Report on defined gaps in the inventory on relevant tools and platforms

Report D4.2

Project Coordinator | Austrian Energy Agency – AEA

Work Package 4 Leader: North-West Croatia Regional Energy Agency – REGEA

July 2022

This project has received funding from the European Union's Horizon 2020 Research and innovation program under grant agreement No 101033722.

Authors

Altan Sahin, AEA

Martina Krenn, AEA

Mariya Trifonova, BSERC

Thekla Heinel, B.&S.U.

Benjamin Dannemann, DGRV

Nikoloz Sumbadze, AYPEG

Bence Kovács, MTVSZ

Tijana Šimek, REGEA

Slavica Robić, REGEA

With contributions by all project partners

Manuscript completed in July 2022

This document is available on: www.sharerenewables.eu

Document title	Report on defined gaps in the inventory on relevant tools and platforms
Work Package	WP4
Document Type	Deliverable, Public
Date	31st July 2022
Document Status	Final version

Acknowledgments & Disclaimer

This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 101033722.

Preface/Abstract

Energy communities offer the unique opportunity for consumers to form a critical mass and become renewable energy producers and active energy market participants while providing their demand flexibility to the market. However, as the energy community scene is still forming in most countries, there is a clear need to support local heroes, those who are setting the ground and leading the action within their community, establish their energy community and enable them to motivate and target consumers directly.

The concept of SHAREs is simple and straightforward - create a SHAREs Gateway for local heroes to help them initiate action and grow, which consists of:

- A country-specific implementation toolkit to equip local heroes with the technical and logistic capacity to set up their energy community (legal framework, such as master contracts, technical and internet-based solutions, business models, etc.);
- The building blocks of a tailored “pick-and-mix” communication campaign to enable local heroes to effectively promote their idea to their most relevant consumer groups.

After building the foundation for the toolkit by identifying the most effective platforms and tools currently available to support energy communities and elaborating on them in D4.1, the next step was to use this as a basis to identify gaps in the tools available on the national side in the SHAREs target countries.

This report provides an overview of the identified gaps within the national tool inventories in the target countries of SHAREs – Austria, Bulgaria, Croatia, Germany, Georgia, and Hungary. All the identified shortcomings are presented hereafter and will be further examined closely in WP 5.

This report addresses the main barriers hindering the development of energy communities in the target countries of SHAREs (AT, DE, HR, HU, BG, GE) according to the following structure:

- Gap description
- Possible tool solution
- Type of proposed tool solution
- Applicability of the new/adapted tool to other countries
- Complexity assessment

The identification and analysis of existing gaps allows SHAREs to determine targeted solutions to close them. Considering the gained knowledge in the development of the SHAREs Gateways helps generate added value for the target regions. The gateways aim to support energy communities overcome these hurdles in their development and expansion.

Table of Contents

1 | Introduction

1.1 About the SHAREs project

The SHAREs objective is to cover a great diversity of collective actions integrating a higher share of renewables, contributing towards increased energy efficiency and/or optimised energy management. Thus, the term energy communities (EC) in SHAREs refers to all forms of collective actions by and for consumers, such as cooperatives, collective purchase groups or other consumer-driven activities. In countries that have already transposed the EU acquis regarding energy communities, the focus lies on renewable energy communities (REC) and citizen energy communities (CEC).

Through a mentoring scheme, pioneers pass on their first-hand experiences to aspiring energy communities (pilots). This ensures that a strong network is built. In addition, pilots and pioneers are supported by the materials developed within the project. At least 20 emerging energy communities will be directly supported in the six partner countries in setting up their energy community/collective action. Through their feedback, the materials developed in the project will be tested and improved. These pilots cover various forms of energy communities in a broader sense, including a cross-border energy community between Austria and Hungary.

One of the project's key outputs is the development of national SHAREs Gateways, which will be all-encompassing online platforms for energy communities. The SHAREs Gateways aim to provide solutions to identified gaps in each target country as well as easy access to all the needed know-how on how to establish, run or expand various forms of collective actions. Potential communities are essential to make SHAREs successful and are approached through different multipliers in the partner countries and on the EU level.

SHAREs builds upon existing initiatives, project results, open-source solutions, existing data standards and national, as well as European tools where possible, in order to avoid duplication and generate added value. An assortment of existing and created content will be compiled in the gateways. After a detailed assessment of existing tools and platforms per country has been conducted (D4.1), with this deliverable, the identification of the gaps among available tools and platforms on a national level will be prepared and serve as a blueprint for the development of the national SHAREs Gateways.

1.2 Overview of gaps in the inventory across countries

The aim of WP 4 was to use a thorough selection process to identify the most effective platforms and tools supporting energy communities available on an EU level and to provide a detailed inventory of them. The inventory helps pilot countries identify possible gaps and missing tools on the national level.

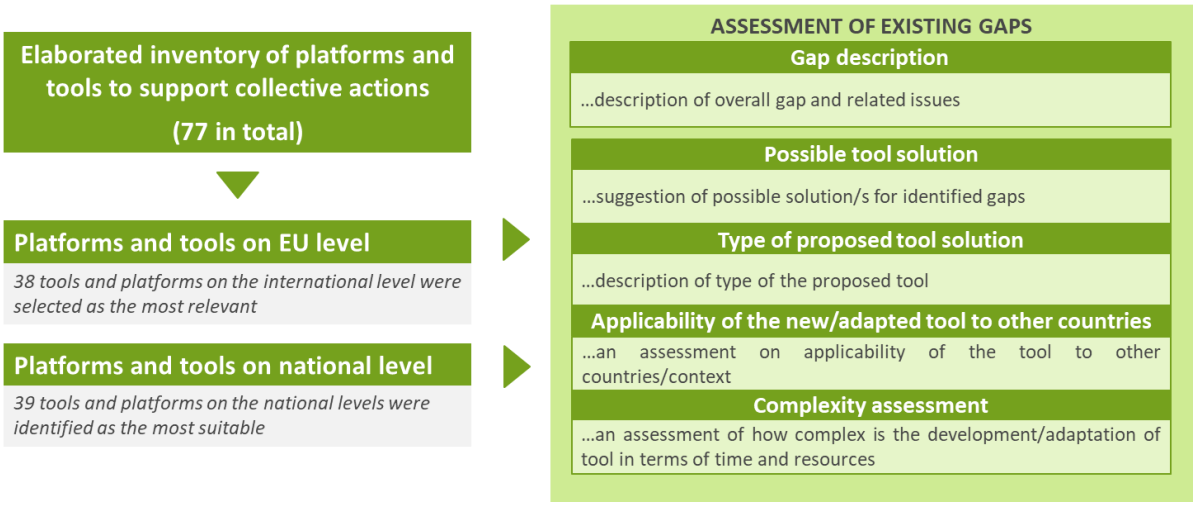

Figure 1 Gap identification process (Source: REGEA)

Upon preparing D4.1 "Elaborated inventory on relevant tools and platforms", the SHAREs pilot countries have conducted a gap assessment analysis, including a gap description, possible tool solution, the type of proposed tool, applicability of the new/adapted tool to other countries and a complexity assessment (as can be seen in Figure 1). In that regard, after the inventory of tools, the SHAREs target countries have now made the second step in developing the national SHAREs Gateways, namely, identifying gaps for which energy communities still need solutions to support them in their establishment and expansion. The national SHAREs Gateways will be designed to help fill these gaps.

An overview is given below while the entire country inputs are presented in Chapter 2:

Table 1 Overview of gaps and possible solutions

Defined gaps/barriers	Possible solutions
Lack of knowledge regarding CEC/REC	National SHAREs Gateway development
	An online query tool which leads local heroes through the most important initial questions when thinking about setting up an energy community- decision matrix
	Guidelines for the particular model of collective actions
Underdeveloped/unclear regulatory framework	National SHAREs Gateway development
Financing possibilities	National SHAREs Gateway development
	Business model tools related to economics and typical projects for energy communities
Poor availability of national tools and platforms offering information on CEC/REC, as well as those providing calculations on implementation of CEC/REC projects	National SHAREs Gateway development
	Entry tools related to consumer engagement and behaviour
	An online form for consumers to find their high/medium voltage transformer substation area
	An online calculator for consumers and prosumers choosing and comparing electricity tariffs
Fragmented approach of different stakeholders in the energy market (individual approach)	National SHAREs Gateway development
	Planning tools for technical and organisational planning
Complexity issues when developing tools and platforms	The development of an online platform seeks expertise, time, and financial resources
	The need for an update and maintenance of all tools and materials available on the platform must be considered
	The proposed tools are relatively simple, so there should not be problems with programming and hosting issues
Applicability issues when developing tools and platforms	All the proposed tools apply to other countries, but country specifics should be taken into account

The SHAREs Gateways, and their development, have been recognised by all pilot countries as one of the best solutions for closing their identified gaps and the possibility to develop unique tools targeted for their country's conditions. The development of an implementation toolkit to support the establishment of energy communities, along with a communication campaign that assists local heroes in addressing their most important target groups, will be of utmost importance.

The Gateway blueprint is currently under preparation and, with the consultations with all partners, four main topics/modules were identified (Figure 2):

- Get inspired - overview of different citizen participation models and approaches (best practice examples)

- Get informed - information on general financing models of citizen participation models and approaches, incentive schemes for the set-up of citizen participation models, legal aspects of the set-up of citizen participation models etc.
- Get equipped - information on available international and national tools and platforms, suitable for the national context
- Get active - important steps on how to establish an energy community, links to multiplier organisations at EU and national levels (organisations which help in citizen engagement) and relevant social media/forums

The national versions of the SHAREs Gateway, along with the implementation toolkit, are planned to be implemented by the beginning of 2023.

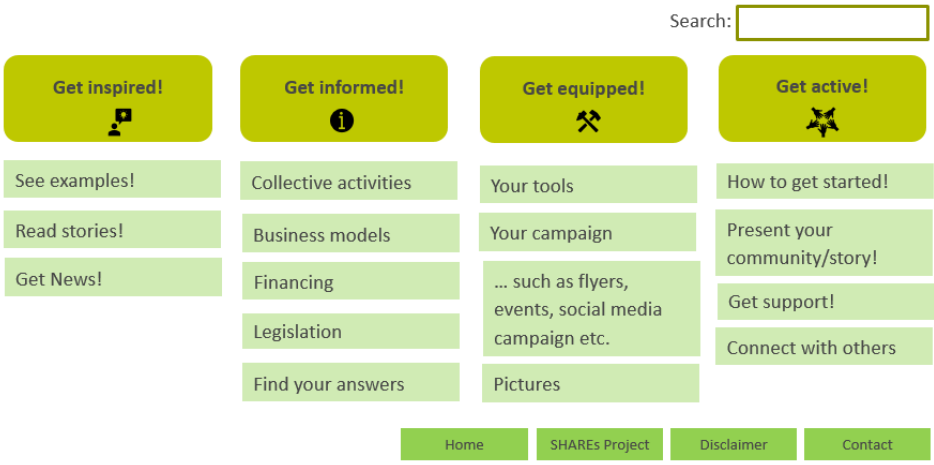

Figure 2 Preliminary structure of the SHAREs Gateway (Source: WIP)

2 | Identified gaps in pilot countries

2.1 Austria

In Austria, various tools to support local heroes in setting-up energy communities are already available. In total, 15 relevant tools have been identified so far. The tools are provided by public authorities (e.g. coordination office for energy communities), operators of energy communities, energy suppliers and interest groups. The information offered ranges from general information (e.g. how do I establish an energy community), model contracts for energy communities to various calculators.

These calculators focus on the estimation of the profitability of an energy community or the assessment of its potential. Furthermore, some tools also specifically focus on calculating PV systems (these are generally the focus in connection with energy communities in Austria). In Austria, some individual providers also offer their services to support energy communities in their preparation and establishment.

Table 2 Identified gaps in tool inventory, Austria

Gap description:
The legal and regulatory framework for energy communities in Austria has already been largely clarified. However, it is not always easy for local heroes to determine which type of energy community/collective action suits them and which regulations are relevant for them. The overall feedback from all stakeholders was that – despite the existing legal framework – initiators of collective actions are often overwhelmed or confused by the complexity of these regulations and do not know where to start. This is a gap we could close within the SHAREs project.
Possible tool solution:
The idea is to develop an online query tool that leads local heroes through the most important initial questions when setting up an energy community (type of generation, number of members, the proximity of members, etc.). The tool should help local heroes to identify the optimal type of energy community/collective actions for their specific conditions. This tool would be a valuable extension to Austria's already wide-ranging tool selection. After answering some questions about their potential energy community, the user gets information regarding which type of energy community is most suitable for them and their circumstances. In the best case, after filling out the survey, the results will also contain a list of Austrian service providers that can help implement the respective type of energy community. Additionally, a decision matrix similar to the available Austrian “Heizungs-Matrix” (German for heating matrix, https://www.klimaaktiv.at/dam/klimaaktiv/heizungsmatrix/index.html) would give the first indication to local heroes, which kind of energy community (local REC, regional REC, CEC, other collective action, etc.) would be the best choice for them. Furthermore, the best fitting corporate identity type will be recommended. The idea is that local heroes see at one glance what possibilities they have and can then go into detail with the query.

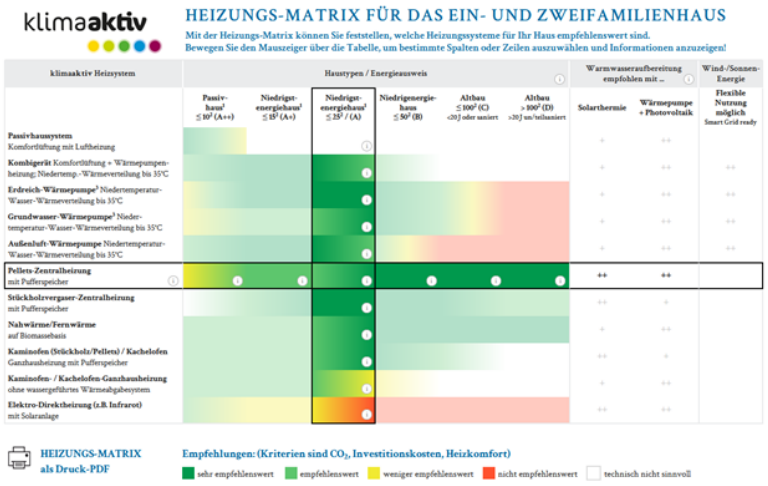

Figure 3 Heizungs-Matrix (Source: www.klimaaktiv.at)

Type of proposed tool solution:

Online implementation of query & output and decision matrix on the SHAREs Gateway

Applicability of the new/adapted tool to other countries

Once implemented, an online query could, of course, be adapted and implemented for other countries, but the adaption of the content (questions and output) is necessary as forms of RECs, CECS, and other possible collective actions differ among countries.

Complexity assessment

The technical implementation of the tool itself is not very complex. Still, detailed preparatory work is necessary as the framework conditions for energy communities at the national level have to be worked out in detail to provide answers to the various questions. Furthermore, the information has to be presented in a user-friendly way.

2.2 Bulgaria

The lack of a regulatory framework (in particular, the RED II Directive that is still not transposed) combined with numerous administrative, legal and other obstacles (i. e. proper financing instruments, but also soft factors such as lack of trust among citizens) are the main factors that prevent the involvement of the Bulgarian citizens in the energy market. This circumstance can also explain the absence of national tools and platforms supporting energy cooperatives' establishment, organisation, and management. At the same time, the share of renewables in electricity production is slowly increasing, as evident from informative tools such as the repowermap.org and a unique information portal (like a public register) of installations for electricity production from RES. With skyrocketing energy prices and the new geopolitical situation, domestic low-carbon energy generation, as well as energy efficiency measures, are becoming more and more critical.

Table 3 Identified gaps in tool inventory, Bulgaria

Gap description:
Despite the unfavourable conditions for energy communities in Bulgaria, there are several models of collective actions to implement energy savings measures, which BSERC will try to replicate on larger scales in the framework of SHAREs measures. For this reason, BSERC is currently in active communication with utility companies operating in different parts of the country that would engage themselves with collective actions by financing the initial investment and collecting the payback as part of the energy bill. The model could benefit the distribution system operators by facilitating the achievement of their energy-saving targets that should be proved by obtaining an annually prescribed number of energy efficiency certificates. On the national level, there is a gap in tools and platforms that address this specific kind of collective action.
Possible tool solution:
For the SHAREs Gateway, detailed guidelines describing each step of the process of this kind of initiative will be developed, starting from achieving agreement among cohabitants, going through the administrative procedure, financing, and project implementation. The already collected international tools might not be suitable to be implemented straightaway in the national gateway since they do not cover the national specifics.
Type of proposed tool solution:
To effectively respond to the current needs, the national gateway will include guidelines for the particular model of self-collection encompassing: ▸ a description of the process with a visual presentation of each step, ▸ accompanied with additional information about the duration till its realisation, ▸ involved actors, ▸ different financial instruments available for such an initiative, ▸ document templates for the general assembly of the flat owners, application for a building permit from the respective municipality, contract with the contractor company etc. Such tools will facilitate the process of implementing this model in other parts of the country. Tools for calculating energy savings, investment needs, payback period, and periodic financial flows for different types of collective actions or community projects for new RES installations will be particularly beneficial for Bulgarian citizens. However, financing conditions and programs are still not known as well as the possibility of saving shares of the grid costs, etc.
Applicability of the new/adapted tool to other countries
The adopted tool will be nation-specific, containing data and information based on the regulatory framework, legislation and financial products available on the Bulgarian market.
Complexity assessment
The guidelines will need to be checked periodically and adopted in case of changes in the legislation or the palette of financial instruments or products. Furthermore, users may provide feedback about remaining gaps or the need for further explanation once they start to use the template documents and experience the implementation procedures first-hand.

2.3 Croatia

As already mentioned and described in other deliverables within the SHAREs project (see D3.1 Overview of legal and regulatory framework), the terms of citizen energy communities and renewable energy communities have been introduced in the Croatian legislative system only recently (at the end of 2021). Secondary legislation is still missing, as well as detailed procedures for developing and implementing such kinds of collective actions and projects. From this, it can be concluded that various tools related directly to energy communities are missing and are of utmost importance to implement on the Croatian level and in accordance with Croatian laws and regulations.

Table 4 Identified gaps in tool inventory, Croatia

Gap description:
During kick-off meetings with Croatian pilots, all of them emphasized the problems of lacking legislation and missing detailed information on the establishment and operation of energy communities, insufficient knowledge of them, and the necessity of good practice examples applicable in the Croatian national and legislative context. Also, they explicitly mentioned the importance of an available step-by-step guide on how to develop an energy community in Croatia. Currently, there are no comprehensive tools or know-how on energy communities available.
Possible tool solution:
Considering all identified gaps, the best possible solution for the Croatian context is the developed national Gateway within the SHAREs project, which will provide all the interested parties with necessary information regarding EC, how to establish them and ensure proper operation. Since there are no similar platforms in Croatia, especially on the national level, the platform will serve as a one-stop shop for those who want to gain information and develop collective actions. After internal discussion and consultations with the relevant stakeholders and information gathered/identified as crucial ones, it was decided that the Croatian gateway will provide information on good practice examples (Get inspired) and possible tools that can help in the development of an energy community (Get equipped), viable business models and financing sources, as well as legislative issues related to the establishment of energy communities in Croatia (Get informed). The most crucial part will be how to get started and develop an energy community (Get active), for which the important role will be given to pilots in Croatia who will serve as local heroes and forerunners of collective actions in Croatia.
Type of proposed tool solution:
Online one-stop-shop
Applicability of the new/adapted tool to other countries
Applicable to countries that have transposed EU acquis on EC/REC but also as an inspiration to those who want to implement and develop any kind of collective actions. However, the contents must be closely adapted to the national framework conditions.
Complexity assessment
The development of an online platform seeks expertise, time, and financial resources, which is a complex activity. The gateway will be developed and operational within the SHAREs project; however, long-term sustainability will require a financial and operating plan which will ensure that information provided is up to date, practical, and applicable after the end of the project.

Concerning transferability to other countries, if the situation is similar to Croatia, and the country does not have any national tools and platforms available, it is necessary to dedicate all available resources to develop or replicate already existing tools and platforms from other countries and adapt it according to the national framework.

2.4 Germany

Due to the delay in transposing the RED II directive into the national legislation, no dedicated tool for energy sharing or energy communities exists. However, several tools on renewable energy technologies, collective actions and other related topics like CO_2 emissions are available and may be helpful for interested citizens and institutions.

Table 5 Identified gaps in tool inventory, Germany

Gap description:
The definition of energy communities in the amendment to the Renewable Energy Sources Act in the form of the citizens' energy society (Bürgerenergiegesellschaft) will not come into force until the beginning of 2023. Therefore, dedicated practice-related tools for energy communities are still missing. Nevertheless, various tools for collective actions and technologies already exist. The most significant gap currently exists due to the fragmented approach of the different actors on the ground. Citizens, municipalities, businesses, and different civil society groups are mainly addressed individually.
Possible tool solution:
The national SHAREs Gateways serve as a unique type of platform for different stakeholders engaged in energy communities at different stages. It provides local heroes with a comprehensive set of tools for different target groups and can therefore also help in Germany as an important one-stop shop.
Type of proposed tool solution:
Three main types of available tools were identified to extend the knowledge presented on the SHAREs Gateways. They are organized by the different target groups they address. Some of the tools offer information that must be considered for the planning of projects and entering the energy market and other tools help to visualize certain issues for consumers, for example energy consumption or production: ▸ Entry tools related to consumer engagement and behaviour: CO_2 calculator, value creation calculator, information on participation/foundation of renewable energy communities -> target group: consumers. ▸ Planning tools for technical and organisational planning: energy plan (incl. electricity/heat/transport), information on participation/foundation of renewable energy communities -> target group: municipalities ▸ Business model tools related to economics and typical projects for energy communities: business model planner (solar/wind/bioenergy/district heating/efficiency/mobility), information on activating new members and networking with strong partners -> target group: renewable energy communities (energy cooperatives)
Applicability of the new/adapted tool to other countries
The SHAREs Gateways address different phases and related target groups establishing an energy community. For example, local heroes that are just starting out and still looking for comrades-in-arms, or a municipality which is currently working on a climate protection concept and looking for suitable measures. Someone from an existing energy cooperative could also be looking for new projects and additional members. The foreseen

division of the provided tools into the start-up, planning, and implementation phases can therefore be transferred to other countries where there are not as many collective actions as in Germany.

Complexity assessment
Since no new tools must be programmed for Germany, but the added value lies in the collection and practical structure of available offers in the national SHAREs Gateway, the costs and effort are not so high. However, maintaining and updating the tools depends on the organisations that have developed them. Therefore, it is essential to include the criterion of maintenance of the tools in the selection process. Tools that were once included in the gateway but are outdated should be removed.

2.5 Georgia

EMD and RED II regulations have not been transposed yet in Georgia, while national legislation already allows the establishment of collective actions/energy communities. However, the respective legal and regulatory frameworks are not solid and do not incentivise consumers. As a European Energy Community contracting party, Georgia plans to transpose the EMD and RED II into national legislation in the coming years. Considering all mentioned above, there are no tools available regarding energy communities.

Table 6 Identified gaps in tool inventory, Georgia

Gap description:
One of the significant gaps already identified in Georgia during the meeting with pilots and policy developers is the legal and regulatory gap since there is no respective legal and regulatory framework for establishing energy communities/collective actions. At the same time, there is a gap in information dissemination since there is no information channel that enables Georgian citizens on a larger scale to acquire information on the participation of consumers in collective activities and possible business models.
Possible tool solution:
One of the best possible solutions in the case of Georgia will be the development and introduction of a national version of the SHAREs Gateway. The gateway will serve as a national one-stop shop and enable all the interested parties to get necessary information and guidelines for energy communities/collective actions at a different stage of the development. On the other hand, introducing new online tools/platforms such as PV calculators, solar and PV maps and tariff calculators will equip all interested parties with information that will support them in establishing energy communities/collective actions in Georgia. Therefore, the national SHAREs Gateway can be used to eliminate the different gaps in the availability of tools for Georgia that address this specific type of initiative.
Type of proposed tool solution:
Online one-stop-shop
Applicability of the new/adapted tool to other countries
Applicable to countries that have transposed the EU acquis on EC/REC but also as an inspiration to those who want to implement and develop any kind of collective actions. However, the contents must be closely adapted to the national framework conditions.
Complexity assessment
The development of an online one-stop shop requires considerable resources. While the national SHAREs Gateway will be developed within the project, its operation from a long-term perspective should be guaranteed

with respective resources to ensure that information provided is up to date, practical, and applicable after the end of the project.

2.6 Hungary

In Hungary, the primary barriers are on the legal and regulatory levels. So the first thing that is needed is an enabling and supportive regulatory framework. Detailed online tools should be developed once these barriers have been removed. Currently, Hungarian consumers (households, small enterprises) are protected from market-based energy prices as the state limits their utility prices, and detailed rules of energy sharing are still missing. The widespread annual net metering for individual prosumers (household size rooftop PVs) will be phased out from 2024 onwards. Online tools modelling future scenarios can support advocacy, awareness-raising and the preliminary phase of community energy initiatives.

Table 7 Identified gaps in tool inventory, Hungary

Gap description:
Gap 1: The definition of a renewable energy community in the RED II directive says it *"is effectively controlled by shareholders or members that are located in the proximity of the renewable energy projects that are owned and developed by that legal entity"*. In Hungary, this proximity refers to the location of the high/medium voltage transformer substation area. But information on the location of these transformer substation areas is not publicly available, so local heroes have no information to identify potential members of their REC. Gap 2: "Universal" utility service tariffs (set by the government quarterly below the market prices) for households, small enterprises and municipalities and annual net metering for individual prosumers will be phased, while costs of local energy sharing are unknown in Hungary. An online platform to compare electricity suppliers' offers is available only for large consumers. Comparing what is available on the market and what is likely to be available in the future is essential for preparing decisions and business plans. It is vital for energy communities, potential members of energy communities and policymakers to evaluate possible tariffs.
Possible tool solution:
Gap 1: A searchable database of a countrywide map of the high/medium voltage transformer substation area would help local heroes to find possible members for a renewable energy community. Special contacts (DSOs, if given, registered energy communities or local heroes) may be available in this tool. Gap 2: A tool to compare currently available offers of power suppliers and energy communities for small consumers, prosumers and energy sharing would help to evaluate, target or review business offers of energy communities.
Type of proposed tool solution:
Gap 1: An online database for consumers to find their high/medium voltage transformer substation area by entering their address and/or a zoomable, colourful countrywide map of high/medium voltage transformer substation areas. Gap 2: An online database compares currently available offers of power suppliers and energy communities for consumers and prosumers. Additionally, an online calculator is given for local heroes to help set competitive energy prices and the basic monthly fee by considering different factors, e.g. technical ones inside the energy community, but also the current energy prices outside of it.

Applicability of the new/adapted tool to other countries
Gap 1: It depends on the national definition of the “proximity” criteria for RECs. In the case of a similar grid-related definition, this tool can be adapted to other countries if relevant information from DSOs can be collected and updated. Gap 2: It can be applied in other countries after adapting the calculator to local energy pricing structures and prices.
Complexity assessment
Gap 1: The database and map information is owned by the DSOs but should be made available publicly. The tool’s programming would be simple if all the data were gathered. The tool may be hosted by the national energy authority supporting the promotion of energy communities. Gap 2: It is a simple tool, but occasionally (quarterly) pre-fixed prices should be updated. An optional form to collect offers from energy communities or energy suppliers can be added and this data can be added to the prefixed list after editorial approval. The graphs comparing different offers might be further development.

3 | Conclusions

Even though EMD and RED II directives are fully transposed in most of the SHAREs target countries, there are still a lot of legal issues hindering the proper development and implementation of energy communities. Furthermore, respective tools and platforms to support them are still missing in many countries. The availability of tools and platforms for setting up and expanding energy communities is crucial for awareness raising and the successful implementation of collective action projects.

The aim of WP 4 was to conduct a preliminary assessment to analyse the status quo and to illustrate the current situation regarding available tools and platforms for collective actions in Europe. This was needed as the first step as one of the goals of the project is not to "start from scratch" but instead to make the most of already existing initiatives, project results, open-source solutions, existing data standards, national and European tools, and compile them into one platform – the SHAREs Gateway. The SHAREs Gateway will be accessible as a nationwide, stand-alone one-stop shop in each target country to maximise its impact on the local level where energy community actions need to happen. Most importantly, it will also be listed on and accessible via key national and European platforms so that users can access the gateways regardless of the point of entry.

In order to have a quality platform, a pre-analysis of possible gaps in the availability of tools for collective actions on the national level and potential tool solutions for them needed to be conducted according to predefined assessment aspects agreed upon by the project partners. This resulted in a gap analysis per each partner country. The identified gaps were described through the following aspects: a gap description, a possible tool solution for the gap, the type of proposed tool, and the applicability of the new and/or adapted tool to other countries. A brief complexity assessment was also included in the analysis to enable better resource planning. The lack of time, expertise or resources is not the only problem consumers face in developing their energy community, but also the lack of crucial, quality information on implementing such initiatives.

The results of the conducted analysis showed that the gaps identified among the SHAREs target countries are mainly related to lack of knowledge regarding CEC/REC, underdeveloped/unclear regulatory framework, the necessity for different financing possibilities, non-existent national tools and platforms offering information on CEC/REC as well as fragmented efforts in the development of collective actions (e.g. various stakeholders are mainly addressed individually).

Within the analysis conducted, identified gaps were linked to possible solutions. Solutions identified according to the gaps were assessed as commonly applicable to all countries. However, it was found necessary that while the type of solution is usually universally applicable (i.e. development of SHAREs National Gateway), certain contents should be adapted to local needs. Furthermore, it is of utmost importance that solutions provided are available in the local language, as language can be a significant constraint to some groups, particularly for the vulnerable and elderly, who should also be able to benefit from developed solutions and participation in CEC/REC.

The national SHAREs Gateway was identified as the most common solution to most identified gaps among the SHAREs pilots. The SHAREs Gateway was assessed as the best possible tool solution, as it will serve as a national one-stop shop covering much of the relevant information to establish and develop energy communities for each target country. The SHAREs Gateway will also provide access to other solutions for the identified gaps, as it will provide thorough guidance for all steps and segments of community action development and implementation.

Further tools that were identified as potential solutions for gaps were an online query tool (leads local heroes through the most important initial questions when thinking about setting up an energy community decision matrix), searchable databases (countrywide map of the high/medium voltage transformer substation area) and

a calculator tool (to compare currently available and potential offers for small consumers, prosumers and energy sharing).

Overall, the identified types of proposed tool solutions which should be developed and made available in order to mitigate identified gaps are:

- online platforms/one-stop-shops (such as the SHAREs Gateway),
- guidelines for collective actions, along with entry tools related to consumer engagement and behaviour
- planning tools for technical and organisational planning including business model tools related to economics and typical projects for energy communities
- an online form for consumers to find their high/medium voltage transformer substation area and a calculator for consumers and prosumers choosing and comparing electricity tariffs

All the proposed tools could potentially be applied to other countries, but country specifics should always be considered. Regarding the complexity assessment, even though the proposed tools are mostly relatively simple in development so there should not be any problems with software development and hosting issues, the required expertise, time, and financial resources, as well as the need for an update and maintenance of all tools and materials available must be considered.

The identified gaps and possible tool solutions within this report will guide the further development of the national SHAREs Gateways and ensure local heroes receive a comprehensive and well-arranged set of materials, tools and information.

4 | List of tables and figures

shares-project.eu