimum level of the shared benefits, but in practice it is not always easy with the current data and procedures.

The current perception of the long-term benefits from energy saving interventions is not considered as adequate leading consequently to their non-integration into the decision making procedure regarding the optimum share of the triggered impacts.

More analysis must be conducted for the behavioural problems, which are derived by the phenomenon of energy poverty leading to considerable difficulties in regards to the selection of the

right decision due to the created stress.

Finally, the fact that the energy poor households confront potentially difficulties to participate in the implemented policy measures due to complex application procedures must be taken into consideration aiming at the simplification and standardisation of them.

Objective 2: Discussion about the proposed policy measures within D2.1 and identification of new ones for the case of Greece

Generally, the initiation of a consultation procedure with the active participation of landlords and tenants is considered as prerequisite for the identification of the most effective instruments.

It should be considered as a priority the co-financing of the required energy efficiency interventions by landlords and tenants.

The ultimate goal of the designed programmes must be indisputably the deep energy renovation of the residential buildings in order to confront the problem of energy poverty radically. Nevertheless, the continuous operation of central heating systems must be ensured until the massive energy renovation of the energy poor households' buildings. In any case emphasis should be placed on ensuring thermal comfort so as to address the energy poverty phenomenon effectively. It should be examined the further utilization of natural gas as a transitional fuel on the pathway for the expected electrification in compliance with EU taxonomy's financial rules, as it promotes energy efficiency along with heat pumps and thermal insulation and contributes to the alleviation of energy poverty simultaneously.

The outcome of the implemented programmes for the deep energy renovation of the existing buildings will be the high availability of energy efficient building stock reducing considerably the existence of the energy poverty phenomenon. In this case it will be easier to link the energy efficiency with the requested rental prices. Indisputably, the use of specific calculation tools will ensure that both landlords and tenants are aware of this connection between the energy efficiency levels and the rental prices.

The potential obligation of landlords to improve the energy efficiency must be supported with the provision of specific financial incentives. It should be examined as alternative option the financial support of the landlords through additional mechanisms or other means of financing, such as the Public-Private Partnerships and the Recovery Fund.

The introduction of potential prohibition policies should be discussed extensively with all the involved stakeholders in order to avoid the exclusion of certain energy poor households from rented buildings.

The provision of tax reliefs must be examined after extensive public consultation so as to be applied complementary to the before-mentioned programmes. It must be ensured that the Ministry of Finance will be involved in the planning of the tax incentives, while it is crucial to differentiate the eligibility of the different types of energy poor households in order to ensure their participation in a specific instrument.

The Energy Efficiency Obligation Scheme can facilitate the further alleviation of the energy poverty. However, the responsibility should not be assigned only to the obligated parties, because the confrontation of the energy poverty is mainly State's responsibility. Moreover, it should be taken into consideration the fact that additional resources are required to carry out projects in households

affected by energy poverty under the Energy Efficiency Obligation Scheme.

Furthermore, the revision of the EPBD can foster also the deep energy renovation of the residential buildings. The revised regulation for the energy performance of the buildings should facilitate the conversion of the existing buildings into zero energy buildings and promote the deep energy renovation emphasising on the air quality. All these provisions must be integrated into the national framework for tackling energy poverty and the respective policy measures.

Generally, technical support must be provided to tenants for various issues, such as the realisation of their current level of energy poverty and the opportunities to participate into a planned programme.

The insufficient information deteriorates the phenomenon of energy poverty. The Energy Performance Certificates should be improved in order to provide information about the actual energy costs in the households providing the opportunity to assess realistically the expected energy savings from implemented energy efficiency measures. Obviously, the outcomes of the theoretical model must be converged with the real effects triggered by the implemented energy efficiency measures.

The education of the energy poor households is also critical, while information must be provided about the necessary steps for the energy upgrade of their residential buildings.

The role of the banking sector is also crucial in order to facilitate the financing of the energy poor households despite their low financial ability.

The simplification of the procedures in order to participate into the planned policy measures can be achieved through the central completion of the required data avoiding additional burden from the energy poor households. The data collection procedure must be streamlined with the criteria for the identification of the energy poor households within the framework of the respective Action Plan.

The further deployment of RES should be promoted through energy communities in order to address energy poverty.

The necessity to establish a network of stakeholders was mentioned highlighting the potential role of the REACT group. Specifically, the GREACT group can undertake the role of acting as a national network increasing the current level of knowledge and fostering systematically the conduction of targeted steps for the confrontation of energy poverty.

The potential activation and involvement of local authorities can also contribute to the effective alleviation of energy poverty. Indicatively, the exploitation of the social services can benefit the attempts to detect energy poor households and to monitor energy poverty. The development of a registry with the energy poor households can facilitate the sharing of the triggered impacts between landlord and tenants.

Finally, the potential development and utilization of monitoring indicators within the ENPOR project will be a meaningful driver for improving considerably the understanding and the existing level of knowledge of the energy poor households.

Objective 3: Proposals for the adaptation of the selected two pilot measures within ENPOR project

Generally, there was an agreement about the initially identified aspects of the two pilot measures, which must be adapted.

The implementation of a targeted programme for the alleviation of the energy poverty can be

considered as a prerequisite, while special emphasis must be given on the specifications so as to target to private-rented buildings. To this direction, specific eligibility criteria must be specified for the case of “Exoikonomo-Autonomo” programme in order to foster the alleviation of energy poverty in PRS.

Finally, it is important to take into account the new conditions, which were formulated from the COVID-19 pandemic and the increased teleworking, during the re-design and implementation of the two pilot measures within ENPOR project.

Conclusions

The low awareness of the households is considered as the main barrier in Greece.

The initiation of financing schemes for supporting both landlords and tenants are critical for the conformation of energy poverty in PRS.

The integration of specific eligibility criteria in the planned policy measures is considered as the most effective option to foster the alleviation of energy poverty in the PRS.

Possibly, the design of additional measures is required supplementary to the “Exoikonomo-Autonomo” programme, such as the introduction of a tax relief scheme and the promotion of energy communities, in order to fulfill the ambitious targets for the alleviation of energy poverty.

The re-design of the pilot projects with the active citizen involvement is essential for the effective alleviation of the energy poverty in the PRS.

Finally, the REACT group can act as a network of stakeholders in order to support the implemented actions and measures in Greece.

Open issues and preliminary arrangements for the next meeting

It was agreed the second REACT group to be organised in the middle of May 2021.

No additional issues were identified.

1st Target group meeting

Meeting information (date, place, mean of conduction etc)

The 1st target group meeting was conducted via teleconference on 20.04.2021.

List of stakeholders (invited and participated)

Stakeholders from a citizen association were invited so as to discuss the outcomes of the first REACT group meeting. Totally, four participants participated representing three different organizations.

Agenda

12:00-12:10: Welcome and housekeeping rules of the 1st target group meeting

12:10-12:30: Presentation of ENPOR project and main objectives of the 1st REACT group

12:30-13:20: Discussion

13:20-13:25: Sum-up and agreement on the next steps

Objectives

The first target group focused on the fulfilment of the following objectives:

Objective 1: Discussion about the main conclusions as derived by the first REACT group meeting

Objective 2: Discussion about the proposed policy measures within D2.1 and identification of new ones for the case of Greece.

Objective 3: Proposals for the adaptation of the selected pilot measures within ENPOR project.

Main discussed issues

Generally, there was a unanimous agreement with the discussed issues and the derived conclusion by the first REACT group meeting. The mapping of the existing barriers, as conducted within the framework of D2.1, can be considered as representative for the case of Greece affecting adversely the energy renovation of the buildings and subsequently the confrontation of energy poverty.

Moreover, it was highlighted that the available incentives for the targeted alleviation of the energy poverty are not capable of confronting the phenomenon of energy poverty, while emphasis should be given on the alleviation of the phenomenon in private-rented sector.

The mapping of the proposed policy measures within D2.1 can be utilized for initiating policy measures in Greece in order to tackle the problem of energy poverty, while the special characteristics of the energy poor households in Greece must be taken into consideration.

A horizontal problem is the low awareness of the households about the phenomenon of energy poverty, while the low understanding about how it is feasible to be supported by the existing policy measures can be considered as an alternative obstacle. Households are unaware of the energy poverty or the triggered energy savings from the implemented energy efficiency interventions. Furthermore, the understanding of the energy bills is not adequate, while no focus has been given on the provided information about the energy prices.

The education of the energy poor households is also essential, while more targeted information and technical support must be provided about the necessary steps for the energy upgrade of their residential buildings.

The difficulties to share incentives among landlords and tenants were recognised, while the participation of the energy poor households into the implemented policy measures must be facilitated.

The implementation of a targeted programme for the alleviation of the energy poverty can be considered as a prerequisite, while it is essential to target to private rented buildings. To this direction, specific eligibility criteria must be specified for the case of “Exoikonomo-Autonomo” programme in order to foster the alleviation of energy poverty in private-rented sector.

Furthermore, targeted financing schemes for supporting tenants must be designed in order to confront energy poverty in private-rented sector, while instruments for protecting them from a potential increase of the rents have to be initiated.

Finally, the establishment of a network of stakeholders is imperative agreeing with the main outcome of the first REACT group in regards to the potential role of the REACT group as a national network increasing the current level of knowledge and fostering systematically the conduction of targeted steps for the confrontation of energy poverty.

Conclusions

The low awareness of the households is considered as the main barrier in Greece.

The initiation of financing schemes for supporting both landlords and tenants are critical for the conformation of energy poverty in private-rented sector.

The integration of specific eligibility criteria in the planned policy measures is considered as the most effective option to foster the alleviation of energy poverty in the private rented sector.

The re-design of the pilot projects with the active citizen involvement is essential for the effective alleviation of the energy poverty in the private rented sector.

Finally, the REACT group can act as a network of stakeholders in order to support the implemented actions and measures in Greece.

Open issues and preliminary arrangements for the next meeting

It was agreed to discuss the possibility for an additional target group meeting after the conduction of the 2nd REACT group.

No additional issues were identified.

2nd REACT group meeting

Meeting information (date, place, means of conduction, etc.)

The second REACT group meeting was conducted via teleconference on 14.07.2021.

List of stakeholders (invited and participated)

Participants from 33 different organizations were invited taking into consideration the outcomes of the conducted mapping for their identification.

The organizations, which participated into the second REACT group, are presented in Table 8.

Table 8: Overview of the participated and not participated organizations in the 2nd REACT group in Greece.

Participated organizations	Non-participated organizations
Hellenic Property Federation (POMIDA) (1 person)	Panhellenic Association for the Protection of Tenants
Institute of Zero Energy Buildings (INZEB) (1 person)	Energy and development agencies
City Network "Sustainable City" (1 person)	Greek Green Cities Network
Ministry of Environment and Energy (1 person)	Hellenic Agency for Local Development and Local Government
EKPISO - Certified Consumer Union (1 person)	Association of Greek Regions
WWF (1 person)	Central Association of Greek Municipalities
GreenPeace (1 person)	Regulatory Authority of Energy
Public Power Corporation (1 person)	Natural Gas Greek Energy Company
Aristotle University of Thessaloniki (1 person)	Hellenic Petroleum Marketing Companies Association
National Technical University of Athens (2 persons)	Institute for Environmental Research and Heinrich-Böll-Stiftung
University of Western Attica (1 person)	General Consumers' Federation of Greece
Sustainable Development - National Observatory of Athens (1 person)	Technical chamber of Greece
ENPOR consortium (5 persons)	Operational Programme Competitiveness,

Participated organizations	Non-participated organizations
	Entrepreneurship and Innovation Hellenic Association of Independent Power Producers Social Cooperative “Wind of Renewal” Association of Greek Valuers (A.VA.G.) National and Capodistrian University of Athens

Totally, 18 participants participated representing 13 different organizations.

It should be noted that the participated stakeholders provide a well-balanced representation of the most crucial actors contributing to the alleviation of the energy poverty in rented sector in Greece through the selected pilot measures within the framework of ENPOR project.

Agenda

10:00-10:10: Welcome and housekeeping rules of the 2nd REACT group meeting

10:10-10:40: Presentation of the recent development within ENPOR project (deliverable 2.3), the main objectives of the 2nd REACT group and the proposal for the redesign of the pilot policies

10:40-11:50: Discussion

11:50-12:00: Sum-up and agreement on the next steps

Objectives

The second REACT group focused on the fulfilment of the following objectives:

Objective 1: Discussion about the proposal for the re-design of the Energy Efficiency Obligation Scheme (EEOs) in order to facilitate the alleviation of the energy poverty in the PRS

Objective 2: Discussion about the proposal for the re-design of the “Energy upgrade of buildings” programme in order to facilitate the alleviation of the energy poverty in the PRS

Main discussed issues for each objective

Objective 1: Discussion about the proposal for the re-design of the Energy Efficiency Obligation Scheme (EEOs) in order to facilitate the alleviation of the energy poverty in the PRS

Proposal

The proposal foresees the conduction of targeted information and awareness-raising activities within the framework of the Energy Efficiency Obligation Scheme by the energy suppliers providing useful and effective guidance to energy poor households so as to confront the phenomenon of the energy poverty. Specialised information material can be utilised providing recommendations for the effective alleviation of the energy poverty, while dedicated training programmes can also be organised for enhancing the current knowledge of the energy poor households. Finally, the conduction of simplified energy audits can foster the identification of the most cost-effective energy efficiency interventions facilitating the achievement of minimum level of comfort.

The energy suppliers can also promote the materialization of low-cost energy efficiency interventions, such as the promotion of energy efficiency lighting systems and lamps, the installation

of heat pumps and solar thermal systems for the production of hot water etc.

Considering the discussion part, the participants were asked to assess the formulated proposal, to mention additionally missing aspects, to specify the preconditions that must be fulfilled and to identify the potential obstacles that must be addressed.

Discussion part

The participants agreed that the proposal seems to be effective, as the pilot measure must not focus on subsidizing the energy cost of the energy poor households but on promoting energy efficiency interventions and improving the current level of knowledge.

Firstly, it is feasible to organize educational activities in order to enhance the current understanding and knowledge of the energy poor households in regards to the phenomenon of energy poverty. The current level of knowledge is characterized as considerably low, while emphasis must be given on the available energy efficient technologies. An electronic platform will be developed providing specialized information about the reduction of the energy cost contributing also to the fulfilment of the minimum thermal comfort through the installation of energy effective technologies. Moreover, the energy poor households will be able to monitor their final energy consumption and to administer their energy consumption and the related costs.

Portable energy efficiency technologies will be financed, such as energy efficient lamps and heat pumps, in order to be maintained at the possession of the energy poor households if they decide to leave their residence due to their inability to afford a potential increase of the rent. The intention was expressed to aim at the energy renovation of buildings, which are rented by immigrants including the installation of energy efficient heating and cooling systems.

The provision of mentoring services by specialized energy consultants, the conduction of simplified energy audits and the establishment of dedicated call centres providing useful and effective information and guidance constitute also as promising alternatives for the selection of energy efficient technologies and the participation into the planned activated by the energy suppliers for the alleviation of energy poverty.

Generally, the energy poor households are considered as good customers despite the fact that they confront difficulties in paying their energy bills. It was claimed that it is a myth the fact that the energy poor households are not reliable customers. Furthermore, all customers should be treated equally equal from the energy suppliers.

The on-bill financing constitutes a promising instrument for mobilizing the promotion of energy efficiency in energy poor households. Legislative improvements must be initiated in order to operationalize the specific mechanism and to protect the interests of all involved parties.

The “Exoikonomo-Autonomo” programme acts as a competitive programme to the Energy Efficiency Obligation Scheme creating additional obstacles. The complementarity of the planned policy measures with the Energy Efficiency Obligation Scheme must be ensured in order to maximize the synergies and the expected impacts. A common roadmap for all the planned and implemented policy measures is required so as to avoid overlaps and competition and to maximize the potential synergies.

The current factor, which is utilized within the framework of the existing Energy Efficiency Obligation Scheme, should be continued so as to provide additional incentives to the energy suppliers through the increase of the delivered energy savings by a factor 40%.

Finally, the energy suppliers must be supported by specialized tools and technical material for the conduction of the previously mentioned activities within the framework of the Energy Efficiency Obligation Scheme.

Objective 2: Discussion about the proposal for the re-design of the “Energy upgrade of buildings” programme in order to facilitate the alleviation of the energy poverty in the PRS

Proposal

According to the proposed design of the recently announced “Exoikonomo-Autonomo” programme, a specialised benchmarking system will be developed taking into account specific energy and social criteria for the evaluation and ranking of the submitted applications.

The energy criteria consist of the expected energy savings, the heating degree-days, the energy class of the building before the energy renovation, the construction age and the households’ income. The social criteria comprise the existence of long-term unemployed members, disabled members, children and single-parent family. It should be noted that a specific weight will be assigned to each criterion in order to calculate the final score of each submitted application separately.

The proposal foresees the inclusion of the tenants as a distinct social criterion, while the provided public aid must be calculated taking into account the shared benefits among landlords and tenants. Alternatively, it was proposed to select the alternative approach within the draft version of the Action Plan for the alleviation of the energy poverty, which takes into consideration the fact that an energy poor household dwells into a rented building and quantifies the increased possibility to confront the problem of energy poverty.

Considering the discussion part, the participants were asked to assess the effectiveness both of the initial proposal and the potential application of the alternative approach. Moreover, recommendations were asked for additional aspects in order to address the phenomenon of energy poverty in rental housing within the framework of the “Exoikonomo-Autonomo” programme and proposals for the effective sharing of the benefits among landlords and tenants so as not to prevent them from the implementation of the required energy efficiency investments. Finally, the potential linkage of the achieved energy savings with the increase rents was discussed, while the possibility to result in the phenomenon of renoviction was speculated including the mechanism, which must be developed for monitoring and controlling the occurrence of the respective phenomenon.

Discussion part

The proposal for the inclusion of the tenants as a social criterion into the evaluation procedure of the “Exoikonomo-Autonomo” programme in combination with the energy criteria seems to be correct, as stated by the majority of the participants.

The comparative evaluation procedure, which will be carried out within the framework of the next round of the “Exoikonomo-Autonomo” programme, will be more effective compared to the previous First Come First Serve procedure. In any case the availability of the required information for the defined eligibility criteria has to be ensured. The submission of a responsibility statement for the case of a rented building can be utilised as a control item in order to assess the eligibility of the energy poor households, which dwell in rented properties.

Moreover, a dedicated portion of the foreseen public budget will be allocated to the energy poor households within the framework the “Exoikonomo-Autonomo” programme. Nevertheless, the

access of the energy poor households to the funds, which are required for the materialization of the energy efficiency interventions, must be facilitated with the initiation of specific instruments due to the fact that the energy poor households are not capable of covering their own contribution to the required investments. In any case the provision of 100% subsidy to energy poor households can be acceptable. Finally, the banking sector must be activated and the issue of the non-performing loans must be addressed.

Additional aspects must be taken into account during the design of the “Exoikonomo-Autonomo” programme. Specifically, the minimum energy performance standards must be reconsidered so as to be compatible with the respective targets at EU level and with the obligation for the deep renovation of the buildings. Moreover, the various co-benefits must be taken into consideration additionally to the delivered energy savings and the induced cost savings. Finally, the reduction of the energy renovation cost is imperative and can be achieved by the initiation of market-based mechanisms and the standardization and industrialization of the energy efficiency interventions.

The common attitude was expressed that it should not be allowed to ban the potential increase of the rents due to the fact that it is a free market, while no restrictions must be posed in regards to the years of the contract. Nevertheless, the actual need for economic support must be identified despite the fact that it is complicated to calculate the required public aid so as to offset the investment. The provided public support must be calculated taking into account the depreciation of the invested fund by the landlords, which will be derived by the respective increase of the rent. Furthermore, the increase of the commercial value must be taken into consideration. In any case, it is crucial to assess the profitability of the provided public aid and to substitute it with other fiscal measures, such as the adoption of tax reliefs and tax deductions.

Generally, it is not easy to introduce provision about the regulation of the rents due to the fact that the law governing the operation of the apartment buildings lays in the jurisdiction of other Ministries, such as the Ministry of Justice etc. All these initiatives will increase the current level of trust among landlords and tenants.

The phenomenon of renoviction can occur, while it is not feasible to confront it with the adoption of a Ministerial Decision by the Ministry of Environment and Energy. Potential solutions for addressing the phenomenon of renoviction comprise the eviction ban and the further exploitation of energy communities. The tenants must be protected in order to avoid the potential eviction through a strong agreement, while in the case that the tenants will renovate the building a long-term contract must be concluded.

Additional measures can be examined also, such as the imposition of the obligation to the landlords to renovate their buildings providing 100% subsidy in the case that an energy poor household rents the property. In any case, simplified and automated procedures are required for the implemented policy measures.

All the before mentioned issues must be discussed during an open consultation procedure, which will be initiated within the boundaries of the “Exoikonomo-Autonomo” programme with the active participation of all the involved public authorities and stakeholders.

The potential grouping of energy poor households at regional and local level will facilitate the confrontation of the energy poverty highlighting the role of the municipalities as an organised structure.

Regarding the application of the alternative approach, the developed formula for the identification

of the energy poor households must be tested through various sensitivity analyses. Generally, it is difficult to incorporate all the characteristics of the energy poor households within a formula. The development of a composite indicator for the identification of the energy poverty in order to include various aspects of the problem seems to be the most effective approach.

The potential imposition of the carbon pricing will increase the energy cost creating additional pressure and difficulties to energy poor households for the in-time payment of the energy bills. A social fund must be established targeting to the alleviation of energy poverty, while the effective utilization of the available funds is considered as a prerequisite.

It was concluded that ENPOR's target is difficult to be achieved due to the fact that the alleviation of the energy in the PRS is a holistic problem affecting many economic sectors. In any case, it was unanimous the statement that the confrontation of the energy poverty in the PRS must be supported with the appropriate mixture of policy measures for the landlords and the tenants. To this direction, the activation of the landlords is required. More specifically, targeted programmes must be initiated for the economic support of landlords promoting small scale energy efficiency interventions with short payback period, such as heat pumps, solar thermal heaters etc.

The conduction of energy audits may provide the required data for the alleviation of the energy poverty, but it will incur a considerable cost. The role of smart meters is crucial as they will facilitate the quantification of the delivered benefits and the good will to become reality. The legislative barriers, which hinder the further installation of smart meters, must be overcome. The considerable improvement of the Energy Performance Certificates is required in order to provide information about the actual energy costs in the households providing the opportunity to assess realistically the expected energy savings from implemented energy efficiency measures. The issue is not the exemplary punishment of the energy inspectors, but to maximize the benefits in the economy.

Furthermore, it is essential to exploit the mechanism of public-private partnership. The French model can be followed where the municipality renovated residential building through public-private partnership and the payment was done through the rents.

Finally, additional discussion topics constituted the inclusion of the cooling demand into the formula for the identification of the energy poor households, the incorporation of the new conditions triggered by the COVID-19 pandemic and the effective training of the engineers and energy efficiency professionals for promoting the energy efficient interventions effectively into the re-design and implementation of the two pilot measures.

Conclusions

The proposal for the design of the Energy Efficiency Obligation Scheme seems to be effective so as to tackle the problem regarding the low awareness of the energy poor households. Dedicated educational and training activities, the provision of mentoring services, the conduction of simplified energy audits and the establishment of dedicated call centres constitute the most effective activities for the fulfilment of the respective target.

Moreover, the energy suppliers can focus on the promotion of low-cost energy efficiency interventions for the alleviation of the energy poverty in the PRS.

The complementarity of the planned policy measures, including the "Exoikonomo-Autonomo" programme with the Energy Efficiency Obligation Scheme must be ensured in order to maximize the synergies and the expected impacts.

Similarly, the proposal for the inclusion of the tenants as a social criterion into the evaluation procedure of the “Exoikonomo-Autonomo” programme in combination with the energy criteria has been approved by the majority of the participants. Emphasis must be given on the access of the energy poor households to the funds, which are required as own contribution for the materialization of the energy efficiency interventions through the adoption of specific instruments and the activation of the banking sector.

The energy renovation of the buildings constitutes the most effective option for tackling the energy poverty in the PRS. The improvement of the energy efficiency will be achieved through the initiation of financing schemes in order to support landlords and tenants. Important aspects consist of the compliance with the minimum energy performance standards, the integration into the assessment of the various co-benefits and the meaningful reduction of the energy renovation cost.

The introduction of provisions for the regulation of the rents is not easy task, because it is important not to distort the free market and it is difficult to involve all the responsible public authorities.

The creation of trust among landlords and tenants must be the ultimate target of the planned policy measures, while their protection is also essential.

The potential imposition of the carbon pricing will increase the energy cost creating additional pressure and difficulties to energy poor households for the in-time payment of the energy bills.

Finally, it was concluded that the ENPOR’s target is difficult to be achieved due to the fact that the alleviation of the energy in the PRS is a holistic and multi-dimensional problem affecting different economic sectors.

Open issues and preliminary arrangements for the next meeting

It was agreed the third REACT group to be organised in the middle of September 2021 in order to finalise the proposal for the re-design of the targeted pilot policy measures.

No additional issues were identified.

3rd REACT group meeting

Meeting information (date, place, means of conduction, etc.)

The third REACT group meeting was conducted via physical meeting in the premises of the Ministry of Environment and Energy (MoEE) on 15.09.2021.

List of stakeholders (invited and participated)

The aim of the third REACT group meeting was the in-depth discussion with the representatives of MoEE about the formulated proposals within the framework of the previous REACT group meetings without the participation of the other REACT group members. It should be noted that the MoEE is responsible both for the design the “Energy upgrade of buildings” programme and the administration of the Energy Efficiency Obligation Scheme, while the involved policy officers participate also in the working group for monitoring the energy and climate policies within the framework of the National Energy and Climate Plan.

Moreover, selected representatives of CRES, which is responsible for the compilation of the Action Plan for the Confrontation of the Energy Poverty, were invited also in order to facilitate the re-design of the “Energy upgrade of buildings” programme according to the formulated proposal.

Totally, 6 participants participated representing two different organizations (MoEE and CRES).

Agenda

10:00-10:10: Welcome and housekeeping rules of the 3rd REACT group meeting

10:10-10:20: Presentation of the proposal for the redesign of the “Energy upgrade of buildings” programme and the Energy Efficiency Obligation Scheme

10:20-11:20: Discussion

11:20-11:30: Sum-up and agreement on the next steps

Objectives

The third REACT group focused on the fulfilment of the following objective:

Objective 1: Discussion about the formulated proposals for the redesign of the “Energy upgrade of buildings” programme and the Energy Efficiency Obligation Scheme in order to facilitate the alleviation of the energy poverty in the PRS.

Main discussed issues for each objective

Objective 1: Discussion about the formulated proposals for the redesign of the “Energy upgrade of buildings” programme and the Energy Efficiency Obligation Scheme in order to facilitate the alleviation of the energy poverty in the PRS.

Proposal

The proposal for the case of the Energy Efficiency Obligation Scheme foresees the conduction of targeted information and awareness-raising activities by the energy suppliers providing useful and effective guidance to energy poor households, which dwell in rented- buildings, so as to confront the phenomenon of the energy poverty.

Considering the “Energy upgrade of buildings” programme, the proposal foresees the inclusion of the tenants as a distinct social criterion, while the provided public aid must be calculated taking into account the shared benefits among landlords and tenants.

Discussion part

The discussion began with the re-design of the energy efficiency obligation scheme recognizing the crucial role of the energy suppliers. The current factor, which is utilized within the framework of the existing Energy Efficiency Obligation Scheme, will be continued so as to provide additional incentives to the energy suppliers through the increase of the delivered energy savings by a factor 40%. Moreover, a newly-introduced factor will be utilized for the case of the targeted behavioural measures increasing the delivered energy savings by a factor 10%. It was agreed that emphasis will be given on confrontation of the energy poverty both totally and specifically in PRS. The respective modifications have already been integrated into the Action Plan for the Confrontation of the Energy Poverty in the measure M6, which is referred to the essential role of the Energy Efficiency Obligation Scheme in the period 2021-2030.

In regards to the re-designed “Energy upgrade of buildings” programme, which is the continuation of the “Exoikonomo-Autonomo” programme, a special provision for the rented buildings has been introduced in the pre-notification of the programme’s structure foreseeing the 40% subsidy to the landlords. Moreover, a dedicated portion of the foreseen public budget will be allocated to the

energy poor households within the framework the new programme.

Nevertheless, it was recognized the necessity to involve into the programme also the tenants despite the fact that it is not easy to introduce targeted regulatory measures for the protection of the rents because the law governing the operation of the apartment buildings lays in the jurisdiction of other Ministries, such as the Ministry of Justice etc. Furthermore, the potential emergence of the phenomenon of renoviction will be monitored constantly examining the initiation of targeted solutions for addressing radically the phenomenon.

A targeted reference in regards to the split incentive problem has already been integrated into the Action Plan for the Confrontation of the Energy Poverty in the measure M4, which is referred to the energy upgrade of the energy poor households' buildings in the period 2021-2030.

The provisions of the "Fit For 55" package in relation to the energy poverty were discussed also, while it was concluded that the potential imposition of the carbon pricing will increase the energy cost creating additional pressure and difficulties to energy poor households for the in-time payment of the energy bills.

Finally, it was apparent that the resulted proposal by the REACT group were introduced into the two examined pilot measures in Greece highlighting ENPOP project's essential contribution. Moreover, it was agreed that the contribution of ENPOR project will be beneficial also after the initiation of the "Energy upgrade of buildings" programme, which is expected within the next months, while the potential re-designed of the programme will be occurred in the case that the alleviation of the energy poverty in the PRS is not satisfactory exploiting the provided technical assistance by the REACT group.

Last but not least, it was asked from ENPOR project to contribute the study, which was launched by the MoEE for assessing the current status of split-incentives problem in Greece.

Conclusions

The formulated proposals for the redesign of the "Energy upgrade of buildings" programme and the Energy Efficiency Obligation Scheme seem to be effective and realistic so as to tackle the problem of the energy poverty in the PRS. Almost all the technical aspects of the formulated proposals were introduced into the re-designed structure of the planned pilot measures in Greece.

Generally, the energy renovation of the buildings constitutes the most effective option for tackling the energy poverty in the PRS, while the introduction of provisions for the regulation of the rents is not easy task, because it is important not to distort the free market and it is difficult to involve all the responsible public authorities.

Finally, it was concluded that the contribution of the REACT group was beneficial providing technical expertise for tackling the split incentive problem in Greece. Towards this direction, it was agreed the REACT group will focus on the monitoring and assessment of the two examined pilot measures proposing appropriate adjustments in the case of deviations from the established targets.

Open issues and preliminary arrangements for the next meeting

It was agreed the next REACT group meeting will be organised after the initiation of the two examined pilot measures within the framework of ENPOR project in order to organise a discussion about their effectiveness and potential improvements.

No additional issues were identified.

9.4 Final proposal for policy improvements

The proposal for the case of the Energy Efficiency Obligation Scheme foresees the conduction of targeted information and awareness-raising activities by the energy suppliers providing useful and effective guidance to energy poor households, which dwell in rented- buildings, so as to confront the phenomenon of the energy poverty.

Correspondingly, the proposal for the case of the “Energy upgrade of buildings” programme foresees the inclusion of the tenants as a distinct social criterion, while the provided public aid must be calculated taking into account the shared benefits among landlords and tenants.

10. NATIONAL PROGRAMME FOR RENOVATION OF BUILDINGS (GRANT FOR RENOVATION) - HR

10.1 Description of the pilot policy/measure

The **National Programme for Renovation of Buildings for the period 2014-2020** aims to undertake renovation activities, ensuring that part of benefited households are those in energy poverty. The programme is implemented through 4 programmes but the main focus is on two main programmes:

1. **“Programme of energy renovation of family houses 2014 – 2020”** - in 2020 there was an amendment to the programme - Public call for citizens at risk of energy poverty for to finance the energy renovation of family houses for vulnerable groups of citizens at risk of energy poverty - with 20% of the total funds (28.4 million HRK = 3.79 million EUR) that was set aside for such vulnerable group of citizens
2. **“Programme of energy renovation of multi-apartment buildings for the period 2014-2020”**

This programme is planned to continue according **National Programme for Renovation of Buildings for the period 2021-2027**. It is implemented through several programmes but our focus is on two main ones:

1. Energy renovation programme for multi-apartment buildings
2. Energy renovation programme for single family houses – as part of this, there will be a ‘Programme for energy renovation of family houses for vulnerable groups of citizens from 2021-2027’

10.2 Challenges and barriers

- In Croatia there is no definition of an energy poor citizen or an energy poor household
- Non-existent cooperation between institutions - no data on impact of energy programmes on vulnerable group of citizens; no data and citizens at risk of energy poverty and participation of energy poor households in energy renovation - also there are no statistics on extended families living in a joint household
- Non-existent clearly elaborated criteria citizens at risk of energy poverty or energy poor households
- Existing programmes for energy renovation of energy poor households opened in 2020 included only citizens already targeted by welfare system and excluded other categories of vulnerable group of citizens and citizens at risk of energy poverty or energy poor citizens
- Criteria and measures should be created taking into account the household/citizen income and expenses but also taking into account the energy consumption of the building
- Administration for applying for energy renovation is too complicated and centers/local offices/ energy agencies should be established or existing state/local officials should be trained to help apply for support for energy poor citizens/households - and the administrative paperwork and application itself should be simplified
- Programme of energy renovation of multi-apartment buildings for the period 2014 – 2020 in extension of programme through new “Energy renovation programme for multi-apartment

buildings 2021-2027 - should include clear criteria for the energy poor citizens - Programme should also include concrete measures to meet the needs of energy-poor citizens in the energy renovation of apartment buildings. In period 2014-2020 - energy poor citizens/households were only mentioned in the Energy renovation programme for single family houses; programme which targeted exclusively energy poor households - aim at family households and excluded multi-apartment buildings.

- Target so-called free – based tenancy, which always includes two separate families/households in the same dwelling. This subgroup has not been targeted yet and apartments for rent were mainly out of policy focus due to lack of national data.

10.3 Co-design process

One of the problems that has been listed is lack of intersectoral cooperation between the institutions, especially ones collecting, analysing and distributing the data on energy saving, energy renovations, and energy poverty. The first REACT group consisted of stakeholders that provide a well-balanced representation of the most crucial actors for the alleviation of the energy poverty in rented sector in Croatia.

To stimulate different institutions to create the criteria on energy poverty and to begin to monitor the progress of the energy poverty measures, it was suggested to start use ICT tool like Energy Management Information System (EMIS) that is under jurisdiction of Agency for legal transactions and real estate brokerage (APN - member of REACT group).

As one of the measures to improve the Programme, it was proposed that households which will be funded through the Public Call enroll in the ICT tool so that monitoring on progress of the energy poverty measures could be done.

By organizing the 1st TARGET group meeting, the 2nd REACT group and 3rd REACT group meeting, it was agreed that the survey/analysis that will be conducted through the other two projects (BušEko ?! for the area of Buševac, POWERPOOR for the area of the city of Križevci and EmpowerMed for the city of Zadar and Zadar County will include the question of property ownership, i.e. whether they live in their own property or in a rented one that is specific to the ENPOR project.

1st REACT group meeting

Meeting information (date, place, means of conduction, etc.)

The first REACT group meeting was conducted via teleconference on 21.04.2021.

List of stakeholders (invited and participated)

Stakeholders from 5 different organizations were invited taking into consideration the outcomes of the conducted mapping of the relevant stakeholders.

Representatives from the following organizations participated at the first REACT group meeting (Table 9).

Table 9: Overview of the participated and not participated organizations in the 1st REACT group in Croatia.

Participated organizations	Non-participated organizations
DOOR (Society for Sustainable Development Design)	N/A
APN (Agency for legal transactions and real estate brokerage)	
FZOEU (The Environmental Protection and Energy Efficiency Fund)	
MGOR (Ministry of Economy and Sustainable Development)	
OSS Buševac	

Finally, 6 participants participated representing 5 different organizations.

Stakeholders provided a well-balanced representation of the most crucial actors for the alleviation of the energy poverty in rented sector in Croatia through the selected pilot measures within the framework of ENPOR project.

Agenda

10:00-10:10: ENPOR project presentation

10:10-10:15: Description of REACT group in the ENPOR project

10:15-10:30: Croatian ENPOR group

10:30-10:45: Joint cooperation - connecting projects

10:45-11:00: Sum-up and agreement on the next steps

Objectives

The first REACT group focused on the fulfilment of the following objectives:

Objective 1: Discussion on the success of the Programme 2014-2020 and the continuation of the Programme 2021-2021

Objective 2: Discussion criteria and measures to improve policy

Objective 3: Discussion about the barriers in the PRS and landlords and tenants

Main discussed issues for each objective

Objective 1: Discussion on the success of the Programme 2014-2020 and the continuation of the Programme 2021-2021

Due to restrictive criteria for application on the “Public call for citizens at risk of energy poverty for to finance the energy renovation of family houses for vulnerable groups of citizens at risk of energy poverty”, not all funds have been spent. However, it has been confirmed by the authorities in this REACT group that this Call should be continued within the Energy renovation programme for single family houses in 2021-2027.

But it is not certain will there be such a Call within the Energy renovation programme for multi-apartment buildings. Programme should include concrete measures for energy-poor citizens in energy renovation of apartment buildings. That is a problem and it was addressed at the first meeting of the REACT group because an entire population of citizens living in apartment buildings and representing a vulnerable group of citizens in energy poverty is left out in financial scheme. Especially

since the PRS makes up the largest share in multi-apartment buildings.

Objective 2: Discussion criteria and measures to improve policy

In Croatia there is no definition of an energy poor citizen or an energy poor household and non-existent clearly elaborated criteria citizens at risk of energy poverty or energy poor households.

“Public call for citizens at risk of energy poverty for energy renovation of family houses for vulnerable groups of citizens at risk of energy poverty” opened in 2020 included only citizens already targeted by welfare system and excluded other categories of vulnerable group of citizens and citizens at risk of energy poverty or energy poor citizens.

The intention is to develop better criteria for the next Public Call and at first meeting of REACT group, improvements (criteria) to this policy were discussed.

Criteria and measures should be created taking into account the household/citizen income and expenses but also taking into account the energy consumption of the building

Also, administration for applying for energy renovation is too complicated and centers/local offices/energy agencies should be established or existing state/local officials should be trained to help apply for support for energy poor citizens/households - and the administrative paperwork and application itself should be simplified.

To stimulate different institutions to create the criteria on energy poverty and to begin to monitor the progress of the energy poverty measures it was suggested to start use ICT tool like Energy Management Information System (EMIS) that is under jurisdiction of Agency for legal transactions and real estate brokerage (APN - member of REACT group). As one of the measures to improve the Programme, it was proposed that households which will be funded through Public Call enroll in the ICT tool so that monitor on progress of the energy poverty measures could be done.

All of these proposals are mostly about alleviation of energy poverty in general but do not specifically address groups within energy poverty like alleviation of energy poverty in PRS. This does not mean that these measures do not help in alleviation of energy poverty in PRS in fact by creating measures to improve the Energy renovation programme for multi-apartment buildings the application of landlords on Public call for energy renovation can be encouraged and thus contribute to alleviating energy poverty of tenants in PRS.

The integration of specific measures and criteria related to the PRS remained an open question for the next meetings.

Objective 3: Discussion about the barriers in PRS and landlords and tenants

Generally, apartments for rent were mainly out of policy focus due to lack of national data and so-called free – based tenancy, which always includes two separate families/households in the same dwelling has not been targeted yet and also there are no statistics on extended families living in a joint household.

An unregulated market and unresolved property-legal relations contribute to the problem of lack of national data and the market operating in the shadow zone.

The available incentives for the targeted alleviation of the energy poverty are limited, while no emphasis is given on the confrontation of the phenomenon in PRS. Moreover, it is difficult to share incentives among landlords and tenants.

Finally, it is important to take into account the new conditions, which were formulated from the COVID-19 pandemic and the increased teleworking.

Conclusions

The problems are lack of definition of energy poverty on national level and lack of criteria on energy poverty on national level.

The implementation of financing measures within Energy renovation programme for multi-apartment buildings for supporting both landlords and tenants are critical for the conformation of energy poverty in PRS.

The integration of specific measures and criteria will be considered as option to alleviate energy poverty in the PRS.

Open issues and preliminary arrangements for the next meeting

It was agreed the second REACT group to be organised in the middle of June/May 2021.

1st Target group meeting

Meeting information (date, place, means of conduction, etc.)

The first TARGET group meeting was conducted in Cultural center OSS Buševac on 10.06.2021.

List of stakeholders (invited and participated)

Stakeholders from 4 different organizations and local citizens were present at the first meeting of the TARGET group

The organizations, which participated into the first TARGET group, are presented in Table 10.

Table 10: Overview of the participated and not participated organizations in the 1st Target group in Croatia.

Participated organizations	Non-participated organizations
DOOR (Society For Sustainable Development Design)	Local citizens
OSS Buševac	
Women from Buševac (NGO)	
Buševac Local Board	

Finally, 12 participants participated representing 4 different organizations.

Agenda

12:00-12:15: ENPOR project presentation

12:15-13:00: Discussion of the situation in the rural area of the pilot area of the ENPOR project (city of Velika Gorica)

Objectives

The first TARGET group focused on the fulfilment of the following objectives:

Objective 1: Discussion about National Programme for Renovation of Buildings for the period 2014-2020 and the continuation of the Programme for 2021-2027

Objective 2: Discussion on ENPOR project definitions / terms and problems

Objective 3: Discussion about PRS and landlords and tenants in Buševac area

Main discussed issues for each objective

Objective 1: Discussion about National Programme for Renovation of Buildings for the period 2014-2020 and the continuation of the Programme for 2021-2027

National Programme for Renovation of Buildings is the most famous programme that citizens "linked to Croatia's EU membership and the financial benefits of the EU " and one of the few tenders which citizens recognize as financial scheme that represents a financial benefit to private citizens and private individuals.

Only rare citizens did not heard of this Programme and at one point did not think about applying to the Public call of this Programme.

The first TARGET group involved more discussion of the positive and negative sides of the Programme and Public calls within the Programme from the point of view of applicants and beneficiaries of these Programme.

The already known problem crystallized as the biggest problem - administration for applying for energy renovation is too complicated and administrative paperwork and application itself should be simplified.

Objective 2: Discussion on ENPOR project terms and problems

Citizens are not familiar with terms like: energy poverty, energy poor citizen or an energy poor household.

Especially citizens are not familiar with the terms in PRS like: so-called free-based tenancy, which always includes two separate families/households in the same dwelling and extended families living in a joint household.

But they are familiar with problems like an unregulated market and unresolved property-legal relations in almost all sectors, especially in the ownership structure of real estate and the in PRS which contribute to the problem of lack of national data and the market operating in the shadow zone.

Objective 3: Discussion about PRS and landlords and tenants in Buševac area

The area of Buševac is quite small and the classic PRS does not exist, but because of unresolved property-legal relations there is so-called free – based tenancy, which always includes two separate families/households in the same dwelling and extended families living in a joint household.

As part of the BušEko? project an energy poverty survey was conducted in the area of Buševac (300 completed surveys) by DOOR and OSS Buševac and detailed data on the situation regarding energy poverty for the area of Buševac will be obtained. Specific to the ENPOR project is that one important question is included in the survey and that is the question of property ownership, ie whether they live in their own property or in a rented one.

Conclusions

There is interest in the Programme and Public calls, but most citizens are concerned about too complicated administrative paperwork and application.

More systematic education about energy poverty and alleviating energy poverty in PRS for citizens should be conducted.

After the analysis of the survey, the obtained data can be used for further action on the alleviation of energy poverty in the area of Buševac.

Open issues and preliminary arrangements for the next meeting

It was agreed the second REACT group to be organised in the September 2021.

2nd REACT group meeting

Meeting information (date, place, means of conduction, etc.)

The second REACT group meeting was conducted in city of Križevci on 17.09.2021.

List of stakeholders (invited and participated)

Stakeholders from 4 different organizations at the second meeting of the REACT group

The organizations, which participated into the second REACT group, are presented in Table 11.

Table 11: Overview of the participated and not participated organizations in the 2st REACT group in Croatia.

Participated organizations	Non-participated organizations
DOOR (Society For Sustainable Development Design)	N/As
Križevci city administration	
Red Cross - Križevci	
KLIK (energy cooperative)	

Finally, 6 participants participated representing 4 different organizations.

Agenda

12:00-12:10: ENPOR project presentation

12:10-12:30: Discussion of the situation in urban, suburban and the rural area of city of Križevci

Objectives

The second REACT group focused on the fulfilment of the following objectives:

Objective 1: Discussion about National Programme for Renovation of Buildings for the period 2014-2020 and the continuation of the Programme for 2021-2027

Objective 2: Discussion on ENPOR project definitions / terms and problems

Objective 3: Discussion about PRS and landlords and tenants in city of Križevci area

Main discussed issues for each objective

Objective 1: Discussion about National Programme for Renovation of Buildings for the period 2014-2020 and the continuation of the Programme for 2021-2027

The second REACT group involved more discussion of the positive and negative sides of the Programme and Public calls within the Programme from the point of view of applicants and beneficiaries of these Programme.

“Public call for citizens at risk of energy poverty for energy renovation of family houses for vulnerable groups of citizens at risk of energy poverty” opened in 2020 included only citizens already targeted by welfare system and excluded other categories of vulnerable group of citizens and citizens at risk of energy poverty or energy poor citizens.

Energy cooperative KLIK wanted to apply some vulnerable households from the area of Križevci, but due to very restrictive criteria it was not possible in the end.

They gave a couple of examples of energy-poor households which they wanted to apply for a public call: household of single mother with two children, household of pensioners (single or a couple) and so on.

They all emphasized that it is very important that criteria and measures should be created taking into account the household/citizen income and expenses but also taking into account the energy consumption of the building

Also, administration for applying for energy renovation is too complicated and centers/local offices/energy agencies should be established or existing state/local officials should be trained to help apply for support for energy poor citizens/households - and the administrative paperwork and application itself should be simplified.

Objective 2: Discussion on ENPOR project terms and problems

Citizens are not familiar with terms like: energy poverty, energy poor citizen or an energy poor household.

Especially citizens are not familiar with the terms in PRS like: so-called free – based tenancy, which always includes two separate families/households in the same dwelling and extended families living in a joint household.

“Public call for citizens at risk of energy poverty for energy renovation of family houses for vulnerable groups of citizens at risk of energy poverty” that has been opened in 2020 as part of the National Programme for Renovation of Buildings for the period 2014-2020 had no real response among the energy poor households because of criteria that excluded other categories of vulnerable group of citizens and citizens at risk of energy poverty or energy poor citizens. And unfortunately intended fund of money has not been spent but the problem of energy-poor households remained.

Also this Call should include concrete measures for energy-poor citizens in energy renovation of apartment buildings. That is a problem and it was addressed at the first meeting of the REACT group because an entire population of citizens living in apartment buildings and representing a vulnerable group of citizens in energy poverty is left out in financial scheme. Especially since the PRS makes up the largest share in multi-apartment buildings.

Objective 3: Discussion about PRS and landlords and tenants in Križevac area

During the discussion, different problems were identified in the urban and rural part of the city of Križevci. In urban part of city of Križevci an unregulated market and unresolved property-legal relations contribute to the problem of lack of national data and the market operating in the shadow zone. In suburban and rural part of city of Križevci classic PRS does not exist, but because of unresolved property-legal relations there is so-called free – based tenancy, which always includes two separate families/households in the same dwelling and extended families living in a joint household.

As part of the POWERPOOR project an energy poverty survey (using POWERPOOR toolkit) will be conducted in the area of city of Križevci (approximately 220 direct households will be visit) by DOOR and detailed data on the situation regarding energy poverty for the area of Križevci will be obtained. Specific to the ENPOR project is that one important question is included in the survey and that is the question of property ownership, i.e. whether they live in their own property or in a rented one.

Conclusions

There is interest in the Programme and Public calls, but most citizens are concerned about too complicated administrative paperwork and application.

More systematic education about energy poverty and alleviating energy poverty in PRS for citizens should be conducted.

After the analysis of the survey, the obtained data can be used for further action on the alleviation of energy poverty in the area of Križevci.

Open issues and preliminary arrangements for the next meeting

It was agreed the 3rd REACT group to be organised in the September 2021.

2nd Target group meeting

Due to the COVID-19 situation, the second Target group meeting was postponed for spring 2022.

3rd REACT group meeting

Meeting information (date, place, means of conduction, etc.)

The third REACT group meeting was conducted in city of Zadar on 27.09.2021.

List of stakeholders (invited and participated)

Stakeholders from 14 different organizations at the third meeting of the REACT group

The organizations, which participated into the third REACT group, are presented in Table 12.

Table 12: Overview of the participated and not participated organizations in the 3rd REACT group in Croatia.

Participated organizations	Non-participated organizations
DOOR (Society For Sustainable Development Design)	N/A
Institute for Social Research in Zagreb (IDIZ)	
Red Cross - Zadar	
Terra Hub	
Brod Ecological Society-BED	
Green action	
Green Istria	
University of Zadar - Department of Ethnology and Anthropology	
City of Zagreb	
Eko-Zadar	
University of Zagreb Faculty of Electrical Engineering and Computing	
University of Rijeka	

Participated organizations	Non-participated organizations
Furman University	
Zadar County Development Agency - ZADRA d.o.o.	

Finally, 18 participants participated representing 14 different organizations.

Agenda

18:00-19:30: Round table about energy poverty

Objectives

The third REACT group focused on the fulfilment of the following objectives:

Objective 1: Discussion about National Programme for Renovation of Buildings - Energy renovation programme for multi-apartment buildings call opened in 2019

Objective 2: Discussion on ENPOR project definitions / terms and problems

Objective 3: Discussion about PRS and landlords and tenants in city of Zadar and Zadar County

Main discussed issues for each objective

Objective 1: Discussion about National Programme for Renovation of Buildings - Energy renovation programme for multi-apartment buildings call opened in 2019

The third REACT group involved more discussion of the positive and negative sides of the Programme and Public calls within the Programme from the point of view of applicants and beneficiaries of these Programme.

During the discussion, Zadar County Development Agency - ZADRA d.o.o. presented some of the examples that showed the problems they encountered when applying for the Call opened in 2019 within the Energy renovation programme for multi-apartment buildings.

A working group was established to assist apartment owners in 14 different multi-apartment buildings for the Call. Apartment buildings had a different ownership structure from a private apartment in which the owners lived to a private apartment that was rented to tenants. Due to the financial situation not all owners were interested in renovation. The older owners who are retired refuse to enter the renovation because of their age and financial situation and pass on the problem to their future heirs. But most of them have never participated in the complete renovation of the building since the building was built and refuse to enter into such a financial venture even though it is subsidized by the government with the excuse that the energy renovation will be solved by future heirs. And so the lock-in effects in a multi-apartment buildings can never be avoided because there is always someone in employment or a retiree.

What is interesting for the ENPOR project is that landlords of these 14 different multi-apartment buildings were interested in renovation because property value of their apartment would increase. In this discussion, the problem of rising rental prices for tenants has not been addressed but it is important to emphasize that the city of Zadar is a famous tourist destination.

In the end, one building was applied on Call from 2019 and renovated, yet there was also an issue as one owner could not afford the renovation and the other owners participated with their own money for that share. Afterwards, the owner of that apartment complained about the way the works were carried out and with a lot of effort and resistance of that owner, the problem was solved.

Objective 2: Discussion on ENPOR project terms and problems

Citizens are not familiar with terms like: energy poverty, energy poor citizen or an energy poor household.

Especially citizens are not familiar with the terms in PRS like: so-called free-based tenancy, which always includes two separate families/households in the same dwelling and extended families living in a joint household.

Objective 3: Discussion about PRS and landlords and tenants in city of Zadar and Zadar County

During the discussion, different problems were identified in the urban and rural part of the city of Zadar and Zadar County.

In the urban part of the city of Zadar, an unregulated market, unresolved property-legal relations and postponing complete renovation of the building as well as passing the problem on to future heirs contribute to the problem of lack of national data and the market operating in the shadow zone.

In suburban and rural parts of the city of Zadar and Zadar County, during the post-war reconstruction, most citizens gave up on the complete renovation of the house at the expense of the construction of additional square footage. Now, 20 or so years after the post-war reconstruction, many houses still have no facade or thermal insulation or complete infrastructure such as sewerage, water supply and access to electricity. Thus the classic PRS does not exist in suburban and rural part of the city of Zadar and Zadar County, but there is the so-called free-based tenancy, which always includes two separate families/households in the same dwelling and extended families living in a joint household.

As part of the EmpowerMed project an energy poverty survey will be conducted in the area of the city of Zadar and Zadar County (approximately 200 direct households will be visited) by DOOR in cooperation with Red Cross – Zadar and detailed data on the situation regarding energy poverty for the area will be obtained. Specific to the ENPOR project is that one important question is included in the survey and that is the question of property ownership, i.e. whether they live in their own property or in a rented one.

Conclusions

More systematic education about energy poverty and alleviating energy poverty in PRS for citizens should be conducted.

After the analysis of the survey, the obtained data can be used for further action on the alleviation of energy poverty in the area of Zadar.

Open issues and preliminary arrangements for the next meeting

It was agreed the more Round table about energy poverty should be organized and it will be discussed at the 4th REACT group meeting.

10.4 Final proposal for policy improvements

Bilateral meetings will be arranged with Agency for legal transactions and real estate brokerage (APN - member of REACT group) to discuss the potential of an ICT tool like Energy Management Information System (EMIS) for monitoring on progress of the energy poverty measures. The BušEko?! survey was conducted and DOOR is working on the analysis and conclusion of same survey.

11. TRAINING AND INFORMATION CAMPAIGN (TRAINING AND INFORMATION) - IT

11.1 Description of the pilot policy/measure

ENEA will organise training and information events aimed at supporting behavioural changes in energy poor households that would enable them to save money or improve their living conditions. Additional training will be provided to the REACT group members and through them to their associates on energy efficiency incentives.

11.2 Challenges and barriers

Difficulties on acquiring energy consumption data from the poor households and to identify enough households in the PRS.

Moreover, in order to make the contacted households participate in the training events, it will be important to find the right messages to communicate so that they themselves can perceive the benefits of participating in such events and will be enticed to attend.

11.3 Co-design process

The content of the training and information events will be discussed in the REACT group in order to determine together the best way to communicate with energy poor households and the most important topics on which provide training/information.

1st REACT group meeting

Meeting information (date, place, means of conduction, etc.)

The first REACT group meeting was conducted online on 30.03.2021.

List of stakeholders (invited and participated)

The organizations, which participated into the first REACT group, are presented in Table 13.

Table 13: Overview of the participated and not participated organizations in the 1st REACT group in Italy.

Participants
– ENEA (<i>the organizer</i>)
– AESS Modena - Agenzia per l'Energia e lo Sviluppo Sostenibile
– Alleanza contro la povertà energetica (Canale energia)
– ANAIP - Associazione Nazionale Amministratori Immobiliari Professionisti
– Associazione europea consumatori indipendenti (AECI)
– Assoesco
– Assotermica
– Banco dell'energia Onlus
– Condofacile

Participants
– Confartigiano (ANAEPA)
– CONFEDILIZIA
– Fondazione Snam
– GSE- Gestore dei Servizi Energetici SpA
– NOMISMA
– SICET - Sindacato Inquilini Casa e Territorio, SICET
– SVIM - Sviluppo Marche S.r.l.
– UNAI - Unione Nazionale Amministratori d'Immobili ANCONA
– UNIAT - Unione Nazionale Inquilini Ambiente e Territorio
– Università degli studi di Milano

24 participants attended the meeting representing 19 different organizations plus ENEA.

It should be noted that the participant provide a well-balanced representation of the most important actors that can provide insight to the energy poverty issue in the PRS in Italy.

Agenda

14:30: Welcome and introduction to the works

14.40: Presentation of ENPOR project

15.20: Presentation on energy poverty

15:50: The role and the objectives of the REACT group in Italy

16.00: Tour de table

16.40: Sum-up and agreement on the next steps

Objectives

The first REACT group focused on introducing the ENPOR project, where the main issues related to energy poverty and the mission and structure of the REACT group. This first meeting was also the occasion to enable the stakeholders to start get to know each other since the group will most likely remain the same for the rest of the project.

Main discussed issues for each objective

Objective 1: Presentation of ENPOR project and the role of the REACT group

Since this was the first meeting of the REACT group, a through presentation of the ENPOR project was given. The ENPOR policy for Italy was presented, highlighting which kind of analysis will be carried out. At the same time the role that the REACT group should play in the ENPOR project was discussed alongside which activities it will be involved in and its final objective. This is to contribute to the development of an information campaign aiming at changing behavior in favour of energy savings and improving energy efficiency at home, as well as increasing the access to the existing tax deduction scheme for energy renovation.

Objective 2: Presentation of Ecobonus and Superbonus and Energy Poverty

A first introduction on the fiscal incentives for energy efficiency measures, called Ecobonus and Superbonus, was given in order to provide a common background to start discussions. These will be the measures that will be further discussed in the next REACT group meetings in order to understand if they can be useful to help addressing energy poverty in the PRS.

Conclusions

All the participants were interested in ENPOR along with the work that will be carried out in the REACT group. Everyone felt that energy poverty in the PRS is an under-analysed issue and that every action to provide new ideas and solutions to start to tackle it will be important.

Open issues and preliminary arrangements for the next meeting

It was agreed that the second REACT group will be organised in June 2021 and will focus on analysing the Superbonus incentive more in depth.

2nd REACT group meeting

Meeting information (date, place, means of conduction, etc.)

The second REACT group meeting was conducted online on 10.06.2021 and used a platform called Miro.

List of stakeholders (invited and participated)

The organizations, which participated into the first REACT group, are presented in Table 14.

Table 14: Overview of the participated and not participated organizations in the 2nd REACT group in Italy.

Participants
– ENEA (<i>the organizer</i>)
– AESS Modena - Agenzia per l'Energia e lo Sviluppo Sostenibile
– Alleanza contro la povertà energetica (Canale energia)
– ANAIP - Associazione Nazionale Amministratori Immobiliari Professionisti
– Associazione europea consumatori indipendenti (AECI)
– Banco dell'energia Onlus
– CNA Siena
– Confartigiano (ANAEPa)
– CONFEDILIZIA
– Fondazione di Vittorio
– Fondazione Snam
– Gesticond
– GSE- Gestore dei Servizi Energetici SpA
– NOMISMA
– UNAI - Unione Nazionale Amministratori d'Immobili ANCONA
– UNIAT - Unione Nazionale Inquilini Ambiente e Territorio
– Università degli studi di Milano

20 participants attended the meeting representing 16 different organizations plus ENEA.

Agenda

10:00: Welcome and introduction to the works

10.10: Superbonus 110% - video lesson

11.00: Q&A on Superbonus 110%

11:15: Miro tool – how to us it

11.20: Structured discussion on Superbonus 110% in relation to the theme of energy poverty and the PRS

12.50: Sum-up and agreement on the next steps

Objectives

The second REACT group focused on providing some training (a video lesson) on the fiscal incentive Superbonus 110%. This training served as a base to begin an in depth discussion on it in order to understand which are the features that are most useful for energy poor households and which are the elements that can represent a barrier to its use.

Main discussed issues for each objective

Objective 1: Training on the Superbonus 110%

The first hour of the meeting was dedicated to providing the training to the REACT group members on the technical aspects of Superbonus 110% in order to highlight its main features and possible shortcomings. For this purpose, a video lesson was filmed and projected during the meeting and was followed by a Q&A session. The decision to pre-record the lesson was made so as to have an updated training material that the REACT group members could use and diffuse through their networks.

Objective 2: Structured discussion on Superbonus 110% and Energy Poverty

After the training, a structured discussion followed on an online platform called MIRO. This tool was chosen in order to provide all REACT group members an opportunity to express their viewpoint and start reflecting of the barriers, point of strength, and opportunities provided by the Superbonus for energy poor households.

The discussion carried on for a while but the main input can be summarized as follows:

One of the great strength of the Superbonus it is that the incentive covers 110% of the expenses (foreseen by the incentive) and it pushes for important renovation of the building that will lead to energy saving and an increase in the indoor comfort. Moreover, the Superbonus introduces the mechanism called “cessione del credito”, the possibility to assign the tax credit to another subject, including financial institution. This opens the possibility to start the work with a minimum amount of money necessary.

Looking at the barriers, one of the most important one was that energy poor households may confront potential difficulties of participating in the implemented policy measures due to complex application procedures. This highlights the need to more specific communication actions and solutions to help energy poor households to understand the benefits of the incentive and the need of alternative ways to accompany them in selection of the right incentive to adopt and the solutions most beneficial for them.

Additionally, since the Superbonus is an exceptional measure meant to help accelerate the renovation of buildings in a historically critical moment, and as such it has a limited duration, it was highlighted that energy poor household might require a longer timeframe to take a decision on engaging in energy renovation works and to find a way to begin them.

Conclusions

The inputs from this meeting will be used in the next one to further understand how to reach energy poor households, and the best approach for a training/information initiative targeted towards them.

Open issues and preliminary arrangements for the next meeting

It was agreed that the third REACT group would be organised in September/October 2021.

3rd REACT group meeting

The third REACT group meeting has not been organised yet.

11.4 Final proposal for policy improvements

The final proposal for the suggested improvements of the targeted pilot policy will be finalised after the organization of the third REACT group meeting and the completion of the co-design process.

12. ENERGY BOX (PROGRAM SUPPORT) - NL

12.1 Description of the pilot policy/measure

The Energy Box was established in 2014 by de Jonge Milieu Adviesbureau (JMA), the municipality of Utrecht and the social housing associations Mitros and Portaal. The goal of the Energy Box project is to reduce the energy consumption of residents. The Energy Box consists of a consultation with an energy coach, an advisory report, and a box with energy-saving products. During the consultation, an energy coach explains how to use the energy-saving products and discusses the residents' energy consumption. Based on the consultation, the energy coach provides the residents with energy-saving tips in a report tailored to the resident's situation. The tips can be implemented by the residents without high costs, making it possible for the residents to save money on their energy bill and increase their living comfort without renovations or investments. Residents receive a box with energy-saving products aimed at improving energy-conscious behaviour at home. The results of the Energy Box speak for itself: more than 19,000 residents have received energy advice since its establishment in 2014, and more than €2.2 million is saved per year by households through use of the Energy Box.

12.2 Challenges and barriers

In evaluation surveys conducted by JMA amongst residents who've received the Energy Box and advice, the trajectory is given a 8.1 out of 10 grade. Amongst private tenants, this grade is even higher (8.5). This means that those recipients of the Energy Box highly value the consultation and products they've received, while 97% of the tenants would recommend the Energy Box to others. A challenge is that it focusses less on the content of the Energy Box than the consultation and advice that is given. When asked what tenants would improve, the suggestions were also quite limited.

The main challenge as identified by JMA was, instead, how to better reach the target group of private tenants, specifically those experiencing energy poverty. According to deskresearch (Mashhoodi, Stead & Van Timmeren, 2019; Churchill & Smyth, 2020; Doukas & Marinakis, 2020; Ampofo & Mabefam, 2021) our target group of energy poor tenants is most likely to be found amongst the lowest 40% incomes, retirees, large families, immigrants/people of non-Dutch ethnicity, students and religious groups. With their current campaigns, private tenants make up only a small percentage of the participants of Energy Box. The Energy Box was originally developed in cooperation with social housing corporations, so JMA has a lot of experience reaching tenants in the social rental sector. Cooperation with private landlords and commercial housing agencies has barely taken place yet.

Focus of our design process has therefore been on redesigning the Energy Box trajectory of promotion for the PRS. This has not necessarily been on the layout of the programme, but mainly on reaching the target group.

12.3 Co-design process

As part of our co-design process, interviews were conducted with relevant stakeholders and organized several REACT group meetings. These meetings focussed on exploring the problem of

energy poverty in the PRS in the Netherlands as well as gaining insights in the target group of private tenants and landlords. Furthermore, they were used to understand the challenges and barriers that programmes like the Energy Box are facing. Dedicated meetings were organised with the participation of representatives from municipalities, housing agencies, landlords, energy coaches and tenants. The results of all these meetings have been summarized in the conclusions and have led to a proposal for (re)design of a tool for communication strategies.

1st REACT group meeting

Meeting information (date, place, means of conduction, etc.)

An online REACT group meeting was conducted on 10.06.2021 with EnergyMeasures project between 13:00 – 15.00.

List of stakeholders (invited and participated)

Out of the 100+ stakeholders that were invited, 40 participated. This included local policy makers (municipality and regional level), representatives of local and national organizations working with energy coaches, energy coaches themselves, researchers.

Agenda

Introduction

Presentation by an energy coach on experiences from the ground

In break-out rooms: discussing the best practices and challenges of energy coaching programmes

Plenary discussion, follow-up & closure.

Objectives

The main objective of this REACT group meeting was to exchange experiences for the development of an effective measure for energy poverty through energy coaching programmes.

Main discussed issues for each objective

The discussions in the break-out rooms were centred around the following topics: recruiting and training energy coaches, recruiting households, energy saving measures to share with households, communicating and interacting with households, advising and supporting households, monitoring/measuring actual energy savings.

Some general challenges that were identified:

- Recruiting households: households that cope with energy poverty are difficult to locate, language barriers play a role, as well as distrust of governmental organisations.
- The target group copes with multiple problems; like debt and stress. (Mental) health and wellbeing are issues. The energy bill and comfort in the house are not their top priority and occupants. These other issues might need to be taken care of first, before the energy measures can be introduced by energy coaches.
- In the Netherlands most of the financing schemes for sustainable energy measures end up with people outside our target group. The financial constructions and rewards even can intervene with payments of the government. Besides this it is often simply not allowed for tenants to

install larger energy-saving investments (solar panels, double glazing, electric charging point); this is something the landlord is responsible for.

- Long term monitoring of energy savings is difficult to realize. Apps/smart meters are not always easy to use for the target group, especially to understand the relation between the data and behaviour that causes it. Long term monitoring is interesting for policy makers, but they often don't have access to these figures.
- There was no real agreement on the ideal number of contact moments (frequency and timing) between coach and households. It was however agreed to that repeated contact is best to help the target group. Sometimes other problems must be addressed first before talking about energy. Energy coaches have various experiences with what works best and it is greatly dependant on budget.

And positive messages identified:

- Recruiting households works best in cooperation with local social partners, making it part of other social or financial coaching programmes. Using a personal approach is preferred and making use of local energy coaches with local networks or for example a concierge. Stimulating word-to-mouth promotion and making participation as low key as possible (taking away administrative barriers) are other tips shared.
- Recruiting energy coaches who were previously on social welfare worked positively. By offering them a paid job as energy coach also their problem of poverty is being solved. They know how to approach the target group. This can also work for a local technical service, with people who can install measures in the neighbourhood.
- Joined agreement is that it is crucial that an energy coach is able to listen to people, tune in to their needs, build trust and stimulate tenants to take power to change their living conditions.

Joint performance targets between municipalities, private housing corporations and tenant organisations could create a solid base for cooperation. In agreements it could be defined what results are aimed for and what the role is of every party. The challenge that was identified is mainly how to address the private housing corporations and how to convince them to take their responsibility and to invest in sustainable energy measures.

Conclusions

In general, it can be concluded that energy coaching programmes are more than just contributing to behavioural change to save energy. More than this they improve the wellbeing of energy poor households and provide them with the power to have an influence on their own lives.

Open issues and preliminary arrangements for the next meeting

There was a lot of interest in the topic and a general feeling that much more could be shared. A follow-up meeting in autumn 2021 is being planned.

1st Target group meeting

Due to COVID-19, it was not feasible to arrange physical target group meetings. Instead a survey and several interviews were conducted with private tenants who received an Energy box and consultation. The survey was sent to 350 private tenants in three cities. It resulted in 88 responses.

Objectives

To gain a better understanding of the motivation to apply for and experience with the Energy Box and energy coaching of private tenants.

Conclusions

The interviews and survey confirmed the positive valuation of the Energy box and the consultation.

Interesting was that for most respondents 'living environmentally friendly' was the main reason for participating (51%) and around 47% of respondents say the Energy Box helped them achieve this goal. Saving money on the energy bill was an initial desire for 37% of respondents, and around 16% of respondents say the Energy Box helped them achieve this goal. This is consistent with desk research (Udalov, Perret & Vasseur, 2017), but in contrast with the main message of the invitation letter of JMA for the Energy box.

Most respondents' energy bill had decreased, but they were unsure by how much exactly (30%), or their energy bill had not decreased, but instead remained about the same (29%). The latter is certainly not the anticipated outcome of using the Energy box. However, the vast majority of the respondents (82%) stated that they never struggle with being able to afford their energy bill every month, which ties in with their estimated expenses on energy. Most respondents (67%) estimated their energy bill to cover around 5% of their total income. A much smaller part (24%) estimated it to be around 10% of their income. Consequently, it can be concluded that currently the offer of the Energy Box and consultation is unable to reach the target group of private tenants experiencing energy poverty.

Another interesting insight from the survey is that 61% of the tenants is not planning to ask their landlord to take energy measures; 23% of the tenants approached their landlord without result; only 5% of the tenants approached their landlord with resulting energy saving measures. In literature this is known as the 'Landlord-Tenant problem' or the split-incentive issue, where the goals of the tenants (saving energy by investments) and the landlords (investing as little as possible to earn more money) do not match.

2nd REACT group meeting

Meeting information (date, place, means of conduction, etc.)

An online REACT group meeting took place on 28.06.2021 between 10:30 – 12:00 with the Tilburg Community.

List of stakeholders (invited and participated)

Out of 12+ stakeholders invited, 8 participated, including landlords, local policy makers (municipality Tilburg), representatives of local organization working with energy coaches (JMA), energy coaches themselves, and researchers.

Agenda

Getting to know each other, introducing objective and agenda

Introduction to ENPOR project

Energy Box Tilburg Pilot

Understanding the position and background of the tenant

Understanding the perspective of the landlords

Summary and Follow-up

Closing

Objectives

The main objective of this REACT group meeting was to better understand the position and motives of both private tenants and landlords and to find (better) ways to engage them in initiatives like the Energy box.

Main discussed issues for each objective

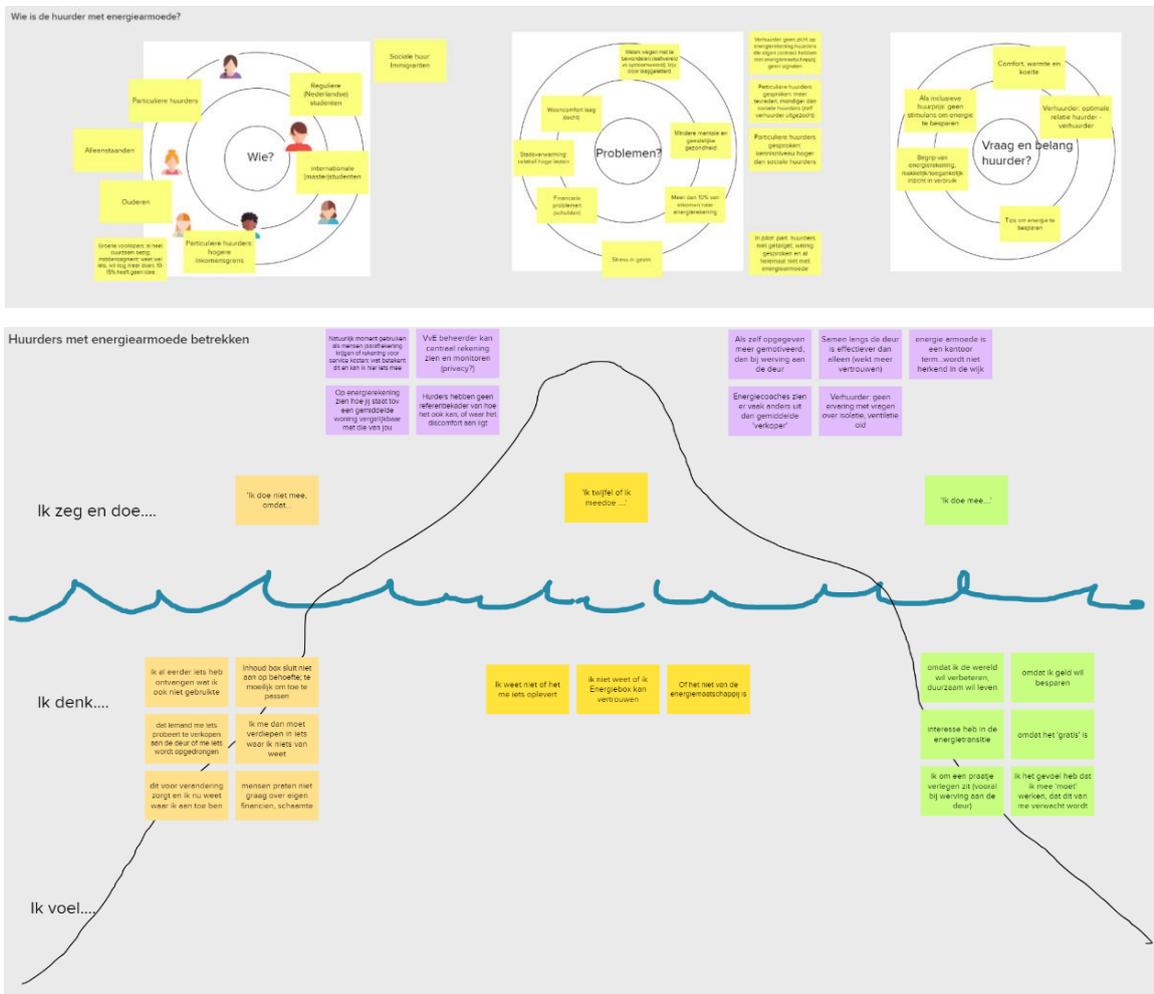


Figure 2: Graphical depiction of the discussed issues in the second REACT group in Nederland.

Conclusions

The experiences of the energy coaches led to the conclusions that they currently still have issues in reaching private tenants, specifically tenants with energy poverty. Their experiences were in line with the results of the survey, indicating that most private tenants they spoke to focused on living more environmentally friendly instead of saving money. In general the view was that private tenants

(currently participating) have more knowledge about energy saving, are more content with their living conditions and are more assertive than social tenants.

The underlying values/premises of tenants and landlords were analysed in order to identify their willingness to participate in Energy box projects.

For tenants one of the conclusions was that tenants experiencing energy poverty generally have lots of other problems that make energy saving not a priority.

One of the other issues identified was the dependant and often distant relationship between tenant and landlord, which prevents tenants in addressing their landlords to act on energy saving measures. The PRS is not transparent and knows many intermediate parties, which makes it difficult for municipalities to get in contact with the right people. Landlords do not always put money aside for investments or know the way to financial schemes and support.

2nd Target group meeting

A second target group is planned in October 2021 with private tenants in Utrecht.

3rd REACT group meeting

Meeting information (date, place, means of conduction, etc.)

An online REACT group meeting took place on 17.07.2021 between 13:00 – 14:00 with JMA.

List of stakeholders (invited and participated)

Over 10 stakeholders were invited and 4 participated, including representatives of local organization working with energy coaches (JMA) and researchers.

Agenda

Introduction

Needs analysis JMA

Summary and Follow-up

Closing

Objectives

The main objective of this REACT group meeting was to get a better understanding of the challenge of initiatives like Energy box to reach private tenants with energy poverty. Another objective was to reach to a conclusion for the redesign of the Energy box.

Main discussed issues for each objective

Testing with recruitment of households: Usually, a letter with an offer for an energy box is distributed by post or email. Response rate to a letter is around 10% in social renting. In addition, there are home-to-home visits which increases the response rate to around 15%. The response rate in the PRS is lower. It also matters at which time of the day people are visited: in general, the private tenant is away during the day, while the social tenant is at home during the day.

The response rate of tenants with immigrant background is lower than response rates of people with

a non-immigrant background. Reason is unknown, but language can be a factor. According to Churchill & Smyth (2020) there is a positive correlation between ethnical diversity and energy poverty in a neighbourhood.

The main message in the letter is saving energy. The means of communication and message vary between projects, but the approach of JMA is rather pragmatic and largely based on practical experience and surveys. A drawback is that in a survey among households that received an Energy Box you only get feedback of the people who responded and are interested in the Energy Box. There is a need to increase the response rate. Ideas to increase the response rate:

- Distribute a letter in Arabic and English.
- Distribute a letter with more pictograms for better visual understanding.
- Look carefully at the approach of the letter/wording/message for low-literate people.

Regarding the message/content of the letter there are several concerns:

- Many people think that saving energy is about making adaptations to the home;
- It matters who the sender is (municipality, landlord). It can work both ways; to mention the sender sometimes can help to create trust, but it also can work contrary and create resistance because of lack of trust in organisations.
- Some households think JMA is a commercial organisation and that with the Energy box they must switch from energy supplier. The question needing to be addressed moving forward is how to get the message across as clearly as possible.

Conclusions

Emphasis will be placed on the redesign of the Energy Box promotion trajectory, the communication and recruitment of participants. Additional research on the effectiveness of different communication strategies and means has to be carried out in relation to the target group and their motivations.

Open issues and preliminary arrangements for the next meeting

The current work will focus on the communication tool for promotion (see below), while the initiation of a pilot with one private housing corporation to test the tool will be discussed in the next meeting.

12.4 Final proposal for policy improvements

In the third REACT group, the decision was to increase the response rate and the promotion trajectory. Therefore, a qualitative tool will be developed to assist JMA to conduct a quick and easy analysis of a targeted neighbourhood in order to improve the promotion trajectory. This analysis consists of some relevant technical, social and area-dependent indicators that helps to choose the means of communication and the content of the main message (environmentally friendly/ saving on the energy bill/ being a good citizen). The practical experience of JMA will be combined with findings in literature.

A prototype of the tool will be validated in a project with one private housing corporation in Utrecht. The tool will be used to analyse the neighbourhoods of the housing corporation and provide advice for the best communication strategies and tools to use in order to reach the private tenants in these neighbourhoods. The analysis and the resulting advice will be shared with the housing corporation and a few residents through their tenant associations for feedback.

Based on the feedback, the second prototype of the tool will be made. After validation the chosen communication measures and messages will be applied in the neighbourhoods. The response rate will be monitored as well as a few consultations of the Energy coaches with the tenants.

The approach and tool will be evaluated by means of a survey among tenants and qualitative interviews with tenants. Based on the outcomes a second iteration of the tool will be made to deliver the final product. This product can be shared and used by JMA in other projects, as well as with other organizations and municipalities. The developed tool is also of great interest to the involved housing corporation in the pilot, which means it might also be of interest to others.

13. CONCLUSIONS

The application of the developed methodological approach for the co-design of the pilot policies within the framework of the ENPOR project led to considerable policy improvements, taking into account the national characteristics of the involved countries.

All of the targeted countries implemented the proposed co-design process according to the developed methodological approach combining both REACT group and Target group meetings. Nevertheless, alternative formats were selected in few countries arranging lower number of meetings or applying a different sequence of the meetings according to the needs of the public authorities, which were responsible for the administration of the pilot policies.

An overview of the organised REACT group and Target group meetings is presented in Table 15.

Table 15: Overview of the organized REACT and Target group meetings.

Country	Pilot policy	1 st REACT group meeting	1 st Target group meeting	2 nd REACT group meeting	2 nd Target group meeting	3 rd REACT group meeting
Austria (AT)	M1	X	X	X		
	M2	X				
Germany (DE)	M3	X	X	X	X	
	M4	X	X			
Estonia (EE)	M5	X		X		X
Greece (GR)	M6	X	X	X		X
	M7					
Croatia (HR)	M8	X	X	X		X
Italy (IT)	M9	X		X		
Nederland (NL)	M10	X	X	X		X

The most important policy improvements are outlined in Table 16 for each pilot policy separately.

Table 16: Overview of the main policy improvements.

Country	Pilot policy	Type of measure	Policy improvement
Austria (AT)	M1	Training and information	Development of new information leaflets with more effective and more accessible formats emphasizing on the visual language
	M2	Grant for renovation	Non completion
Germany (DE)	M3	Training and information	Conduction of the measure focusing on the health and comfort issues and utilizing more effective visual content and tools
	M4	Training and information	Non completion

Country	Pilot policy	Type of measure	Policy improvement
Estonia (EE)	M5	Grant for renovation	Provision of specific recommendations for highlighting the importance of renovation capacity, enhancing the capacity of the involved parties and adapting the available public grant funds to increase the renovation capacity including proposals to Tartu City Government
Greece (GR)	M6	Grant for renovation	Inclusion of the tenants as a distinct social criterion in the “Energy upgrade of buildings” programme foresees the and development of a framework for taking into account the shared benefits among landlords and tenants
	M7	EEOs	Conduction of targeted information and awareness-raising activities by the energy suppliers providing useful and effective guidance to energy poor households
Croatia (HR)	M8	Grant for renovation	Materialization of targeted measures , introduction of specific criteria and promotion of more systematic education about energy poverty
Italy (IT)	M9	Training and information	Conduction of targeted communication initiatives and development of information tools to facilitate the decision-making process
Nederland (NL)	M10	Programme support	Development of a tool for analyzing the energy poverty problem in targeted neighborhoods though technical, social and area-dependent indicators so as to support information measures and pilot programmes

The application of the developed methodological approach for the co-design of the pilot policies seems to be effective resulting in considerable policy improvements for all of the targeted cases. Almost all of the organised REACT group and Target group meetings were conducted through teleconferences. The initiation of teleconferences in a structured way allowed the successful application of the co-design process leading to satisfactory outcomes with the active of the majority of the targeted stakeholders despite the adverse conditions triggered by COVID-19 pandemic, which didn't permit the conduction of physical meetings.

Furthermore, various policy recommendations were elicited both for the targeted pilot policies and for the alleviation of the energy poverty generally. Specifically, the main policy recommendations are summarized in the following points:

- The conduction of targeted information and awareness-raising measures will contribute to the confrontation of the horizontal problem in regards to the low awareness of the households about the phenomenon of energy poverty and will improve meaningfully their current knowledge about the available policies and measures. The organization of more targeted group meetings is suggested with the participation of different vulnerable types of citizens such as indicatively younger people, immigrants etc.

- The information and awareness-raising material must be developed appropriately reflecting the actual needs of the energy poor households and containing relevant information for them. The provided information must be clear and comprehensible, while it is recommended to use visual contents and user-friendly tools.
- The potential engagement of specialized experts (such as energy advisors, energy coaches and social aid organizations etc.) during the conduction of the information and awareness-raising measures can facilitate the effective engagement of the energy poor households and will maximize the delivered effects by the implemented measures.
- Emphasis should be given on the conduction of specialized educational and training activities with the participation of energy poor households.
- The problem of split incentives is complex and it has not been taken into consideration during the design and implementation of the policies and measures for tackling energy poverty. The confrontation of the energy poverty in the PRS must be supported with the initiation of a well-balanced mixture of policies and measures with the active participation of landlords and tenants.
- The design of the policies and measures for addressing split incentives should be based on sharing the triggered benefits equivalently between landlords and tenants. A methodology should be developed ensuring the effective and fair sharing of the provided incentives, while the availability of the required data must be improved in regards to the energy efficiency levels, the cost savings and the rental prices. Indisputably, the use of specific calculation tools will facilitate the application of the developed methodology through a homogeneous, common and transparent framework.
- It is recommended to take into consideration during the analysis of the shared effects not only the cost savings, but additional benefits such as indicatively the avoided health impacts, the improvement of the indoor conditions and the thermal comfort and the increase of the commercial value.
- The problem with the limited incentives for tackling energy poverty in PRS will be addressed with the initiation of a stable and long-term framework for the provision of public funds to both tenants and landlords. It was highlighted that energy poor household might need longer timeframe to take a decision on implementing energy efficiency interventions.
- Priority must be given on fostering the co-financing of the required energy efficiency interventions by landlords and tenants.
- The actual need for economic support should be identified despite the fact that it is complicated to calculate the required public aid so as to offset the investment. It is crucial to assess the profitability of the provided public aid and to assess the potential replacement with other fiscal measures, such as the adoption of tax reliefs and tax deductions.
- The initiation of an open consultation procedure with the active participation of landlords and tenants is essential for the identification of the most effective policies and measures and creating the required trust among all the involved parties.
- The contribution of REACT groups meeting with the participation of all crucial stakeholders was considerable for the effective analysis, assessment and re-design of the existing policies and measures. Nevertheless, the organization of smaller REACT group meetings can be proved more effective for specific types of stakeholders, such as policy makers.

- The official definition of energy poverty is considered as a prerequisite for the actual identification of the energy poor households and the design of targeted policies and measures for the alleviation of energy poverty in the PRS. The problem with the lack of national data of the energy poor households should be addressed establishing the appropriate data collection procedures.
- The role of the municipalities can be crucial for the design, implementation and monitoring of the required policies and measures so as to confront energy poverty in the PRS.
- Simplified and standardized procedures are required for the participation of the energy poor households into the planned policies and measures for the alleviation of energy poverty.
- Technical advices and assistance should be provided to energy poor households for realizing all the aspects of energy poverty and facilitating their participation into the planned policies and measures. Obviously, the establishment of a one-stop will contribute to the achievement of this target and assist them to receive the most beneficial decisions.
- More analysis must be conducted for the behavioural problems, which are derived by the phenomenon of energy poverty leading to considerable difficulties in regards to the selection of the right decision due to the created stress.
- The application of regulatory measures for banning the potential increase of the rents is difficult due to the fact that it is a free market, while no restrictions must be posed in regards to the years of the contract. The discussion revealed that legal hurdles can still be an obstacle in this regard and that it might also require legal reforms in tenancy law and related legislation requiring the participation of different ministries.
- All the planned policies and measures should take into consideration the actual needs, priorities and expectations of both landlords and tenants.
- Last but not least, it was concluded that the ENPOR's target is challenging and difficult to be achieved due to the fact that the alleviation of the energy in the PRS is a holistic and multi-dimensional problem affecting different economic sectors.

14. ANNEX: TEMPLATE FOR THE MINUTES

Meeting information (date, place, mean of conduction etc)

List of stakeholders (invited and participated)

Agenda

Objectives

Main discussed issues for each objective

Conclusions

Open issues and preliminary arrangements for the next meeting